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Cattle Producers of Washington

PO Box 2436
Moses Lake, WA 98837

Washington Department of Fish and Wildlife
SEPA Desk
600 Capital Way N
Olympia, WA 98501

RECEIVED

JAN 11 2010

Dear Sirs,

HABITAT PROGRAM

Cattle Producers of Washington is a grass-roots organization which represents Cow/Calf producers and independent feeders in this state. We support the minority report which is included in the Draft Wolf Conservation and Management Plan on page 202 and 203. Wolf numbers must be kept to an absolute minimum. There is not enough habitat in the State of Washington to maintain the number of wolves which the Washington State Department of Fish and Wildlife is proposing for our states' program. There are not enough deer and elk in the state to support this number of wolves and livestock and eventually pets will become prey. This will have a major impact on the livestock industry, which will not be balanced by the Federal money and income from eco-tourism which WDFW expect. Our livestock are our livelihood, but they are also our passion. We raise animals because we love them. The threat of wolves attacking our calves or horses is an emotional burden as well as a financial one. If the Humane Society can be called in because a rancher doesn't properly care for an animal, how is it acceptable to let wolves harass, mutilate and kill them? They were eradicated years ago for this reason.

The Echinococcus Granulosus tapeworm parasite, previously unknown in Montana and Idaho, has been found in deer, elk and mountain goats there. It is transmitted by wolves, and is common in Alaska and Canada. Unfortunately, this parasite is also transmitted to humans! Isn't the health of humans more important than wolves.

The WDFW is much more willing to listen to the comments of the people who want to see high numbers of wolves, than they are to even consider the thousand comments against high numbers of wolves which were presented to the Wolf Working Group on May 21st, 2008.

We have requested that the Senate Ag Committee set up an oversight committee to keep the WDFW accountable on an annual basis to the legislature and the stakeholders, as far as accurate counts of wolves and their recovery at each stage. If numbers are reached for a certain stage, the wolves should be advanced to the next stage instead of waiting the requisite 3 years. The WDFW must give weight to the wisdom of their field representatives, and to public testimony, on the presence of wolves.

CPoW strongly urges the WDFW to keep wolf numbers low, increase accountability of numbers and stages, and to protect livestock and human health.

Sincerely, LD Green-

CPoW Director District 1, Wolf Committee Chair

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JH

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From: Commission (DFW)
To: "Brad Smith"; Burkhart, Nancy A (DFW); "Chuck Perry";
"Connie Mahnken (home)"; "David Jennings"; "Gary Douvia (home)";
"Gary Douvia (work)"; "George Orr"; "Ken Chew"; "Miranda Wecker";
"Rollie Schmitten";
cc: Eturaspe, Teresa A (DFW);
Subject: FW: WCA Comments on Wolf Management
Date: Tuesday, January 05, 2010 9:39:25 AM
Attachments: Final DRAft Wolf Plan 12-28-09.doc

Wolf comments

From: Jack Field [mailto:jackfield@kvalley.com]
Sent: Monday, January 04, 2010 2:57 PM
To: Commission (DFW)
Cc: Fields, Jack
Subject: WCA Comments on Wolf Management
Importance: High

Please share these comments with all of the Commissioners.

thanks

jack field

Washington Cattlemen's Association

Responsible Approach to Wolf Management for Washington State

We find the Washington State Department of Fish and Wildlife (WDFW) Draft Environmental Impact Statement (DEIS) alternatives 1, 2 and 3 for wolf recovery and management to be unacceptable and alternative 4 "no plan" to also be unacceptable. As a result, we are recommending a fifth alternative for consideration by the WDFW and the Wildlife Commission, **Alt. 1A, The Responsible Approach**, recognizes the mandates of the WDFW and the Commission and embraces the purpose and need for developing a wolf conservation and management plan.

The DEIS does not mention nor does it follow the mandates that the Washington State Legislature set forth for the WDFW in (RCW 77.04.012)

*"...the department shall preserve, protect, perpetuate, and manage the wildlife..."; and
"The commission shall attempt to maximize the public recreation...hunting opportunities of all citizens, including juvenile disabled, and senior citizens..."*

The overall goals are to protect, sustain, manage hunted wildlife, provide stable regulated recreational hunting opportunities to all citizens, protect and enhance wildlife habitat, minimize adverse impacts to residents, other wildlife, and the environment.

The WDFW Wolf Conservation and Management Plan (WCMP) requires that the number of Breeding Pairs (BPs) for downlisting and delisting be maintained for a three year period prior to moving forward with any downlisting or delisting actions. During each year the number of BPs will increase by 24% and will **likely double at each three year listing level.** *(NRM wolf population of 1,876 wolves for 2008(assuming continued population growth of 24 percent as documented prior to 2008. Federal Register / Vol. 74, No. 62 / Thursday, April 2, 2009 / Rules and Regulations page 15166).*

Alt. 1A, (The Responsible Approach) ensures a smaller number of BPs for down listing by not requiring that the downlisting process be suspended for a three year period at each level. **Alt. 1A, (The Responsible Approach)** states that the numbers of BPs must be maintained in order to stay in each specific status category.

The number of BPs to down list to Threatened and Sensitive in the four alternatives that the WDFW has put forward in the WCMP are too high in relation to available habitat in Washington State. Especially with the winter confinement of ungulates in non-wilderness wintering areas and the proximity of human population bases and agriculture in ungulate wintering areas. According to the WDFW Washington's Population is 6,490,000 people and has a population density of 97.5 people/sq mi *(Wolf Working Group WWG Draft Plan).*

The WCMP Preferred Alternative #2 is too restrictive in regard to the control of problem wolves which will lead to social intolerance. **Alt. 1A, (The Responsible Approach)** & the (Minority opinion as referenced in the WCMP) both call for three BP at the Threatened level, six BP at the Sensitive level and much wider use and availability of management tools throughout recovery. The WCMP must allow U.S. Fish and Wildlife Service (USFWS) and WDFW a wide range of flexibility to manage problem wolves thus, fostering the greater public social tolerance of wolves necessary for a successful recovery of the species.

“Wolf populations have a high reproductive capacity and a great deal of demographic resilience and persistence” (*Fuller et al 2003*). “Wolf populations are highly resistant to human taking. It has been well demonstrated that wolf populations can sustain annual harvest rates of up to 50% of their populations per year” (*Fuller et al.2003*). This is supported by David Mech, PhD, one of the world’s foremost wolf authorities, in his declaration to the U.S. District Court for the District of Montana (Missoula, Montana) on 09/25/09.

We are not dealing with an animal that is on the edge of extinction or endangered world wide but an animal that was extirpated in Washington State at the turn of the century by poisoning and trapping for state sponsored bounties. The wolf will recolonize in our state at a high rate given the present availability of ungulates even with the small amount of wolf habitat available. See David Mech population estimates in the Northern Rocky Mountain (NRM) in his declaration to U.S. District Court for the District of Montana on 09/25/09.

Alt. 1A (The Responsible Approach) recommends the use of the Ruckelshaus Center for delisting of the wolf in Washington State (**See delist page 4 of this document**). This process would build social acceptance for the wolf in Washington State and also build a legally defensible product, based on sound science, biology, social acceptance and economic viability. This approach is designed to maximize acceptance from a wide range of stakeholder groups while still providing the WDFW with a workable document for wolf recovery.

Alt. 1A The Responsible Approach recommends that hunters be used as a tool to manage wolves after delisting. Total annual mortality of 30% is the threshold identified for stable wolf populations across North America. Please read the declaration to the U.S. District Court for the District of Montana (Missoula, Montana) on 08/24/09 by Mark Hebblewhite PhD. “I have come to the firm scientific conclusion that while harvest will certainly kill individual wolves, it will not irreparably harm the wolf population” (*Hebblewhite 08/24/09*).

As to genetic diversity, there will naturally be continued genetic redistribution. Redistribution and proof of genetic diversity should not be required in the plan to delist the wolf. This is an issue for future generations to consider.

The North American model of Wildlife Conservation using hunter's dollars has recovered Wildlife populations very successfully, and is being used successfully world-wide. The WCMP and its preferred Alt 2 ignores this success and its dollar contribution by managing for wolf ungulate prey harvest first. Pittman-Robertson Funds, license sales and miscellaneous sportsman contributions account for approximately \$70 million annually into the WDFW budgets. This does not take into account the countless millions of dollars that are spent locally in counties throughout Washington State for hunting related activities. Sportsman, hunters and livestock producers support **Alt. 1A The Responsible Approach** because it will require the determination of optimum levels of wildlife (management plans) including the wolf in each Game Management Area, while **recognizing the social, economic and biological needs of wolf recovery and sustainability of all species**. The foundation and goal of the proposed **Alt. 1A The Responsible Approach** is to ensure the re-establishment of a self sustaining population of wolves in Washington State and to encourage social tolerance for the species by reducing and addressing conflicts. We believe that conflicts with wolves will be the largest threat to the responsible recovery and conservation of wolves in Washington.

Our alternative will allow the WDFW to ensure that wolf delisting occurs prior to the collision of public, economic and social pressures while relying on sound science. This proposal has been developed by the **Coalition for Responsible Wolf Recovery** and represents several years of involvement in the wolf planning process. **Alt. 1A The Responsible Approach** is much like the original backline version developed by the WWG and the Minority Opinion that was created by in conjunction with the draft plan.

Further comments on the **WDFW's Preferred Alternative 2** and our proposed **Alt 1A Responsible Approach** as the final solution that the WDFW Commission adopts:

Number of recovery regions: Alternative 1A Responsible Approach utilizes three main recovery regions (Eastern WA, Northern Cascades, Southern Cascades) and once an EIS is completed on translocation the inclusion of the Pacific Coast region. Alt. 1A would allow for wolf recovery to occur at any location in the state. *The DEIS Alt. 2 has 3 recovery regions Eastern WA, Northern Cascades, Southern Cascades/ Northwest Coast.*

Downlist to Threatened: Alt 1A Responsible Approach 1 BP in Eastern WA, 1 BP in Northern Cascades, 1 BP in Southern Cascades / Pacific Coast (3 successful BP, this number must be maintained to stay in the Threatened level). *The DEIS Alt. 2 calls for (2 BP in Eastern WA, 2 BP in Northern Cascades, 2 BP in Southern Cascades / Northwest Coast (6 BPs + 3yrs to Downlist to Threatened).*

Downlist to Sensitive: Alt 1A Responsible Approach 2 BP in Eastern WA, 2 BP in Northern Cascades, 2 BP in Southern Cascades / Pacific Coast (6 successful BP this number must be maintained to stay in the Sensitive level). *The DEIS Alt. 2 calls for (2 BP in Eastern WA, 2 BP in Northern Cascades, 5 BP in Southern Cascades / Northwest Coast, 3 anywhere in the state (12 BPs + 3yrs Downlist to Sensitive level)).*

Delist: Wildlife management rarely occurs without the injection of politics and private agendas. The number of wolves needed for delisting is and will be a highly debated socially driven issue. The wolf and the plan to recover them is already a polarizing issue in many communities, with volumes of science on both sides of the issue. The majority of current science has been developed outside the Pacific Northwest and more importantly outside of Washington State. Several variables must be included into any calculations that pertain to Wolf recovery in Washington State such as, the available prey base, road densities, human populations, landscape attributes. We currently lack the mechanism to resolve conflicts between various interest groups, scientists, stakeholders and agency managers.

The **Alt. 1A The Responsible Approach** recommends that, when social intolerance of wolves intersects with WDFW's ability to fund the plan and its ability to deliver WDFW and Wildlife Commission Mandates to wildlife and user groups, the Ruckelshaus Center lead a scientifically-based discussion to determine the number of wolves needed for **recovery and sustainability** in Washington State. When this occurs, a balanced group of stakeholders will go immediately to the Ruckelshaus Center to define the acceptable population number of wolves needed to delist the species. "Collaboration is necessary to define what is acceptable, science is necessary to define what is possible, organizing people to use knowledge to design and implement management in the face of uncertainty is fundamental" (Gates et al.(2005)). This approach will work if the goal truly is to get the wolf off of the endangered species list and under state control as a sustainable population while maintaining public support. *The DEIS Alt. 2 calls for (2 BP in Eastern WA, 2 BP in Northern Cascades, 5 BP in Southern Cascades / Northwest Coast, 6 anywhere in the state (15 BPs + 3 yrs to Delist).* The DIES Alt. 2 is a single species management tool that uses a preconceived number of BPs as a management objective. The overriding issue is how the Wolf Plan affects all social/financial elements and ecosystem processes in the whole and how the WDFW wishes to manage for the Wolf.

Translocation: Alt. 1A The Responsible Approach should be available as a tool pending a completed DEIS for any regions that may use this tool. *The DEIS Alt. 2 also calls for this as a tool.*

Manage for landscape connectivity: Alt. 1A The Responsible Approach recommends to continue existing efforts. *The DEIS Alt. 2, recommends to expand existing efforts to maintain and restore habitat connectivity for wolves.*

This expansion may be the single most expensive and publicly sensitive component of Alt. 2.

Use of non-lethal injurious harassment: Alt. 1A The Responsible Approach same as DEIS Alt 2. *The DEIS Alt. 2 allows non-lethal injurious harassment with a permit and training from WDFW during all listed statuses; will be reconsidered during Endangered status if used inappropriately or mortality occurs under this provision.*

Lethal control by state/federal agents of wolves involved in repeated livestock depredations: Alt. 1A The Responsible Approach is the same as DEIS Alt 2. *The DEIS Alt. 2 allows lethal control by state/federal agents during all listed statuses and after delisting, consistent with federal law.*

Lethal control by livestock owners (including family members and authorized employees) of wolves involved in repeated livestock depredations: Alt. 1A The Responsible Approach allows lethal control by livestock owners with an issued permit on private lands and public grazing allotments they own or lease when wolves reach the Sensitive status. (This = 6BPs with the Responsible Approach). *The DEIS Alt. 2 also allows this with an issued permit on private lands and public grazing allotments they own or lease when wolves reach the Sensitive status. (DEIS Alt. 2 = 12BPs + 3yrs)*

Lethal take of wolves in the act of attacking (biting, wounding, or killing) livestock. Alt. 1A The Responsible Approach allows lethal control by livestock owners (including family members and authorized employees) on private land they own or lease during the Sensitive status. (This = 6BPs with the Responsible Approach). *Would be reconsidered if used inappropriately. The DEIS Alt. 2 allowed by livestock owners (including family members and authorized employees) on private land they own or lease when wolves reach Threatened status. Would be reconsidered if used inappropriately or more than 2 mortalities occur under this provision in a year. (DEIS Alt. 2 8 BPs + 3 yrs)*

Lethal take of wolves in the act of attacking (biting, wounding, or killing) domestic dogs: Alt. 1A The Responsible Approach Allowed by private citizens on private lands when wolves reach Threatened status, and on private and public land when wolves are delisted. (This = 6BPs with the Responsible Approach). *Would be reconsidered if used inappropriately. The DEIS Alt. 2 allowed by private citizens on private lands when wolves reach Sensitive status, and on private and public land when wolves are delisted. Would be reconsidered if used inappropriately or more than 2 mortalities occur under this provision in a year. (DEIS 12 BPs +3yrs).*

Compensation for livestock (cattle, calves, pigs, horses, mules, sheep, lambs, llamas, goats, guarding animals, and herding dogs): (payment for confirmed cases), Alt. 1A The Responsible Approach is the same as *the*

DEIS Alt. 2, allows twice the full value for each confirmed depredation on grazing sites of 100 or more acres. Alt. 1A The Responsible Approach, is the same as the DEIS Alt. 2, allows full value for each confirmed depredation on sites of less than 100 acres losses covered on both private and public lands.

(payment for probable cases sites over 100 ac) , Alt. 1A The Responsible Approach, is the same as *the DEIS Alt. 2, allows full value for each probable depredation on grazing sites of 100 or more acres covered on both private and public lands.*

(payment for probable cases sites less than 100 ac) Alt. 1A The Responsible Approach, is the same as *the DEIS Alt. 2, allows half the value for each probable depredation on grazing sites less than 100 acres covered on both private and public lands.*

Proactive measures to reduce depredation: Under **Alt. 1A The Responsible Approach,** *just as in the DEIS Alt. 2, the WDFW would hire wolf specialists, whose duties would include working with livestock operators to provide technical assistance to implement proactive measures to reduce conflicts assistance with some costs may be paid by Defenders of Wildlife on a limited basis.*

The Coalition strongly believes that the WDFW must make funding of the WCMP and Compensation component a requirement **in all future budgeting decisions.**

Ungulate management: Alt. 1A The Responsible Approach, allows the WDFW to manage ungulates by utilizing Wildlife Management Plans including the wolf in each Game Management Area, while also recognizing the social, economic and biological needs of wolf recovery and sustainability of all species. This will be done by using existing WDFW game management plans and by adhering to WDFW and Commission mandates (this alternative builds trust with impacted parties to ensure social acceptance of the wolf plan). *The DEIS Alt. 2 manages for healthy ungulate populations through habitat improvement, harvest management, and reduction of illegal hunting using existing WDFW game management plans.* The WDFW and sportsman have been doing habitat improvement for decades and in today's uncertain economy there will be fewer dollars available for these activities. Managing for healthy ungulate populations through harvest management is a great concern as this is viewed as managing ungulate for wolf prey first. Today sportsman through numerous programs have practically eliminated illegal hunting and with limited resources it would be virtually impossible to increase enforcement.

The DEIS Alt. 2 manages harvest to benefit wolves only in localized areas if research has determined wolves are not meeting recovery objectives and prey availability is a limiting factor. This is managing ungulates for the wolf first, an unacceptable shift. Each aspect of the DEIS Alt. 2 ungulate management builds distrust in the WCMP amongst affected stakeholders.

Wolf-ungulate conflict management: Under **1A The Responsible Approach** once wolves reach Sensitive status (6 BPs), and research determines that wolf predation is a limiting factor for ungulate populations that are below herd objectives or at risk, WDFW would implement translocation, lethal control and other techniques. This approach maximizes the WDFW's available tools to ensure that social conflict is minimized, while working toward the goal of delisting and sustainability of wolves. *The DEIS Alt. 2 allows after wolves are delisted (15 BPs+3yrs), if research determines that wolf predation is a limiting factor for at-risk (ESA Threatened Caribou or Mountain Sheep, etc.) ungulate populations, could consider moving of wolves, lethal control, or other control techniques in localized areas.* Managing for wolves as a priority over at-risk ungulate populations is unacceptable.

Outreach and education: Alt. 1A The Responsible Approach allows the WDFW to hire wolf specialists and to use staff to conduct outreach and education programs. The Recording of accurate counts of BPs and individual numbers of wolves per recovery zones and Game Management Areas will be a high priority activity for the WDFW. Regular updates will be provided to the Commission. *The DEIS Alt. 2 uses WDFW wolf specialists to conduct outreach and education programs.* These are important issues but, not as important as **a socially acceptable plan, that has transparent wolf numbers with wide support.**

We are quite concerned that the scientific "blind peer review" process being conducted by University of Washington will yield a response that will be viewed by impacted stakeholders as lacking on-the-ground experience with recovering wolves. We would like to have seen the WDFW utilize University of Montana and their extensive experience with wolf recovery for this critical phase of the WDFW WCMP.

A socially acceptable plan with wide support will be much easier to fund.

The **Coalition for Responsible Wolf Recovery** is being led by the Washington Cattlemen's Association and includes legislators, county governments, livestock, outdoor, hunting, and sportsman's groups.

Washington Cattlemen's Association

From: Jack Field
To: SEPADesk2 (DFW);
Subject: WCA Comments on WDFW Wolf Plan 12-29-09 chaps 1-2
Date: Tuesday, January 05, 2010 11:09:14 AM
Attachments: Draft Wolf Plan Public review Version 9 28 09 for Jack chaps 12.doc

Attached are the commenets from the Washington Cattlemen's Association on Chapters 1-2.
Thanks
jack field
Washington Cattlemen's Association

No contact info.

1 al. 1994), but most wolves in this region prefer lower elevations and gentle terrain where prey are
2 more abundant, particularly in winter (Boyd-Heger 1997, USFWS 2007a).

3
4 Use of public and private land by wolves has differed in Montana and Idaho. Of the 88
5 documented packs in Idaho that survived during 2008, nearly all territories were wholly or
6 predominantly on U.S. Forest Service (USFS) lands (USFWS et al. 2009). In contrast, most packs in
7 Montana exist on lands with a diversity of property owners and uses. These packs move through a
8 complex matrix of public, private, and corporate-owned lands, with the average territory in
9 northwestern Montana comprised of about 30% private land (USFWS et al. 2009). Landowner
10 acceptance of wolf presence and use of private lands is highly variable in space and time. Given the
11 mobility of the species and the extent to which these lands are intermingled, it is not unusual for
12 wolves to traverse each of these ownerships in a single day. Land uses range from dispersed
13 outdoor recreation, timber production, or livestock grazing to home sites within the rural-wildland
14 interface, hobby farming/livestock, or full-scale resort developments with golf courses.

15
16 Private lands may offer habitat features that are attractive to wolves, so some packs may use those
17 lands disproportionately more than other parts of their territories. In some settings, geography
18 dictates that wolf packs use or travel through private lands and co-exist in close proximity with
19 people and livestock. Land uses may predispose a pack to conflict with people or livestock,
20 although the presence of livestock does not make it a foregone conclusion that a pack will routinely
21 depredate (Bangs and Shivik 2001, Sime et al. 2007).

22 Dispersal

23
24
25 Upon reaching sexual maturity, most wolves leave their natal pack, looking for a mate to start a new
26 pack of their own (Mech and Boitani 2003a, Treves et al. 2009). Dispersal may be to unoccupied
27 habitat near their natal pack's territory or it may entail traveling much longer distances before
28 locating vacant habitat, a mate, or joining another pack. Wolves appear to disperse preferentially to
29 areas occupied by other wolves, using scent marking and howling to locate other animals (Ray et al.
30 1991). Boyd and Pletscher (1999) indicated that dispersers in their study moved toward areas with
31 higher wolf densities than found in their natal areas.

32
33 In northwestern Montana from 1985 to 1997, 53% of tagged wolves (30 of 58) dispersed from their
34 natal territories to establish new territories or join other existing packs; 59% of males (10 of 17) and
35 49% of females (20 of 41) dispersed (Boyd and Pletscher 1999). Males dispersed at an average age
36 of 28.7 months and traveled an average of 70 miles, whereas females averaged 38.4 months old at
37 dispersal and moved an average of 48 miles. Males and females combined traveled an average of 60
38 miles (range 10-158 miles), with 17% of dispersing individuals moving more than 100 miles. At
39 YNP from 1995 to 1999, dispersal distances averaged 54 miles in males and 40 miles in females
40 (Smith et al. 2000). Dispersals can occur in any month, but are somewhat more frequent in January-
41 February (courtship and breeding season) and May-June (Boyd and Pletscher 1999). Maximum
42 dispersal distances of more than 500 miles have been recorded (USFWS et al. 2009). Wolves are
43 capable of traveling such distances over periods of a few weeks or months. Dispersing individuals
44 typically have lower survival rates than non-dispersing wolves (Pletscher et al. 1997).

45
46 Dispersal has been regularly documented among and between populations in Montana, Idaho,
47 Wyoming, and bordering areas of British Columbia, thereby increasing genetic exchange across the

Comment [o1]: This is very likely going to lead to wolf-human or wolf-livestock interactions as the population base in Washington State is much higher in lower elevations. As a result the Draft EIS should call for fewer Breeding Pairs (BPS)

1 outbreaks can be severe and persistent, and can occasionally produce mortalities, but are not
2 considered a serious threat to population persistence (USFWS et al. 2006, 2009).

3 4 Rates of Population Change

5
6 In the absence of human-caused mortality, wolf populations primarily increase or decrease through
7 the combination and interaction of wolf densities and prey densities (Keith 1983, Fuller 1989),
8 although other factors (e.g., disease) may sometimes play a role. Actual rates of change depend on
9 whether the wolf population is pioneering vacant habitat or whether the population is well
10 established. Degree and type of legal protection, agency control actions, and regulated harvest also
11 influence population trends. Once established, wolf populations can withstand high mortality rates
12 provided that reproductive rates are also high and immigration continues (Fuller et al. 2003). In
13 most locations, sustainable mortality rates range from about 32% to more than 50% (Fuller et al.
14 2003).

15
16 Low-density wolf populations can increase rapidly if protected and prey is abundant. Wolf
17 populations in the GYA and Idaho areas exceeded all expectations for reproduction and survival
18 after their initial reintroductions (Bangs et al. 1998). Populations became reestablished in both areas
19 within two years, rather than the predicted three to five years, and pup production and survival were
20 high. However, once densities become high enough, social interactions among packs intensify,
21 causing intraspecific conflict and increased competition for food. These factors eventually cause
22 populations to level off or decline (Keith 1983, Fuller 1989).

23
24 Wolf populations in six regions of Idaho, Montana, and Wyoming increased at mean annual rates of
25 16-56% through 2005 (Mitchell et al. 2008). At Glacier National Park, wolf numbers increased an
26 **average of 23% annually** from 1986 to 1993 (Fritts et al. 1995), but then leveled off (Pletscher et al.
27 1997). Dispersing individuals from packs in this area eventually recolonized vacant habitats in
28 northwestern Montana (USFWS unpubl. data). Some of the packs that formed in this region
29 persisted, but others did not due to illegal killing, control actions where livestock depredation was
30 repeated, and for unknown reasons.

Comment [o2]: This growth factor makes the WDFW proposal a 29 pair plan by multiplying 1.24* the number of breeding pairs for the 3 year period. This is too many BPs for WA State. The entire NRM region only required 30 BPs for 3 states

31
32 Over a 26-year period, total wolf numbers in Montana increased from 8 in 1982 to 497 in 84 packs
33 in 2008 (USFWS et al. 2009) for an average annual rate of increase of about 17%. The population
34 remained fairly small (fewer than 20) for about 7 years, and then began a rapid increase that has
35 continued to the present. Numbers have grown in 13 of 19 years since 1989. Prey abundance has
36 influenced wolf population dynamics in northwestern Montana. Expanding white-tailed deer
37 populations during the late 1970s through the mid-1990s were partly responsible for increasing wolf
38 numbers and distribution. However, the population declined after the severe winter of 1996-1997,
39 when smaller prey populations resulted in greater predation on livestock in 1997 and 1998, forcing
40 an increase in the lethal control of wolves (C. Sime, unpubl. data).

41
42 Idaho's wolf population grew from fewer than 20 animals in 1995, when reintroductions first
43 occurred, to an estimated 846 wolves in 2008 (USFWS et al. 2009), which corresponds to a mean
44 annual growth rate of about 33%. Eighty-eight packs were documented in 2008 and had expanded
45 across much of the state from the Canadian border, south to the fringes of the Snake River plain,
46 and east to the Montana and Wyoming borders.

47

1 12 conservation groups challenged this determination by suing the USFWS to prevent delisting. On
2 July 18, 2008, a U.S. district judge granted a preliminary injunction restoring federal protection to
3 wolves in the DPS until the court case challenging the population's delisting could be decided.

4
5 On September 29, 2008, the USFWS asked the U.S. district judge that granted the preliminary
6 injunction to vacate its delisting rule for the DPS. The agency reopened the comment period to
7 again consider delisting wolves in the DPS on October 28, 2008 (USFWS 2008b). On January 14,
8 2009, the USFWS announced its intention to again delist the DPS, with the exception of Wyoming,
9 which no longer has an accepted management plan. The USFWS withdrew this action on January
10 20, 2009, pending further review, but announced its decision to proceed with delisting on March 6,
11 2009 (USFWS 2009). Delisting became effective on May 4, 2009, except in Wyoming. In June
12 2009, two lawsuits were filed by conservation groups opposing delisting, while two others were filed
13 by the state of Wyoming and a coalition of livestock groups and others seeking the delisting of
14 wolves in that state.

15
16 Where federal delisting of the wolf occurs, the USFWS is required under the Endangered Species
17 Act to continue monitoring delisted populations for at least five years to ensure that abundance
18 remains above a threshold for relisting.

19
20 State of Washington

21
22 Wolves were first listed as endangered by the Washington Department of Game in 1980 because of
23 their historical occurrence in the state and subsequent near-extirpation from the state, and because
24 of their existing status as endangered under the federal Endangered Species Act. State law RCW
25 77.15.120 protects endangered species from hunting, possession, malicious harassment, and killing,
26 with penalties described therein (Appendix F). State listing and delisting procedures for endangered,
27 threatened, and sensitive species in Washington are specified in WAC 232-12-297 (Appendix F).

28
29 Tribal

30
31 In the mid-1800s, eight treaties (known as the "Stevens Treaties") were negotiated with tribes in
32 what would become Washington State. The treaties established reservations for the exclusive use of
33 the tribes. Federally recognized tribes with reservations generally have authority to manage fish and
34 wildlife within their reservation. Not all of the state's tribes signed treaties with the federal
35 government. Several of these tribes have reservations designated by executive order. These include
36 the Colville, Spokane, and Kalispel reservations in eastern Washington, and the Chehalis and
37 Shoalwater reservations in western Washington.

Comment [o3]: What is the status of Gov to Gov discussion with the Tribes? It is impractical to advance a plan that relies so heavily upon Tribal lands for recovery

38
39 Wolf Management

40
41 Wolf management may vary among tribes in Washington. Although some tribes have traditional
42 and cultural ties with wolves, there is also concern that wolves could reduce opportunities for
43 subsistence harvest of elk, deer, and moose. WDFW has established a Wolf Interagency Committee
44 composed of WDFW, tribes, federal and state land managers, and the USFWS to foster
45 coordination and collaboration on wolf management in the state. Individual tribes in Washington
46 may choose to develop their own wolf management plans. In areas where wolves remain federally
47 listed as endangered, tribes are subject to federal Endangered Species Act regulations. However, in

1 areas of Washington where wolves are federally delisted, there is the potential for tribes to develop
2 their own management plans and regulations regarding wolves. These may or may not be consistent
3 with the state wolf plan. If issues were to arise over inconsistencies, they would be discussed in
4 government-to-government consultations between WDFW and the tribes. With regard to hunting,
5 treaties generally preempt state regulation of tribal treaty hunting. However, the courts have created
6 a narrow exception to the general rule, which applies to situations where the state regulates the
7 hunting of a particular species in order to conserve that species. Below is some additional detail
8 describing off-reservation hunting rights in Washington.

9 10 *Off-Reservation Hunting*

11
12 In addition to the authority to manage on reservation lands, the Stevens Treaty tribes reserved their
13 rights to continue traditional activities on lands beyond these reserved areas. The treaties all contain
14 substantially similar language reserving the right to hunt, fish, and conduct other traditional activities
15 on lands off reservations. There are 24 tribes with off-reservation hunting rights in Washington.
16 Two of the tribes, the Confederated Tribes of the Umatilla Indian Reservation and the Nez Perce
17 Tribe, are located outside of the state, but have reserved hunting rights within Washington.

18
19 Tribal hunting rights for non-treaty tribes are typically limited to areas on the reservation, although
20 the Colville Confederated Tribes' hunting rights extend to an area that was formerly part of the
21 reservation known as the "North Half." The Colvilles' hunting rights to the North Half were
22 upheld by the U.S. Supreme Court's decision in *Antoine v. Washington* in 1975.

23
24 There are additional tribes that are recognized by the federal government, but have no specific off-
25 reservation hunting rights. Members of those tribes are subject to state hunting regulations.

26
27 As federal law, treaties preempt inconsistent state law under the Supremacy Clause of the Federal
28 Constitution. The courts have ruled that state regulation of tribal exercise of off-reservation hunting
29 rights on open and unclaimed land is preempted by the Stevens Treaties, except where state
30 regulation is necessary for conservation purposes.

31
32 The treaties do not expressly specify the geographical extent of the hunting right. In *State v.*
33 *Buchanan* (1999), the Washington State Supreme Court ruled that this right extends to (1) the lands
34 formally ceded by the tribes to the United States as those lands are described in the Treaties; and (2)
35 may include other areas where it can be shown that those areas were "actually used for hunting and
36 occupied [by the tribe] over an extended period of time." The court did not provide a formal
37 mechanism to evaluate and determine traditional hunting areas.

38
39 Federal and state courts have ruled that public land is "open and unclaimed" unless it is being put to
40 a use that is inconsistent with tribal hunting. For example, in *U.S. v. Hicks*, a federal district court
41 ruled that the Olympic National Park was not "open and unclaimed" because one of its purposes is
42 the preservation of native wildlife and because hunting is generally prohibited in the park. In
43 contrast, national forests have been held to be "open and unclaimed." In *State v. Chambers* (1973),
44 the Washington Supreme Court stated that private property is not "open and unclaimed," but such
45 private property must have outward indications of private ownership recognizable by a reasonable
46 person.

Comment [o4]: This plan should have consulted with the Tribes prior to moving forward, then come with a DRAFT EIS that incorporates Tribal support if it is there?

E. Social, Cultural, and Economic Values

Many aspects of the wolf-human relationship are based on long-held cultural perceptions. Modern viewpoints on wolves also illustrate the fundamental differences in the ways that urban and rural people view nature (Wicker 1996). As noted in the Montana Gray Wolf Conservation and Management Plan Draft EIS (MFWP 2003), “the differences in attitudes towards wolves might be summed up as the perceived chance of personal benefit or loss resulting from the presence of wolves. Those who feel they will benefit either directly or vicariously tend to favor wolf recovery and those who perceive the threat of personal loss oppose recovery” (MFWP 2003).

Decidedly negative views of wolves prevailed during the period of eradication in the United States and continue today among some portions of the population, especially those who may be economically impacted by wolf restoration (Wilmot and Clark 2005). Hunter groups also worry that wolves may reduce harvestable game populations. Additionally, some citizens view wolves as highly problematic in the greater context of preserving private property rights and achieving broader uses of public lands.

By contrast, many studies of human attitudes towards wolves in the United States have documented strong public support for wolves in recent decades, even in the West (Fritts et al. 2003). These attitudes are fostered by the fear of extinction and a desire to restore natural ecosystems to their former function. Urban people and members of environmental organizations tend to hold the most positive and protectionist views toward wolves (Fritts et al. 2003). Favorable attitudes towards wolves also increase with geographic distance from occupied wolf range (Karlsson and Sjöström 2007). Wolf-related tourism has become an economic benefit in some areas, especially at Yellowstone National Park, where wolves are plentiful, easily located, and viewed from park roads (see Chapter 14, Section D).

Attitudes in Washington

Two recent studies conducted by Responsive Management, a professional public opinion and attitude survey research firm specializing in natural resource and outdoor recreation issues, provide information on citizen attitudes statewide on a variety of questions pertaining to hunting and wildlife management in Washington, including wolves. The first of these (Duda et al. 2008a) examined overall public opinion and entailed a telephone survey of 805 Washington residents 18 years old and older in January 2008 (see Appendix I for greater detail on survey methods). The survey asked six questions about wolves and related issues. Each question and the public’s responses to the question appear in Appendix I. The following summary of results is reprinted from the survey’s final report:

- “The large majority of Washington residents (75%) support allowing wolves to recover in Washington; meanwhile, 17% oppose it.”
- “A cross tabulation found that those who live in urban and suburban areas are more likely to support wolf recovery; while those residing in small city/town or rural areas are more likely to oppose. Note that those living on ranches or farms are the most likely to *strongly* oppose.”

Comment [05]: Those that “oppose” wolf recovery are those that are going to be financially impacted. (ranchers, hunters, guides)

Comment [06]: This should be quite clear those that support the plan will never have to live with it.

- 1 • “When the stipulation is put on wolf recovery that it could result in localized declines in elk
2 and deer populations, support declines slightly: 61% support wolf recovery if it will result in
3 some localized declines in elk and deer populations, and 28% oppose.”
- 4
- 5 • “Most Washington residents (61%) support some level of lethal wolf control to protect at-
6 risk livestock; however, 31% oppose. Additionally, a majority of residents (56%) support
7 having the state pay compensation out of the General Fund to ranchers who have
8 documented losses to livestock from wolves, but 35% oppose.
- 9
- 10 • “When asked how worried, while recreating outdoors, they would be about wolves,
11 respondents most commonly say that they would not be worried at all (39%), and 26%
12 would be only a little worried; in sum, 65% would be only a little worried or not worried at
13 all. On the other hand, 33% would be very or moderately worried, with 11% *very* worried.
- 14
- 15 • “In a question tangentially related to wolf management, the survey found that wildlife
16 viewing specifically of wild wolves would appear to be popular, as 54% of residents say that
17 they would travel to see or hear wild wolves in Washington. (Note that 2% of respondents
18 say that they would not need to travel, as they have wild wolves nearby already.)”
- 19

Comment [o7]: This is an essential element that Alt. 2 The Responsible Approach addresses. It is essential that the WDFW’s plan have support from its stakeholders. Alt. 2 attempts to build that support.

20 The second survey (Duda et al. 2008b) assessed hunter opinions only and entailed telephone
21 interviews with 931 Washington hunters 12 years old and older from December 2007 to February
22 2008 (see Appendix J for greater detail on survey methods). Interviewees in this study were
23 exclusive from those contacted by Duda et al. (2008a). The survey asked three questions about
24 wolves and related issues. Each question and hunters’ responses to the question appear in Appendix
25 J. The following summary of results is reprinted from the survey’s final report:

- 26
- 27 • “After being informed that wolves are highly likely to re-colonize Washington over the next
28 10 years, hunters were asked if they support or oppose having the Department manage
29 wolves to be a self-sustaining population. Support exceeds opposition among every type of
30 hunter except [those in a category combined for] sheep/moose/goat hunters.”
- 31
- 32 • “Common reasons for supporting include that the hunter likes wolves/that all wildlife
33 deserves a chance to flourish, that wolves should be managed and controlled anyway, or that
34 wolves should be managed so that they do not overpopulate.
- 35
- 36 • “Common reasons for opposing include concerns about potential damage to livestock
37 and/or game and wildlife, that the respondent does not want wolves in the area, or that
38 wolves are not manageable.”
- 39
- 40

Comment [o8]: This should be very clear because the hunters are now going to be the second user of those animals and the Wolf the first. This will not build long term support that is necessary for a socially acceptable plan.

✓ 

From: Jack Field
To: SEPADesk2 (DFW);
Subject: Washington Cattlemen"s Association Comments on the Wolf Plan
Date: Tuesday, January 05, 2010 10:24:49 AM
Attachments: Draft Wolf Plan Public review Version 12-29-0-9 - Chap 3.doc

Attached are the Washington Cattlemen's Association comments on Chapter 3 of the plan.
thanks
jack field
Washington Cattlemen's Association

1
2 **3. WOLF CONSERVATION**
3
4

5 The conservation portion of this plan identifies the strategies to reestablish a naturally reproducing
6 and viable population of gray wolves distributed in a significant portion of the species' former range
7 in Washington. WAC 232.12.297 (Endangered, threatened, and sensitive wildlife species
8 classification; Appendix F) defines the process by which "listing, management, recovery, and
9 delisting of a species can be achieved." The process requires the preparation of a recovery plan for
10 species listed as endangered or threatened. At a minimum, recovery plans are to include target
11 population objectives, criteria for reclassification, and an implementation plan for reaching
12 population objectives. The Washington Wolf Conservation and Management Plan will satisfy the
13 requirements for a state gray wolf recovery plan.
14

15 Section A of this chapter provides the scientific basis for conservation planning principles and
16 genetic/population viability issues as related to the reestablishment of sustainable wolf populations.
17 Section B presents the conservation/recovery objectives to downlist and delist wolves in
18 Washington. It describes the numbers and distribution for wolf conservation/recovery objectives,
19 as well as important conservation tools such as translocation. Section C briefly discusses issues and
20 processes related to the management of wolves after delisting. A summary of Wolf Working Group
21 discussions on these topics appears in Appendix E.
22

23 **A. Scientific Basis for Conservation Planning**
24

25 Population Viability
26

27 Conservation/recovery objectives for downlisting and delisting a species need to be set at sufficient
28 numbers of individuals and levels of geographic distribution to ensure that a permanently viable
29 population is reestablished. For the purposes of this document, a "viable" population is one that is
30 able to sustain its size, distribution, and genetic variation in the long term without requiring human
31 intervention and conservation actions. Such populations must also be able to withstand fluctuations
32 in abundance and recruitment associated with variation in food supplies, predation, disease, and
33 habitat quality. For wolves, long-term persistence of a population in Washington will depend on
34 other factors as well, including proximity and connectivity to source populations (outside and
35 potentially within the state), competing carnivore populations, the extent of conflicts with livestock
36 production, and overall social tolerance by people.
37

38 The number of individuals needed to maintain the long-term viability of wolf populations is widely
39 debated. Assessments by both the U.S. Fish and Wildlife Service (1994) and the Wisconsin
40 Department of Natural Resources (1999) concluded that isolated or partially isolated wolf
41 populations with 300-500 individuals should have a good probability of maintaining long-term
42 population viability. |

43
44 In 1994, the U.S. Fish and Wildlife Service (2008a) concluded that 30 or more breeding pairs
45 comprising 300 or more wolves in a metapopulation (a population made up of partially isolated sets
46 of subpopulations that are able to exchange individuals and recolonize sites in which the species has
47 recently become extirpated) should have a high probability of long-term persistence because:

Comment [o1]: When the WDFW convened their WWG to draft the "plan" the WWG was tasked with attempting to provide input on a management plan, not selecting a target number for wolves that will maintain long-term viability. The WDFW should not be concerned with this at this time.

1
2 "... such a population would contain enough individuals in successfully reproducing packs
3 distributed over distinct but somewhat connected large areas to be viable for the long-term
4 (USFWS 1994). A population at or above this size would contain at least 30 successfully
5 reproducing packs and ample individuals to ensure long-term population viability. In
6 addition, the metapopulation configuration and distribution throughout secure suitable
7 habitat would ensure that each core recovery area would include a recovered population
8 distributed over a large enough area to provide resilience to natural or human-caused
9 events that may temporarily affect one core recovery area. No wolf population of this size
10 and distribution has gone extinct in recent history unless it was deliberately eradicated by
11 humans (Boitani 2003)" (USFWS 2008a).
12

13 This population goal was reviewed in 2001-2002, with most (78%) queried experts strongly
14 supporting the 1994 conclusion that a metapopulation of at least 30 breeding pairs and at least 300
15 wolves would provide a viable wolf population (USFWS 2008a). However, the experts also
16 concluded that viability would be "enhanced by higher (500 or more wolves) rather than lower
17 population levels (300) and longer (more than 3 years) rather than shorter (3 years) demonstrated
18 time frames [because the] more numerous and widely distributed a species is, the higher its
19 probability of population viability will be" (USFWS 2008a).
20

21 In Wisconsin, population viability analysis similarly suggested that an isolated population of 300-500
22 wolves would have a high probability of persisting for 100 years under most of the scenarios tested
23 (WDNR 1999). However, simulations employing moderate to high levels of environmental
24 variation and catastrophic events resulted in substantially greater likelihood of extinction or the need
25 to relist the population.
26

27 State wildlife agencies have employed several approaches for setting recovery objectives for wolves
28 that are intended to ensure long-term viability. Wisconsin determined that its population objectives
29 needed to (1) represent a population level that could be supported by the available habitat, (2) be
30 compatible with existing information on wolf population viability analysis, and (3) be socially
31 tolerated to avoid development of strong negative attitudes toward wolves (WDNR 1999).
32 Oregon's wolf advisory group established population objectives based on a compromise between
33 conservation and management perceptions (ODFW 2005).
34

35 At present, the number of wolves necessary for ensuring the recovery of Washington's population is
36 difficult to determine. Specific information for Washington is lacking on wolf population dynamics,
37 pack densities, predator-prey relationships, immigration rates, and other relevant biological factors
38 for the state. Such data exist for wolves in other states (e.g., Montana, Idaho, Wisconsin); but may
39 not be adequate for establishing objectives for Washington because of differences in habitat quality,
40 prey availability, human densities, and perhaps other important factors. Therefore, establishment of
41 conservation/recovery objectives through a formal population viability analysis (PVA) is unlikely to
42 provide meaningful results at this time. The conservation/recovery objectives in this plan (Section
43 B) are established for the state of Washington, with recognition that the long-term viability of the
44 state's wolf population will, in part, be dependent on maintaining its connectivity to the broader
45 regional wolf metapopulation comprising Idaho, Montana, British Columbia, and Oregon.
46

1
2 Genetic Diversity
3

4 An underlying tenet of endangered species recovery is that populations need to be functionally
5 connected so that genetic material can be exchanged. In isolation, no population of wolves is
6 expected to maintain its genetic viability (Fritts and Carbyn 1995, vonHoldt et al. 2008). Loss of
7 genetic variation can pose a conservation threat to wolves by causing decreased reproductive rates,
8 reduced disease resistance, and other problems. These can, in turn, hinder the long-term recovery of
9 populations regardless of other factors such as habitat and prey availability. Inbreeding depression
10 has been suggested as the cause of reproductive problems (e.g., reduced sperm quality, decreased
11 litter size, reduced pup survival) and other problems (congenital backbone deformities) noted in
12 several small wolf populations (Wayne and Vilà 2003, Liberg et al. 2005, Asa et al. 2007, Fredrickson
13 et al. 2007, Rääkkönen et al. 2009). Nevertheless, many existing wolf populations have persisted for
14 decades or centuries with low genetic diversity (Fritts and Carbyn 1995, Boitani 2003). As a result,
15 wolf populations are broadly considered to be more threatened by issues relating to excessive
16 human-caused mortality than by genetic concerns (Boitani 2003).
17

18 Although wolves display a number of behaviors that help them avoid inbreeding (Chapter 2, Section
19 C), isolated populations that remain small in size and range can experience reductions in genetic
20 diversity because members have few opportunities for mating with unrelated individuals. Wolf
21 populations feature effective population sizes (i.e., the average number of individuals in a population
22 that breed and successfully pass their genes to succeeding generations; N_e) that are much smaller
23 than the total size of populations (N) (Aspi et al. 2006). This means that retaining adequate
24 numbers of successfully breeding adults is particularly important in preserving the long-term genetic
25 viability of wolf populations. Analyses by vonHoldt et al. (2008) suggested that isolated populations
26 maintaining at least 10 breeding pairs and at least 100 wolves will lose genetic variation and become
27 inbred over the long term. Bensch et al. (2006) reported that an isolated wolf population in
28 Scandinavia that grew from a founding breeding pair and one subsequent immigrant to about 140
29 wolves during a 21-year period lost genetic diversity at a rate of 2% per generation (i.e., about every
30 4 years). Other small wolf populations also possess reduced levels of genetic variability (Peterson et
31 al. 1998, Wayne and Vilà 2003, Fredrickson et al. 2007). Based on the genetic traits of wolves at
32 Yellowstone National Park, vonHoldt et al. (2008) predicted that without immigration, inbreeding
33 depression would cause the park's population of about 170 animals to experience an increase in pup
34 mortality from an average of 23 to 40% within 60 years.
35

Comment [o2]: The plan should not be concerned with genetic diversity. It should focus on writing a plan that has wide-spread social acceptance and buy-in.

36 To preserve the genetic diversity of isolated wolf populations, vonHoldt et al. (2008) suggested that
37 conservation efforts should discourage actions that interfere with pack formation and retention. For
38 example, intense control actions that result in the frequent removal of breeding pairs or severe
39 disruption of pack stability may lead to high breeder turnover and the possibility of reduced genetic
40 exchange through fewer mating choices with unrelated individuals. Genetic concerns in wolf
41 populations can be alleviated by management actions such as increased protection, restoration of
42 habitat, and augmentation of populations through translocation (vonHoldt et al. 2008, Kojola et al.
43 2009, USFWS 2009). The addition of even a single breeding immigrant can dramatically increase the
44 genetic variability of isolated populations (Vilà et al. 2003). Translocations reestablishing new
45 populations should emphasize adequate numbers of founders so that these populations start with
46 significant genetic diversity.
47

1 Current wolf populations in the northern Rocky Mountain states are characterized by high levels of
2 genetic variability (Forbes and Boyd 1996, 1997, vonHoldt et al. 2008), meaning that wolves arriving
3 in Washington from this source should possess adequate genetic diversity. In addition to wolves
4 dispersing into Washington from the Rocky Mountain states, the genetic makeup of wolves in the
5 state would be further diversified by breeding with wolves dispersing into the state from British
6 Columbia.

7
8 Distribution

9
10 One of the criteria for removing a species from state listed status in Washington is that it must
11 occupy a significant portion of its original geographic range. A “significant portion of the species’
12 historical range” is defined under WAC 232-12-297, section 2.9, as that portion of a species’ range
13 likely to be essential to the long-term survival of the population in Washington.

14
15 As a habitat generalist, wolves are capable of living in a variety of ecosystems having adequate prey
16 and sufficient human tolerance. [Oakleaf et al. (2006) looked at potential wolf habitat in Idaho,
17 Montana, and Wyoming, using the following GIS data layers: roads accessible to two-wheel and
18 four-wheel vehicles, topography (slope and elevation), land ownership, relative ungulate density
19 (based on State harvest statistics), cattle and sheep density, vegetation characteristics, and human
20 density. From that analysis, they concluded, and the U.S. Fish and Wildlife Service (USFWS 2008a)
21 concurred, that the four primary factors related to wolf occupancy and persistence were:

Comment [o3]: Wolves will go wherever they can find the easiest prey

- 22
23 1) increased forest cover
24 2) lower human population density
25 3) higher elk density
26 4) lower sheep density
27

28 Wolves are expected to persist in habitats with similar characteristics in Washington. Areas with
29 abundant deer, elk, and moose, reduced livestock use, and few potential human conflicts offer the
30 best chance for recovery success. [These locations include national forests, national parks, wilderness
31 areas, national recreation areas, designated roadless areas on public lands, and areas with low
32 densities of open roads. In some areas, wolves are expected to follow their prey to lower elevations
33 during the winter.

Comment [o4]: With this being said it essential that the plan have support from elk hunters, cattle ranchers and deer hunters

34
35 Historically, wolf distribution in Washington included much of the state. During the 70 or so years
36 that wolves have been essentially absent from Washington, humans have significantly altered the
37 landscape throughout the state. Habitat once occupied by wolves has been reduced by development
38 and land conversion, with many areas now existing as fragments rather than as large contiguous
39 blocks. Road densities have increased dramatically and the human population has grown to more
40 than six million people.

41
42 Although these changes have reduced the amount of habitat now available to wolves, large areas of
43 Washington continue to have low human densities and are potentially suitable for the species.

44
45 There have been four recent modeling studies that have estimated potentially suitable wolf habitat in
46 Washington. They vary in approach, data layers that were used, and in predictions of amounts of
47 potentially suitable wolf habitat in the state, but most were consistent in predicting suitable habitat in

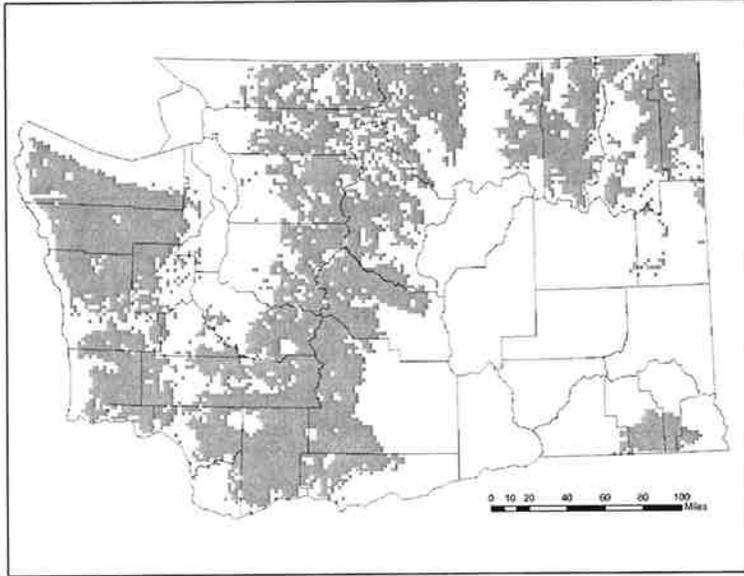
1 northeastern Washington, southeastern Washington, the Cascade Mountains, and the Olympic
2 Peninsula (Figures 4-7). The four studies include:

3
4 (1) B. Maletzky (unpubl. data) used GIS data layers for the four parameters found by Oakleaf et al.
5 (2006) to be the most important predictors of wolf occupancy and persistence in Montana, Idaho
6 and Wyoming. These included prey density, forest cover, human density, and presence of sheep
7 allotments. Using these parameters, he determined that potentially suitable wolf habitat occurs in
8 the northeastern portion of the state, the Blue Mountains, Cascade Mountains, southwest
9 Washington and the Olympic Peninsula (Figure 4). The model resulted in five different probabilities
10 of wolf occupancy. Figure 4 shows the proportion of suitable habitat likely ($\geq 50\%$ probability) to
11 be occupied. Oakleaf et al. (2006) considered habitat with $\geq 50\%$ probability of occupancy to be
12 high quality wolf habitat; Larsen and Ripple (2006) defined wolf habitat suitability as those lands that
13 predicted a $\geq 50\%$ probability of wolf occurrence (Figure 5).

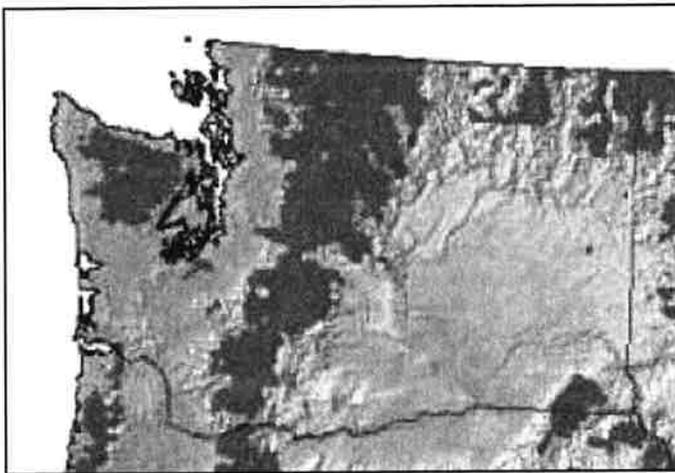
14
15 (2) Larsen and Ripple (2006) used prey density and the extent of human presence, forest cover, and
16 public lands as parameters. The result projected more suitable habitat in the North Cascades than
17 the Maletzky model (Figure 4) and none in southwestern Washington (Figure 5).

18
19 (3) Carroll et al. (2006) conducted a series of analyses of suitable wolf habitat in the western US,
20 including Washington. The first analysis mapped much of western and northeastern Washington as
21 suitable habitat based on vegetation type (used as a measure of prey abundance) and terrain (Figure
22 6a). Further analysis predicted distribution and demography of wolves in the western U.S. using the
23 spatially-explicit PATCH model (Schumaker et al. 2004). This resulted in predictions of potential
24 distribution and demography of wolves in the western United States under five different landscape
25 scenarios portraying current and future conditions. The PATCH model predicted low probability of
26 occupancy and persistence in the state, under current conditions, except in the Blue Mountains and
27 the Olympic Peninsula (Figure 6b). Under this projection, USFWS (2008a, 2009) reported that the
28 Washington portion of the Northern Rocky Mountain DPS (i.e., eastern one-third of Washington)
29 contained only an estimated 297 square miles of potential wolf habitat.

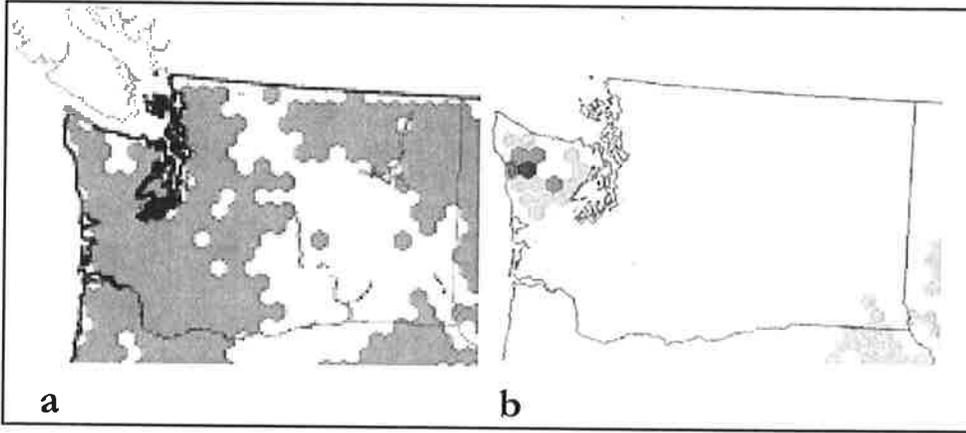
30
31 (4) In response to questions from the Wolf Working Group, Carroll (2007, unpubl. data)
32 subsequently expanded his analysis of suitable wolf habitat in Washington by considering the
33 influence of linkages with habitat in British Columbia and adjacent states on predicted wolf
34 distribution and demography. GIS data layers used were: (1) vegetative productivity; (2) road density
35 and type together with human population density and distribution, which were used as a measure of
36 wolf mortality (livestock density was not incorporated); and (3) habitat linkages with neighboring
37 states and British Columbia. The results identified areas of potential wolf habitat similar to those
38 indicated by Maletzky (unpubl. data) and Larsen and Ripple (2006), including the Cascades,
39 northeastern Washington, the Olympic Peninsula, and the Blue Mountains (Figure 7). However,
40 most of the habitat within these areas, especially in the North Cascades and northeastern
41 Washington, was considered to be lesser quality "sink" habitat, where resident wolf populations
42 would have difficulty persisting without ongoing immigration from neighboring "source"
43 populations. Sink habitat is nonetheless considered vital in enhancing regional population viability
44 by facilitating dispersal between source populations. In comparison, source habitats are higher
45 quality habitats that support growing populations (source populations) and produce dispersing
46 young. Source habitats therefore play a pivotal role in sustaining viable populations.



1
 2 Figure 4. Estimated suitable wolf habitat likely ($\geq 50\%$ probability) to be occupied in Washington (gray
 3 shading), using the parameters of Oakleaf et al. (2006). Analyses were conducted by B. Maletzky.
 4
 5
 6

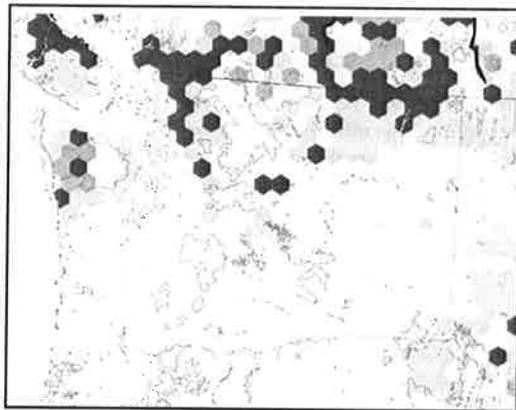


7
 8
 9 Figure 5. Estimated suitable wolf habitat in Washington (dark gray shading), where suitability is defined
 10 by those lands that equal or exceed a 50% probability of occurrence as predicted by Larsen and Ripple
 11 (2006).
 12



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Figure 6. The estimates of Carroll et al. (2006) of (a) suitable wolf habitat in Washington (gray shading) based on vegetation parameters, and (b) potential wolf distribution predicted by the PATCH model under current habitat conditions. In (b), areas with predicted negative population growth rates are shown in pink and red, and are considered "sink" habitats. Those shown in shades of green have predicted positive growth rates and are considered "source" habitats. Areas in pale yellow are predicted to have low potential occupancy (less than 25%).



15
16

Figure 7. Potential wolf distribution in Washington and surrounding areas as predicted by Carroll (2007). Areas with predicted negative population growth rates are shown in pink and red, and are considered "sink" habitats. Those shown in shades of green have predicted positive growth rates and are considered "source" habitats. Areas in pale yellow are predicted to have low potential occupancy (less than 25%).

21

22

23

24

Models of suitable wolf habitat are most useful for understanding the relative proportions and distributions of various habitat characteristics related to wolf survival and shouldn't be interpreted as

1 absolute predictors of areas that will be occupied by wolves (USFWS 2008a). Estimates of suitable
2 habitat calculated from the four different model results range from a low of about 16,900 square
3 miles (Carroll 2007) to a high of about 41,500 square miles (Carroll et al. 2006). Maletzky (unpubl.
4 data) results were about 26,700 square miles and Larsen and Ripple (2006) results were about 19,000
5 square miles. The average of the four was about 26,025 square miles. The Maletzky (unpubl. data)
6 projection may be the most realistic because it used the parameters identified by Oakleaf et al. 2006
7 as most important predictors of suitable wolf habitat, and it was able to use current WDFW GIS
8 data layers for elk densities in the state. Both Larsen and Ripple (2006) and Carroll (2007) projected
9 lower amounts of total suitable habitat because their results did not portray southwestern
10 Washington as potential wolf habitat. The Carroll et al. (2006) model results were highest because
11 they projected the Puget Sound lowlands as potential habitat. These differences in the models are
12 likely artifacts of the parameters and GIS data layers used.

13
14 Models and observations from Idaho, Montana, and Wyoming during the past 20 years (Bangs et al.
15 2004, USFWS et al. 2009) indicate the types of habitat not suitable for wolves. These include
16 non-forested rangeland and croplands associated with intensive agricultural use Carroll et al. 2003,
17 2006, Larsen and Ripple 2006, Oakleaf et al. 2006, Carroll 2007, unpubl. data; B. Maletzky, unpubl.
18 data). This unsuitability is due to high rates of wolf mortality, high densities of livestock compared
19 to wild ungulates, repeated conflict with livestock and pets, local cultural intolerance of large
20 predators, and wolf behavioral characteristics that make them vulnerable to human-caused mortality
21 in open landscapes (USFWS 2008a). Consequently, although a few wolves could potentially occupy
22 the Columbia Basin in Washington, the likelihood of them persisting and establishing a viable
23 breeding population is low. Lowland areas of the Puget Trough are similarly not expected to
24 support wolves because of the high human densities, lack of available prey, and reduced forest cover
25 found there.

26
27 It is not possible at this time to predict the eventual distribution of wolves in Washington or the
28 carrying capacity of landscapes to support them. However, future radio-tracking of a suitable
29 number of wolves reoccupying the state will make it possible to measure a variety of important
30 biological parameters, including habitat selection and territory sizes. This information can be used
31 to estimate carrying capacity and will help establish a range of wolf numbers that different regions of
32 Washington may be able to support based on prey abundance and distribution, human population
33 densities, livestock allotments, and extent of forested habitat.

34 35 Landscape Connectivity and Dispersal

36
37 Some landscape features allow easy passage by wildlife species, whereas others such as unsuitable
38 natural habitats, rugged topography, human development, and major highways may act as barriers
39 that constrain, prevent, or redirect movements (Singleton et al. 2002). Landscape features can
40 therefore influence: (1) levels of gene flow among populations; (2) rates of dispersal to unoccupied
41 areas with suitable habitat, which can affect the establishment of new populations; and (3) rates of
42 immigration into existing populations, which can affect the viability of populations, especially those
43 with low survival or productivity and those occupying fragmented habitats. Wolves are capable of
44 dispersing long distances rapidly through a variety of habitats and select mates to maximize genetic
45 diversity (USFWS 2008a). Nevertheless, maintaining connectivity between blocks of potentially
46 suitable habitat is important to wolf conservation in Washington because of the fragmented
47 condition of habitats in the state. Managing landscape permeability for the benefit of wolves will

Comment [o5]: This should not be an issue. The issue at hand is how the WDFW will respond to wolf interactions and what will be done to protect against them.

1 speed recolonization and progress toward recovery goals and will reduce the need for costly
2 translocation efforts.

3
4 Singleton et al. (2002) analyzed landscape permeability for wolves in Washington and adjoining areas
5 of Idaho and British Columbia (the Blue Mountains and Oregon were excluded). They reported that
6 landscapes in the Cascades, north-central and northeastern Washington, and parts of the interior
7 lowlands of British Columbia were broadly conducive for travel by wolves. However, five zones
8 within the region were identified as impediments to movement, with the upper Columbia (Lake
9 Roosevelt)-Pend Oreille valleys being the least permeable of these, followed by Snoqualmie Pass,
10 Stevens Pass-Lake Chelan, the Fraser-Coquihalla region of British Columbia, and the Okanogan
11 Valley. These zones generally represent developed valley bottoms with discontinuous forest cover,
12 sizeable human populations, and high road densities, or reservoirs. Singleton et al. (2002) also
13 showed a broad band of south-central British Columbia extending north from a line between about
14 Osoyoos and Grand Forks as being of lower permeability for wolves, meaning that wolves
15 attempting to move between eastern Washington and the Washington Cascades could find better
16 travel conditions in the northern tier of Washington than in a sizeable portion of southernmost
17 British Columbia.

18
19 Singleton et al.'s (2002) conclusions are generally supported by the work of others who have
20 modeled potential wolf habitat in Washington (Carroll et al. 2006, Larsen and Ripple 2006; Carroll
21 2007, unpubl. data; B. Maletzky, unpubl. data). These studies variously showed the Okanogan,
22 upper Columbia, and Pend Oreille valleys, Snoqualmie Pass, and high elevation areas of the North
23 Cascades as being potential gaps in the distribution of wolves in eastern Washington (Figures 4-7)
24 that would have to be crossed by individuals dispersing between major blocks of suitable habitat.
25 Two additional areas, the I-5 corridor through Lewis and Cowlitz counties and the Chehalis River
26 valley through Grays Harbor County, represent potential barriers to dispersal in western
27 Washington. In contrast to Singleton et al. (2002), Carroll's (2007, unpubl. data) results suggested
28 that southernmost British Columbia may hold better dispersal habitat (as indicated by the presence
29 of "source" habitat) for wolves than northern Washington (Figure 7).

30
31 Maintaining cross-border habitat linkages between Washington and Idaho, British Columbia, and
32 Oregon is vital to the reestablishment and long-term viability of a wolf population in Washington
33 (Carroll 2007). Proximity to wolf populations in Idaho and Montana, which numbered a combined
34 1,343 animals in 2008 (USFWS et al. 2009), and good habitat connectivity along the northeastern
35 Washington-northwestern Idaho border (Singleton et al. 2002; Carroll et al. 2006; Oakleaf et al.
36 2006; Carroll 2007, unpubl. data) provides a high probability that dispersing wolves will periodically
37 enter Washington as long as this source population remains large. Important cross-boundary habitat
38 linkages also exist with British Columbia and Oregon and will benefit wolf recolonization in
39 Washington. However, both of these jurisdictions currently have much smaller wolf populations in
40 areas bordering Washington and therefore will likely be the source of fewer animals entering the
41 state. Any management programs that significantly reduce wolf numbers in Idaho, Montana, British
42 Columbia, and Oregon through regulated public hunting or other large-scale control actions will
43 likely reduce rates of dispersal into Washington. Such activities would create vacancies within
44 existing packs as well as areas of suitable habitat devoid of resident wolf packs, which will probably
45 become occupied by some dispersing wolves before they travel to more distant areas such as
46 Washington. The eventual formation of a source population of wolves in Washington will reduce
47 the dependence on wolf dispersal into the state from outside. Over time, better knowledge of
48 dispersal and immigration rates into Washington will emerge.

Comment [o6]: Once a Breeding Pair enters WA State we should be able to count them as a WA BP.

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Comparisons between the Northern Rocky Mountain States and Washington for Wolves

During scientific peer review of this plan, several knowledgeable experts on wolves in the northern Rocky Mountain states commented that wolf restoration in Washington may resemble that which occurred in northwestern Montana from 1979 until well into the 1990s. In contrast to central Idaho and the greater Yellowstone area, both northwestern Montana and Washington lack large core refugia of secure habitat that has large numbers of overwintering wild prey and few livestock (USFWS 2009). Instead, northwestern Montana and Washington feature much more fragmented habitat and a mix of public and private ownership; northwestern Montana also has large holdings of livestock, a natural prey base comprised mainly of deer, and less overall public support for wolf recovery. Because of this combination of characteristics, the wolf population in northwestern Montana grew relatively slowly in numbers and distribution (Bangs et al. 1998). After the first two wolves were recorded in 1979, the first documented breeding pair did not occur until 1986 and the region was not occupied by six successful breeding pairs until 1995.

Wolf numbers were dampened during this period by wolf-livestock conflicts resulting in significant lethal control, deaths from cars and trains, illegal human-caused mortality, declining ungulate density due to severe winter weather, disease, and an apparently slow rate of immigration from nearby areas of Alberta and British Columbia, where management appeared to be aggressive enough that fewer wolves than expected dispersed into Montana (Bangs et al. 1998, Sime et al. 2007; C. Sime, pers. comm.). Additionally, Glacier National Park and large adjoining wilderness areas to the south did not function as core secure habitat for wolves because their high elevations and harsh winters do not allow significant numbers of ungulates to overwinter (D. Smith, pers. comm.). Wolves in northwestern Montana had among the lowest average pack sizes and population growth rates in the northern Rocky Mountain states through 2005 (Mitchell et al. 2008). Despite these characteristics, the population showed stronger growth during the 1990s and 2000s, with immigration from central Idaho helping supplement the population after about 2002. Because of the proportionally greater level of conflicts with humans, management of wolves in northwestern Montana has required greater agency intervention and cost than wolf restoration efforts in the greater Yellowstone area, central Idaho, and the Great Lakes states (E. Bangs, pers. comm.).

Comment [o7]: Normal regulated public harvest such as is contemplated in the NRM is usually **unable** to reduce wolf populations (Mech 2001).” (emphasis added)

B. Conservation/Recovery Objectives for Washington

Numbers and Distribution

This plan sets conservation/recovery objectives to downlist wolves from endangered to threatened, threatened to sensitive, and to delist from sensitive status per WAC 232.12.297. The objectives that were developed from a combination of sources: current scientific knowledge about wolves in other locations, wildlife conservation principles, negotiations among the Wolf Working Group with input from WDFW (see Appendix E), and input from scientific peer review. As such, the objectives attempt to be both biologically and socially acceptable. As wolves recolonize Washington, the population will be monitored to determine trends in abundance, demographic parameters, habitat use, dietary relationships, outcomes of interactions with humans, and other factors pertaining to population viability. In addition, the status of successful natural migration between isolated populations of wolves both within the state and between Washington and adjacent populations in British Columbia, Idaho, and Oregon will be monitored. The status of wolf populations in areas adjacent to Washington and the permeability of habitat in these areas will also be reviewed. This

1 information can then be used to revise the conservation/recovery objectives, if needed, through
2 methods such as population viability analysis.

3
4 Consistent with the recovery objectives for the Northern Rocky Mountain distinct population
5 segment, the conservation/recovery objectives in this plan are based on numbers of successful
6 breeding pairs rather than packs or individuals. "Successful breeding pair" is used as the unit of
7 measurement because it provides a higher level of certainty in assessing population status and
8 documenting reproduction. A successful breeding pair of wolves is defined as an adult male and an
9 adult female with at least two pups surviving to December 31 in a given year. (This term was
10 formerly known simply as "breeding pair," but Mitchell et al. [2008] recommended use of
11 "successful breeding pair" as a more precise term to indicate that successful rearing of young had
12 occurred.) The U.S. Fish and Wildlife Service used successful breeding pair as their recovery
13 measure "because wolf populations are maintained by packs that successfully raise pups" (USFWS
14 1994, Mitchell et al. 2008). Success of breeding pairs is measured in winter because most wolf
15 mortality occurs from spring through fall, and winter is the beginning of the annual courtship and
16 breeding season (USFWS 2008a). In Washington, verification of successful breeding pairs will be
17 done by WDFW using established protocols.

18
19 Also consistent with the Northern Rocky Mountain objectives and state recovery plans for other
20 species in Washington, the objectives in this plan must be maintained for 3 consecutive years. This
21 is to ensure that numbers are being maintained over time.

22
23 The number and distribution objectives for wolves are expressed in terms of occupancy within three
24 defined recovery regions of the state. These regions are: the Eastern Washington Region, Northern
25 Cascades Region, and Southern Cascades and Northwest Coast Region (Figure 8). The western
26 boundary of the Eastern Washington Region follows Highways 97, 17, and 395 and matches the line
27 used by the U.S. Fish and Wildlife Service to demarcate the western edge of the Northern Rocky
28 Mountain distinct population segment for gray wolves in Washington (USFWS 2009).

29
30 Consistent with protocols used in the Northern Rocky Mountain states (Idaho, Montana,
31 Wyoming), and to avoid double-counting successful breeding pairs of wolves, packs with territories
32 straddling recovery region (or state) boundaries will be counted in the area where the den site is
33 located. If the den location is not known with certainty, then other criteria such as amount of time,
34 percent of territory, or number of wolf reports will be used to determine pack residency. Thus, a
35 pack will not be counted in more than one recovery region.

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37

Comment [o8]: How will the WDFW fund this activity? Is this a priority that is funded via the General Fund?

Comment [o9]: Is the 3 yr period a WDFW mandate or simply used in the NRM? If it is not in statute why can this time frame not be eliminated?

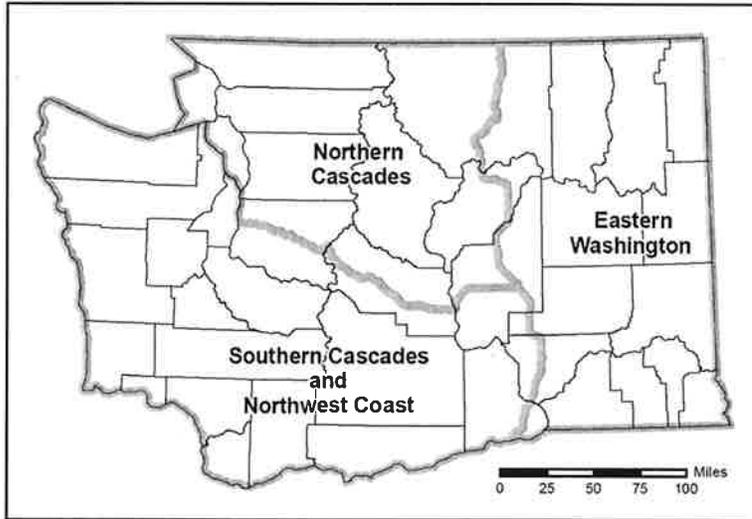


Figure 8. Three gray wolf recovery regions in Washington: Eastern Washington Region, Northern Cascades Region, and Southern Cascades and Northwest Coast Region.

The following conservation/recovery objectives have been identified to transition from one designation to the next:

1. The gray wolf will be considered for downlisting from state endangered to threatened when 6 successful breeding pairs are present for 3 consecutive years, with at least:

- 2 successful breeding pairs in the Eastern Washington Region,
- 2 successful breeding pairs in the Northern Cascades Region, and
- 2 successful breeding pairs distributed in the Southern Cascades and Northwest Coast Region.

Comment [o10]: This will equal 11 breeding pairs. By using a 24% growth rate. That is almost twice the number for Threatened. These numbers are too high, the number of BP to move to Threatened should be 3 BPs see Alt 2 Responsible Approach

Comment [o11]: The language "with at least" must be removed

2. The gray wolf will be considered for downlisting from state threatened to sensitive when 12 successful breeding pairs are present for 3 consecutive years, with at least:

- 2 successful breeding pairs in the Eastern Washington Region,
- 2 successful breeding pairs in the Northern Cascades Region,
- 5 successful breeding pairs distributed in the Southern Cascades and Northwest Coast Region, and
- 3 successful breeding pairs that can be distributed in any of the three recovery regions.

Comment [o12]: This will equal 23 BP . By using a 24% growth rate. That is almost twice the number for Sensitive. These numbers are too high, the number of BP to move to Threatened should be 6 BPs see Alt 2 Responsible Approach

Comment [o13]: The language "with at least" must be removed

Comment [o14]: The language "with at least" must be removed

3. The gray wolf will be considered for delisting from state sensitive when 15 successful breeding pairs are present for 3 consecutive years, with at least:

Comment [o15]: This will equal 29 BP . By using a 24% growth rate. That is almost twice the number for Delisting. These numbers are too high, the number of BP to Delist should be set via the Ruckelshaus Center Process. see Alt 2 Responsible Approach

- 2 successful breeding pairs in the Eastern Washington Region,
- 2 successful breeding pairs in the Northern Cascades Region,
- 5 successful breeding pairs distributed in the Southern Cascades and Northwest Coast Region, and
- 6 successful breeding pairs that can be distributed in any of the three recovery regions.

There is no requirement that wolves must go through each listed stage before downlisting or delisting if they meet the conservation/recovery objectives. If the wolf population increased rapidly in numbers and distribution, then it may be eligible for skipping a listing stage. For example, if 12 or more successful breeding pairs became reestablished in the state in the first year of the plan's implementation and met the distribution objectives for 3 consecutive years, then WDFW could skip efforts to downlist wolves to threatened status and move ahead with downlisting to sensitive status after the recovery objectives for that status were achieved. If 18 successful breeding pairs of wolves meeting the distribution criteria for delisting from sensitive are documented in any year during the 3-year period, then WDFW could begin the process to write a status review to prepare a delisting recommendation at that time, rather than wait for the 3-year period to conclude; however, wolves would not be proposed for delisting until they had achieved the delisting objectives for 3 consecutive years.

Comment [o16]: If the WDFW does not want to utilize the Ruckelshaus approach Delisting should occur at 8 BPs

The conservation/recovery objectives presented here for successful breeding pairs correspond with the following ranges in estimated numbers of wolves in the statewide population, as derived from data collected in Idaho, Montana, and Wyoming: 6 successful breeding pairs, 40 to 146 wolves; 12 successful breeding pairs, 79 to 284 wolves; and 15 successful breeding pairs, 97 to 361 wolves (Table 3). The estimated equivalent number of packs also varies widely (Table 3), because the

Table 3. Estimated range in the number of successful breeding pairs, packs, and individual wolves projected to be in the Washington population as it transitions between different recovery stages associated with state listing.

	Endangered to threatened	Threatened to sensitive	Sensitive to delisted
No. of successful breeding pairs	6	12	15
Estimated equivalent no. of packs ^a	7-17	14-33	17-42
Estimated no. of wolves in all packs combined ^b	36-124	71-241	87-307
Estimated no. of lone wolves ^c	4-22	8-43	10-54
Total estimated no. of wolves present ^d	40-146	79-284	97-361

^a Number ranges are based on the lowest and highest probabilities of a pack containing a successful breeding pair, as determined for five regions of Idaho, Montana, and Wyoming (excluding Yellowstone National Park) using data from 1979-2005 (Mitchell et al. 2008). Successful breeding pair numbers are typically smaller than pack numbers because not all packs breed or successfully rear pups, and because logistical difficulties may prevent the confirmation of breeding in some packs, especially as pack numbers become larger (USFWS et al. 2008).

^b Number ranges are based on averages varying from a minimum of 5.1 ± 1.1 (SD) to a maximum of 7.3 ± 2.3 wolves per pack in five regions of Idaho, Montana, and Wyoming (excluding Yellowstone National Park) using data from 1979-2005 (Mitchell et al. 2008).

^c Number ranges are based on lone wolves comprising 10-15% of most populations (Fuller et al. 2003).

^d Number ranges represent the sum of the estimated numbers of wolves in packs and lone wolves.

number of successful breeding pairs can be substantially smaller than the total number of packs present, especially as recovery progresses. Average pack size can vary greatly as well (Chapter 2,

1 Section C; Mitchell et al. 2008). Data from Idaho and Montana indicate that the number of
2 successful breeding pairs and packs are usually similar early in recovery (USFWS et al. 2009; C. Sime,
3 unpubl. data), when closer monitoring of each pack can be performed. Thus, expected numbers of
4 packs and wolves in Washington during the endangered and threatened stages are likely to be on the
5 smaller side of the range of estimates presented here.
6

7 This plan's conservation/recovery objectives for Washington are below those thought to be needed
8 for long-term persistence of an isolated population (30 or more successful breeding pairs containing
9 300 or more wolves in a metapopulation) (see Section A of this chapter; USFWS 2008a, WDNR
10 1999). However, Washington's objective of 15 successful breeding pairs distributed across three
11 recovery regions and maintained for 3 consecutive years is believed to be sufficient to result in the
12 reestablishment of a self-sustaining recovered wolf population for the state because of the
13 distribution and time requirements. The three-year criteria, distribution in three recovery regions,
14 and connectivity being maintained with populations in Idaho, Montana, British Columbia, and
15 Oregon, are factors that contribute to the 15 breeding pairs being considered a viable alternative,
16 even though minimal to achieve recovery.
17

18 Smaller downlisting and delisting objectives of 3, 6 and 8 successful breeding pairs for one year, with
19 no distribution requirements, were proposed in a Minority Opinion of the Wolf Working Group
20 (Appendix D). Based on the scientific information on wolf population viability presented in Section
21 A of this chapter, and initial peer reviews of the preferred alternative numbers, 15 breeding pairs is
22 considered minimal or barely adequate for population viability and achieving recovery. Additional
23 blind peer review during the public review process may provide additional information on the
24 adequacy of these numbers.
25

26 An objective of eight successful breeding pairs is that much further below what might be considered
27 adequate (see also Section A, Genetic Diversity of this Chapter). [The proposal has the added risk of
28 requiring the number to be achieved for only one year. This would not allow for maintaining
29 robustness of population numbers on the landscape over time in light of fluctuations in numbers
30 between years. With the low numbers, lack of geographic distribution criteria, and single year for
31 the recovery objective to be met, the goal of this plan to "restore the wolf population in Washington
32 to a self-sustaining size and geographic distribution that will result in wolves having a high
33 probability of persisting in the state through the foreseeable future (>100 years)" is unlikely to be
34 met. [For these reasons, it has a high risk of not achieving the conservation purpose of the plan and
35 was not considered to be a viable preferred alternative.
36

37 The conservation/recovery objectives presented here represent the numbers needed to achieve the
38 downlisting and delisting of wolves in Washington and do not carry implications for ultimate
39 numbers of wolves that will exist in the state. The delisting objective of 15 successful breeding pairs
40 (with adequate geographic distribution for 3 consecutive years) is not a population "cap" at which
41 the population will be limited. The plan does not place a limit on the numbers of wolves that will be
42 allowed to live in Washington.
43

44 When Washington's wolf population reaches the delisting objectives (15 breeding pairs for 3
45 consecutive years in appropriate distribution), WDFW will begin the process of proposing delisting
46 of the species. This process, described in WAC 232-12-297 (Appendix F), requires the preparation
47 of a status review that examines all pertinent information on abundance, the achievement of
48 recovery objectives, and ongoing threats. Review under the State Environmental Policy Act (SEPA)

Comment [o17]: This should be the objective that the WDFW follows.

Comment [o18]: These numbers are both socially and financially attainable

Comment [o19]: There was never a vote on the numbers of the WDFW's plan or the MO.

Comment [o20]: Genetic Diversity was not a part of the WWG original charge. This was something that was pushed by the WDFW and its Staff not by the WWG.

Comment [o21]: This should not even be part of the discussion. There must be support for this plan from the people on the ground. This plan will not have that support.

Comment [o22]: Why does the WDFW refuse to talk about a "cap" on wolf numbers. The wolf has zero predators. The WDFW does not need to treat the wolf

Comment [o23]: On page 7 of NRM Wolf Project Leader Ed Bangs' Declaration, he wrote that human-caused mortality accounted for an annual average of 23% of the wolf population (agency kill-10%, illegal kill-10% and vehicle and other-3%) yet the wolves still multiplied at a rate of 24% per year despite additional mortality from natural causes.

1 and public review are also required as part of the delisting process. Delisting is based only on the
2 biological status of the species in Washington. Information from the status review is then presented
3 to the Washington Fish and Wildlife Commission to make the final determination on delisting.
4

5 Translocation

6
7 Wolves will be allowed to expand into unoccupied suitable habitat across ownerships and
8 administrative designations in the state, and natural dispersal is expected to be the primary means for
9 wolves to disperse across Washington and recolonize new areas of the state. It is recognized,
10 however, that there may be bottlenecks inhibiting natural dispersal and establishment of wolf packs,
11 particularly for wolves attempting to disperse across the existing mix of private and public lands
12 between northeastern Washington and the northern Cascades and from the southern Cascades to
13 the Pacific Coast due to distance, human-caused mortality, or other potential bottlenecks to natural
14 dispersal. Singleton et al. (2002) evaluated landscape permeability for wolves in Washington and
15 suggested that even the two areas likely representing the greatest impediments to wolf dispersal (i.e.,
16 the upper Columbia-Pend Oreille Rivers and Snoqualmie Pass) were nevertheless probably
17 permeable for wolves.
18

19 The overall timeframe for wolves to disperse into Washington and reach recovery objectives for
20 downlisting and delisting is difficult to predict, but it is likely to be slow (Carroll 2007) and could
21 take several decades. The first area colonized by breeding wolves in Washington was in the
22 northern Cascades and the next was northeastern Washington. Based on the current proximity of
23 wolf packs in neighboring states and British Columbia, the northeastern and southeastern corners of
24 Washington and the northern Cascades and Pasayten Wilderness will be the likely areas occupied by
25 wolves through natural dispersal. The southern Cascades and western Washington will take longer
26 to recolonize through natural dispersal.
27

28 Translocation (moving animals from one area of Washington to another to establish a new
29 population) is a conservation tool that is considered a key aspect of this plan (Appendix E). It is
30 included as a tool that could be used to establish and expand populations in recovery regions that
31 wolves have failed to reach through natural dispersal. Potential benefits of translocation are that it
32 could:
33

- 34 • Address impediments to natural dispersal such as extensive areas of private lands and
35 unsuitable habitat, or excessive mortality from illegal killing, lethal control, vehicle collisions,
36 or other human-related causes.
- 37 • Reduce wolf numbers in some regions where they may increase to carrying capacity prior to
38 downlisting and delisting objectives being met in other recovery regions,
- 39 • Hasten establishment of breeding pairs in areas that are potentially capable of supporting a
40 source population, thereby helping to ensure and maintain viable populations in a significant
41 portion of the state's historical range, as required to meet state recovery objectives.
- 42 • Help lower the overall costs of recovery by achieving population target levels more quickly,
43 thereby allowing downlisting and delisting to begin earlier. Costs would be reduced by
44 replacing the more expensive monitoring of breeding pairs that is needed while wolves are
45 listed with the less expensive monitoring of packs following delisting.
- 46 • Facilitate achieving recovery goals more quickly, thereby leading to greater management
47 flexibility in addressing conflicts.

1
2 The trigger for beginning to evaluate translocation efforts would be prompted when a recovery
3 region had exceeded its delisting requirements by at least one breeding pair (e.g. ≥ 3 breeding pairs
4 for 3 years in the Eastern Washington recovery region), while another recovery region was
5 unoccupied. Wolves would only be translocated out of a recovery region if that region exceeded
6 delisting objectives and removal would not cause the region's population to fall below delisting
7 objectives.

8
9 If translocation were to be considered to achieve delisting objectives in a recovery region that wolves
10 have failed to reoccupy, a planning process to determine feasibility and develop an implementation
11 plan would be initiated. These steps are described in Chapter 12, Task 3. The first step would be to
12 prepare a feasibility assessment to determine if sufficient suitable habitat and prey are available to
13 support wolves at potential translocation sites in regions without successful breeding pairs, and to
14 ensure that removal of wolves from a recovery region would not cause it to fall below delisting
15 objectives or jeopardize existing successful breeding pairs. If these conditions are met, an
16 implementation plan would be prepared, which would provide detailed information on translocation
17 methods and the selection of a release site(s).

18
19 A public review process would then be conducted to evaluate the translocation proposal. If the
20 proposed translocation site were on federal land, the review process would be conducted under the
21 National Environmental Policy Act (NEPA); if it were proposed on non-federal land, the State
22 Environmental Policy Act (SEPA) process would be used. State wildlife biologists would
23 coordinate with other land management agencies to determine a suitable location to release wolves.
24 Coordination with federal and other state agencies, tribal governments, landowners, and non-
25 governmental organizations would also take place throughout the process. It is recognized that if
26 wolves are still federally listed in portions of Washington when translocation is proposed,
27 collaborative discussions with the U.S. Fish and Wildlife Service will be needed for approval to
28 implement translocations (E. E. Bangs, pers. comm.).

29
30 If the translocation proposal is approved following the NEPA/SEPA process, the translocation
31 would then occur followed by post-release monitoring to evaluate success of the project. Two areas
32 that were identified where natural dispersal and recolonization may be slow or difficult were: (1) the
33 southern Cascade Mountain range, which the Wolf Working Group discussions recommended for
34 consideration as a recipient region (Appendix E); and (2) the Olympic Peninsula and Willapa Hills,
35 which scientific peer reviewers also recommended.

36
37 If a successful translocation proposal were not approved through the NEPA/SEPA process the
38 Wolf Working Group would be brought back together to work with WDFW to determine if there
39 were other strategies that could be developed to accomplish the recovery objectives.

40 41 42 43 44 Other Conservation and Management Tools

45
46 A variety of conservation strategies and management tools will be considered to meet
47 conservation/recovery objectives while wolves remain state listed in Washington. These include
48 translocation (discussed above) and other conservation measures that are discussed in later chapters

Comment [o24]: This is good there must be a full public process

1 including proactive measures to assist livestock producers in reducing wolf-livestock conflicts,
2 compensation programs for wolf-related livestock losses and deterrence methods, and various
3 harassment options and forms of limited lethal control (all discussed in Chapter 4); prevention of
4 illegal killing, management of prey populations and their habitat, preservation and enhancement of
5 habitat connectivity for wolves, management of human safety concerns and wolf-pet conflicts, and
6 implementation of a comprehensive outreach and education program, and research (all in Chapter
7 12).

Comment [o25]: Please see the Responsible Approach for a comprehensive program on Wolf Management

9 C. Management after Delisting

11 Reclassification upon delisting

13 After the conservation/recovery objectives for delisting are met, wolves could be reclassified to
14 game animal or protected status. Reclassification to a game species would require the approval of
15 the Washington Fish and Wildlife Commission through a public process. If reclassified to a game
16 species, statewide management goals would be established to preserve, protect, perpetuate, and
17 manage wolves and their habitats to ensure a healthy, productive population with long-term stability
18 (D. Ware, pers. comm.). This is the population level that is viable and sustainable while also
19 allowing hunting, and is not a population “cap” intended to keep numbers beneath a specific level.

21 Hunting

22
23 There may be proposals to hunt wolves following delisting. It is likely that conservative approaches
24 would be used initially if hunting of wolves in Washington were proposed while population numbers
25 were relatively low. These approaches may include no hunting or hunting on a limited permit-only
26 basis, as is done for moose, bighorn sheep, and mountain goats in Washington, and was
27 implemented for wolves in Idaho and Montana in Fall 2009. Minnesota adopted a phased approach
28 management strategy, whereby wolves would not be hunted for five years post-delisting (MDNR
29 2001). This gives an opportunity to ensure that adequate population numbers are being maintained
30 following delisting and prior to proposals for hunting.

31
32 With regard to hunting, Mitchell et al. (2008) recommended that consideration should be given to
33 protecting wolves in some core habitat areas (e.g., in large blocks of public lands) to maintain pack
34 size and structure, thereby potentially retaining successful breeding pairs and reproductive output.
35 Hunting may also target areas of conflict to reduce the need for agency management and
36 compensation, as is done for other species in Washington such as elk and geese.

Comment [o26]: The wolf must be managed as a big game species as soon as it is delisted. This way it can generate funds for the WDFW

38 Relisting

39
40 After delisting occurs, it is in the best interest of wolves and the citizens of Washington that the
41 state takes whatever management steps are necessary to safeguard the species from a population
42 decline that would necessitate relisting. Upon delisting, the wolf population will be expected to
43 increase across the landscape where suitable habitat and prey exist. However, it will continue to be
44 affected by natural and human-caused mortality factors.

45
46 WDFW will continue to monitor population status and trends after delisting. If the population were
47 to start declining, WDFW would assess the population’s size, distribution, health, reproductive
48 status, and potential causal factors. It would also review factors such as the status of wolf

1 populations in adjacent states, successful natural migration, and continuing habitat permeability that
2 could influence immigration into Washington because maintaining this connectivity was a key
3 element of the adequacy of the original recovery objectives. The assessment would take into
4 account natural fluctuations in wildlife populations, and would also consider the severity and the
5 basis for the decline. If there are mortality factors causing the decline that can be controlled, such as
6 poaching, lethal control actions, or legal hunting, actions will be taken to reduce these sources of
7 mortality. This may include reducing lethal control and/or hunting and initiating methods to halt
8 illegal take, such as increased law enforcement efforts, imposition of higher penalties, and public
9 education. A decline due to changing habitat conditions, low prey numbers, or disease could
10 constitute underlying warning signs of a more serious situation that could warrant relisting.

11
12 In the event of a decline approaching the minimum population objectives for delisting (numbers of
13 successful breeding pairs for 3 consecutive years and distribution in the recovery regions), WDFW
14 may immediately initiate a status review to determine whether relisting is appropriate. WDFW's
15 listing procedures (WAC 232-12-297) also provide for emergency listing.

16

From: Jack Field
To: SEPADesk2 (DFW);
Subject: WCA Wolf Plan comments chap 4
Date: Tuesday, January 05, 2010 10:46:51 AM
Attachments: Draft Wolf Plan Public review Version 12-29-09 - Chap 4.doc

Attached are the comments from the Washington Cattlemen's Association on Chapter 4.
thanks
jack field
Washington Cattlemen's Association

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4. WOLF-LIVESTOCK CONFLICTS

Addressing gray wolf-livestock conflicts is an essential part of this plan. Based on experiences in other western states with wolf populations, the return of wolves to Washington is expected to result in conflicts with livestock. The ranching and farming industry is a vital component of the Washington economy and provides important open space and habitats that support a wide variety of wildlife, including deer and elk. In some areas of the state, concerns have been raised regarding the effect that wolves will have on the livestock industry and in August 2007, a number of comments received at the initial public scoping meetings involved concerns about conflicts with livestock.

The reestablishment of wolves in Washington will affect some livestock producers through wolf-related depredation and/or changes in husbandry and management methods needed for adapting to the presence of wolves. Projections of wolf-caused losses of livestock and related economic impacts in the state are described more fully in Chapter 14, Section B. During the endangered and threatened phases of recovery, wolves should pose little detriment to the state's livestock industry as a whole. At the population levels associated with the early stages of recovery, the vast majority of producers will probably experience few if any annual costs, whereas a few individual producers could be more affected. Some of these costs would be offset by compensation from programs such as the Bailey Wildlife Foundation Wolf Compensation Trust or state programs. As wolf populations become larger and more widely distributed, financial impacts are likely to accrue to more producers. Where and when depredations occur will depend on different factors, including the abundance and distribution of wolves and the husbandry methods and locations of livestock in areas occupied by wolves.

Conserving wolves in Washington and meeting the delisting criteria outlined in this plan will necessitate tolerance for wolves on both public and private lands. This chapter of the plan outlines a range of options to reduce or prevent conflicts between wolves and livestock and to address losses.

A. Wolf Depredation on Livestock and Domestic Dogs

The recovery of wolves in other states has resulted in depredations on cattle, sheep, other livestock, and domestic dogs. However, despite significant increases in wolf populations, confirmed losses to wolves have remained infrequent to date relative to livestock numbers (Bangs et al. 2005b, USFWS 2008a). Bangs et al. (2006) noted that while wolf depredations on livestock were unimportant to the regional livestock industry, they could affect the economic viability of some ranchers. Many factors influence depredation rates on livestock, including the proximity of livestock to wolf home ranges, dens, and rendezvous sites; pack size; abundance of natural prey and livestock; amount and type of vegetative cover; time of year; livestock husbandry methods in both the area of concern and adjacent areas; the use of harassment tools and lethal take; pasture size; and proximity to roads, dwellings, and other human presence (Mech et al. 2000, Fritts et al. 2003, Treves et al. 2004, Bradley and Pletscher 2005). These factors also make it difficult to predict where and when depredations by wolves will occur.

Comment [o1]: Without fully funding Compensation with guaranteed hard money the WDFW should not advance on its wolf plan

Comment [o2]: Lethal take of wolves in the act of attacking (biting, wounding, or killing) domestic dogs: **Alt. 1A The Responsible Approach** Allowed by private citizens on private lands when wolves reach Threatened status, and on private and public land when wolves are delisted. (This = 6BPs with the Responsible Approach). Would be reconsidered if used inappropriately. The DEIS Alt. 2 allowed by private citizens on private lands when wolves reach Sensitive status, and on private and public land when wolves are delisted. Would be reconsidered if used inappropriately or more than 2 mortalities occur under this provision in a year. (DEIS 12 BPs +3yrs).

1 probably vary considerably according to the characteristics of each grazing site, extent of rancher
2 supervision, and type, age and number of livestock. For example, Oakleaf et al. (2003) reported a
3 loss ratio of 8:1 for cattle in their study, which was conducted on a large allotment with densely
4 forested and mountainous terrain, no use of range riders, and poor rancher access. However,
5 Oakleaf et al. (2003) suggested that a ratio of about 2:1 was more realistic under less timbered or less
6 rugged conditions. Loss ratios closer to 1:1 probably occur for many smaller operations using
7 private lands, where livestock are more closely supervised. On sheep operations with shepherds,
8 most depredations are likely to be found because of the group herding behavior of sheep (C. Mack,
9 pers. comm.).

11 There is evidence that wolves may reduce other predators (see Chapter 6) that also prey on livestock,
12 such as coyotes and cougars. This could lead to fewer total depredations by predators and therefore
13 could potentially benefit some ranchers.

Comment [o3]: There is no way Ranchers benefit from the addition of new Predators.

15 **B. Management Tools for Reducing Wolf Depredation**

17 Managing wolf-livestock conflicts and wolf recovery requires an integrated approach using a variety
18 of non-lethal and lethal methods, as described below. One of the important factors in reducing
19 wolf-livestock conflicts in the northern Rocky Mountains was maintaining a high level of radio-
20 collared wolves in the population while the species was listed, which allows agencies to monitor
21 problem situations (Bangs et al. 2006).

23 Proactive Measures

25 A variety of proactive management measures exist to help livestock producers reduce conflicts
26 between wolves and livestock, and offer a partial alternative to lethal control of wolves (Musiani et
27 al. 2003, Bangs et al. 2005a, 2006, Shivik 2006, Stone et al. 2008). Implementation of such measures
28 may be costly to producers, but there have been efforts in the northern Rocky Mountains to assist
29 ranchers with proactive measures and to offset some costs. These measures can be especially
30 important when wolf numbers and distribution are small and recovery objectives have not yet been
31 achieved.

33 Proactive deterrents, especially when used in combination, often temporarily succeed in reducing the
34 vulnerability of livestock to wolf depredation, but are usually not considered permanent solutions by
35 themselves. However, when combined with a fair and effective compensation program, they offer
36 the best solution for both limiting livestock losses and compensating producers for any unavoidable
37 losses. Some producers in Washington already use proactive deterrents to protect their livestock
38 from predators. Among producers using such measures in 2004-2005, the most frequently
39 employed tools were exclusion fencing, guarding animals, frequent checking of stock, night penning,
40 and use of lamb sheds (Table 6). Because the large majority of the state's cattle and sheep
41 operations are categorized as extra small or small in the numbers of animals owned (Chapter 14,
42 Section B), implementation of proactive deterrents to protect against wolves may be particularly
43 effective in Washington.

Comment [o4]: The WDFW must fully fund Compensation

Comment [o5]: This is not practical on large-scale cattle operations

1 Table 5. Numbers and percent of death losses of cattle in 2005 and sheep in 2004 by different predators
 2 in Idaho, Montana, and Wyoming (adapted from NASS 2005, 2006)^a.
 3

Species	Cattle		Sheep	
	No. of losses	%	No. of losses	%
Coyotes	4,100	44.1	27,400	70.8
Other species ^b	2,750	29.6	1,950	5.0
Unknown predators	1,100	11.8	-	-
Cougars and bobcats	900	9.7	1,900	4.9
Dogs	300	3.3	2,300	5.9
Wolves	150	1.6	250	0.6
Bears	-	-	2,700	7.0
Foxes	-	-	1,100	2.8
Eagles	-	-	1,100	2.8
Total	9,300	100.1	38,700	99.8

4 ^a Specific data on wolf depredations were not listed in NASS (2005, 2006), but were generated using the mean
 5 annual confirmed losses in each of the three states combined during 2004-2007 (Table 3). These numbers
 6 were then separated out from the losses reported in the "other species" category.

7 ^b Species in this category were not identified for cattle (NASS 2006), but presumably include bears. For sheep,
 8 they include ravens, vultures, and other animals (NASS 2005).
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10 Table 6. Percent use of different proactive methods among ranchers and farmers employing such
 11 techniques to prevent predation losses of livestock in Washington (NASS 2005, 2006).
 12
 13

Method	Cattle and calves (% of use) ^a	Sheep and lambs (% of use) ^a
Exclusion fencing	48.1	68.5
Guard animals	43.8	25.0
Frequent checks	43.1	2.5
Culling	14.1	4.0
Livestock carcass removal	13.6	1.0
Fright tactics	4.2	2.0
Night penning	0.2	36.6
Lamb shed	-	35.4
Llamas	-	16.4
Donkeys	-	6.7
Herding	-	2.4
Change bedding	-	0.1
Other methods	13.7	2.0

14 ^a Data for cattle and calves are from 2005, data for sheep and lambs are from 2004.
 15
 16
 17
 18

19 *Modified Husbandry Techniques*

20
 21 Bangs et al. (2006) and Stone et al. (2008) described a number of husbandry methods that are often
 22 useful in avoiding some wolf depredation of livestock. These include: the use of range riders to help
 23 keep cattle more concentrated on grazing sites; having herders with dogs present with sheep at night
 24 when most sheep depredation occurs; burying livestock carcasses rather than dumping them in
 25 traditional bone yards to reduce scavenging opportunities by wolves; moving sick or injured

Comment [o6]: Is the WDFW going to help pay this additional expense? Range riders are very costly and for cattle operations have mixed results in regards to their benefits on reducing wolf incidents

1 livestock, which may be more vulnerable to wolves; delaying the turnout of cattle onto grazing sites
2 until calving is finished or until young wild ungulates are born to reduce opportunities for
3 depredation; allowing calves to reach at least 200 pounds before turning them out to grazing sites
4 can also lower their vulnerability (Oakleaf et al. 2003); and avoiding grazing livestock near wolf
5 territory core areas, especially dens and rendezvous sites, during the earlier portion of the grazing
6 season. Implementation of these methods may result in higher costs to livestock producers.

Comment [o7]: This is a foolish requirement. A wolf will kill a calf weighing 150 lbs just as fast and easy as it will kill a 500 pound calf

8 One type of proactive program that has been developed and tested in Montana is the Range Riders
9 Project. This program is a collaborative effort between ranchers, government agencies, and
10 conservationists (including the Montana Fish, Wildlife & Parks, Madison Valley Ranchlands Group,
11 Boulder Watershed Association, Turner Endangered Species Fund, USDA Forest Service, Predator
12 Conservation Alliance, the Sun Ranch, USDA Wildlife Services, USDA Natural Resources and
13 Conservation Service, Sweet Grass County Conservation District, and Montana State University
14 Extension Service). The main goal of the project is to reduce predator-livestock interactions.
15 Secondary goals are to (1) detect injured or dead livestock more rapidly, (2) preserve the evidence at
16 potential depredation sites so that investigators can better determine whether or not predation was
17 involved and which species was responsible, (3) improve livestock management and range
18 conditions, (4) increase knowledge about predator-livestock interactions in space and time, and (5)
19 build relationships among project partners. All project collaborators provide funding and in-kind
20 contributions. In particular, significant funding has come through the USDA Natural Resources and
21 Conservation Service's Environmental Quality Incentives Program.

23 In the Range Riders Project, cowhands are trained in methods to keep wolves and livestock apart.
24 Riders stay with livestock throughout the grazing season (generally June–October) and chase away
25 any wolves that come near the cattle. Projects were implemented beginning in 2004 on both public
26 grazing allotments and private lands in two valleys in Montana. Protocols varied from place to
27 place, but the underlying premise was continual human presence and immediate response to wolves
28 interacting with livestock. The use of horses and vehicles (where applicable) allowed riders to cover
29 as much ground as possible while checking on livestock. In 2006, areas with riders experienced no
30 confirmed or probable depredations, although wolves were present and were seen and/or chased
31 off. Due to high variability among sites, there is no clear evidence that these efforts have actually
32 prevented depredations. However, when surveyed, many participating producers believed the
33 project was helpful and indicated an interest to continue their participation. Additional range rider
34 projects implemented in Montana are briefly described in USFWS et al. (2009).

Comment [o8]: This has been found not to be effective in NE Oregon.

36 *Non-Lethal Deterrents*

37
38 A number of non-lethal deterrents have been developed for discouraging wolf predation on livestock,
39 including those developed in the Northern Rocky Mountains (Bangs et al. 2005a, 2006, Shivik 2006,
40 and Stone et al. 2008). These deterrents are available to livestock producers and are generally most
41 effective in small areas. The following non-lethal deterrents have been used:

- 43 • Guarding animals (primarily dogs) that are kept with livestock and alert herders when wolves
44 and other predators are nearby.
- 45 • Light and noise scare devices that are used to frighten wolves away from confined livestock
46 and alert ranchers and herders to the presence of wolves. These include propane cannons,

Comment [o9]: Guard dogs are just eaten by wolves

light systems, and radio-activated guard (RAG) systems that emit flashing lights and loud sounds at the approach of a radio-collared wolf.

- Hazing with non-lethal munitions (e.g., cracker shells, rubber bullets, paintballs, and bean bags) to frighten wolves seen near livestock.
- Predator-resistant or electric fencing that is used as a permanent or temporary barrier to confine livestock and keep wolves away. Portable fencing can be effective as night pens under open grazing conditions.
- Fladry, which consists of numerous strips of flagging hung along a fence or rope to keep wolves out of an area occupied by livestock. Turbofladry is similar, but with the flagging attached to an electric fence.

Comment [o10]: Does this mean that the WDFW will be RFID collaring EVERY Wolf? If so how will this be paid for? And if not why include this?

Comment [o11]: See the Responsible Approach Alt 2

Comment [o12]: This is not feasible for cattle operations

Comment [o13]: This is not feasible for cattle operations

Move Individual Wolves to Resolve Conflicts

Relocation was used extensively by the USFWS as a non-lethal solution to mitigate livestock damage in the early phases of wolf recovery in the northern Rocky Mountain states, but gradually became less practical as the number of potential release sites declined with expansion of the region's wolf population (Bangs et al. 1998, Bradley et al. 2005). Bradley et al.'s (2005) evaluation of the technique revealed some important drawbacks with its use. These included (1) a lower average annual rate of survival among relocated wolves (60%) than non-relocated wolves (73%), (2) the failure of most (67%) relocated wolves to ever join or form a pack, (3) a strong tendency among relocated wolves to depart their release site, including 20% that returned distances of 46-197 miles to their original capture location, and (4) 18% of relocated wolves that resumed depredation of livestock near their release site. Selection of release sites strongly affected survival of relocated individuals, with survival being greatest in the high quality habitat of central Idaho and lowest in the more human-influenced landscapes of northwestern Montana. Soft releases showed some promise in reducing homing behavior among relocated wolves. Bradley et al. (2005) concluded that moving wolves was most effective during the early stages of population recovery, and that other non-lethal techniques are probably better for preventing or resolving conflicts when larger wolf populations exist.

Lethal Removal

Comment [o14]: Problem wolves need to be euthanized not relocated

Lethal control of wolves may be necessary to resolve repeated wolf-livestock conflicts and would be performed to remove problem animals that jeopardize public tolerance for overall wolf recovery. Nearly 1,000 wolves were killed in control actions in Idaho, Montana, and Wyoming from 1987 to 2008, with 7-16% of the population removed annually since 2002 (Table 4). While federally listed, most lethal control of wolves in these states was performed by wildlife agency staff. As wolves became more common, the U.S. Fish and Wildlife Service gradually loosened restrictions on this activity to allow increased take by agency staff and private citizens with a federal permit (Bangs et al. 2006). After federal delisting, state management of wolves may allow the public in Idaho and Montana to lethally control wolves "in the act" of attacking livestock. In Washington, if wolves are federally listed in any part of the state, WDFW would consult with and coordinate with the U.S. Fish and Wildlife Service prior to any lethal removal proposal to ensure consistency with federal law.

In Idaho, Montana, and Wyoming, agency decisions to lethally remove wolves have been made on a case-by-case basis, taking into account specific factors such as a pack's size and conflict history, status and distribution of natural prey in the area, season, age and class of livestock, success or failure of non-lethal tools, and potential for future losses (Sime et al. 2007). Where lethal removal is

1 deemed necessary, incremental control is usually attempted, with one or two offending animals
2 removed initially. If depredations continue, additional animals may be killed. Stepwise incremental
3 control can result in the eventual elimination of entire packs if wolves repeatedly depredate livestock
4 (Sime et al. 2007).

Comment [015]: This is a very important tool

5
6 Lethal control of wolves by agency staff can have the advantages of being swift, effective, and tightly
7 regulated. The benefits of allowing lethal removal by livestock producers are that offending wolves
8 are more likely to be targeted, it can eliminate the need for agency control, shooting at wolves may
9 teach them and other pack members to be more wary of humans and to avoid areas of high human
10 activity, it allows producers to address their own problems, and it may reduce animosity toward
11 government agencies and personnel (Bangs et al. 2006). Drawbacks of lethal control are that it is
12 always controversial among a sizeable segment of the public, depredation may recur, wolves may
13 respond by becoming more active at night to avoid people, it can be costly when performed by
14 agencies, and it is open to abuse when conducted by the public, thereby requiring law enforcement
15 follow-up (Musiani et al. 2005, Bangs et al. 2006).

16
17 Although lethal control is a necessary tool for reducing wolf depredation on livestock, excessive
18 levels of lethal removal can preclude the recovery of wolf populations, as noted with the Mexican
19 gray wolf in New Mexico and Arizona (USFWS 2005). Wolf managers must therefore monitor and,
20 if necessary, adjust the extent of lethal removals in Washington to meet both conservation and
21 management objectives. Constraints on lethal control have recently been recommended by Brainerd
22 et al. (2008) to minimize negative impacts on recolonizing wolf populations. They suggested that
23 lethal control be limited to solitary individuals or territorial pairs whenever possible, and that
24 removals from reproductive packs should occur when pups are more than six months old, the packs
25 contain six or more members (including three or more adults or yearlings), neighboring packs exist
26 nearby, and the population totals 75 or more wolves. Consideration should also be given to
27 minimizing lethal control around or between any core recovery areas that are eventually identified,
28 especially during denning and pup rearing periods (April to September) (E. Bangs, pers. comm.).
29

30 C. Compensation Programs for Wolf-Related Losses and Deterrence in Other States

31
32 Some livestock producers will experience financial losses due to wolves, particularly through
33 depredations on livestock. Other financial hardships may result from livestock becoming stressed or
34 injured, trampling of newborn young, or by changes in husbandry or management methods to
35 reduce risk of depredation. Some of these losses can be documented reliably but others cannot.
36

37 Several compensation programs currently exist or are under consideration in the western United
38 States to help producers recover some of the costs associated with wolf predation. The Bailey
39 Wildlife Foundation Wolf Compensation Trust, which is operated by the Defenders of Wildlife, has
40 compensated ranchers for wolf losses since 1987 (DOW 2008). Confirmed losses of livestock and
41 herding/guarding dogs are reimbursed at 100% of their current or projected market value up to
42 \$3,000 per animal, whereas probable losses are reimbursed at 50% of their current or projected
43 market value up to \$1,500 per animal. Appropriate documentation, such as a contract, previous sale
44 record, or current market reports, is required. Most claims are processed in less than six weeks. To
45 expedite processing and help clarify the eligibility guidelines for compensation, a standard
46 investigation report form is available. To remain eligible for compensation, livestock owners must
47 demonstrate reasonable use of non-lethal control measures and animal husbandry methods that do

1 not unnecessarily attract wolves. A total of \$1,221,000 was paid to producers in Idaho, Montana,
2 and Wyoming from 1987 through August 2009.

3
4 This program is available to livestock producers in areas where wolves are federally listed, including
5 Washington, but the program will be terminated in areas where wolves are federally delisted.
6 Defenders of Wildlife also operates the Bailey Wildlife Foundation Proactive Carnivore
7 Conservation Fund, which encourages greater use of preventative non-lethal deterrents and
8 appropriate management methods through cost-sharing grants to ranchers. This program is
9 expected to expand after federal delisting occurs in the northern Rocky Mountain states (J.
10 Timberlake, pers. comm.).

11
12 The Idaho Wolf Depredation Compensation Fund, which is operated by the state of Idaho,
13 reimburses producers for livestock losses in wolf-occupied areas of the state that are not covered by
14 Defenders of Wildlife (OSC 2008). This includes above-normal mortality as well as lower-than-
15 expected weight gains by livestock. This program also provides partial reimbursement for the
16 proactive efforts that some ranchers make to avoid wolf depredations on their livestock. Funding
17 limitations currently prevent the program from reimbursing all applicants seeking compensation.

18
19 Montana's Livestock Loss Reduction and Mitigation Board was created by the 2007 Montana
20 Legislature and appointed by the governor in the fall of 2007 (USFWS et al. 2009). The board
21 oversees the state's compensation program, which replaced the Defenders of Wildlife program,
22 irrespective of whether wolves were delisted and consistent with the Montana wolf plan. The
23 Montana Legislature appropriated \$30,000 and Defenders of Wildlife donated \$50,000 to Montana
24 for a total of \$80,000 for each of the first two years. The board makes payments for direct livestock
25 losses its first priority, but hopes to expand into other program elements called for in legislation as
26 funding becomes available.

27
28 In 2008, the Wyoming Legislature established a state compensation program for wolf-caused
29 livestock losses (USFWS et al. 2009). Under this program, damage claims are paid only in the
30 "trophy game" area of northwestern Wyoming. The program uses a multiplier for each confirmed
31 depredation on calves and sheep to account for undocumented wolf-caused losses. Calves and
32 sheep are compensated up to seven times the number confirmed but only up to the total number
33 reported missing by a producer.

34
35 Beginning in 2009, programs to compensate livestock owners for wolf losses and to expand the use
36 of proactive methods in Idaho, Montana, and Wyoming, will receive half their funding (up to a total
37 of \$1 million annually) through a 5-year demonstration program sponsored by the U.S. Departments
38 of Interior and Agriculture.

Comment [o16]: The WDFW must fully fund the Compensation Program

40 **D. Management of Wolf-Livestock Conflicts in Washington**

41
42 Any wolf-livestock management program should manage conflicts in a way that gives livestock
43 owners experiencing losses the tools to minimize future losses, while at the same time not harming
44 the recovery or long-term perpetuation of sustainable wolf populations. Strategies to address wolf-
45 livestock conflicts in Washington are described in Chapter 12, Section 4. Management approaches
46 are based on the status of wolves, ensuring that conservation/recovery objectives are met. Non-
47 lethal management techniques will be emphasized throughout the recovery period and beyond.

1 Actively informing and equipping landowners, livestock producers, and the public with tools to
2 implement proactive wolf management techniques will be an important aspect of this approach.
3 Lethal control will be used only as needed after case-specific evaluations are made, with use
4 becoming less restrictive as wolves progress toward delisting. Wherever wolves are federally listed in
5 Washington, WDFW will consult with and collaborate with U.S. Fish and Wildlife Service on
6 management decisions and actions. In areas where wolves are federally delisted, WDFW will be the
7 lead agency to respond to reports of wolf depredation, with potential assistance from USDA
8 Wildlife Services and other entities (Chapter 12, Section 4.3.3). Where wolves are federally listed,
9 the U.S. Fish and Wildlife Service and USDA Wildlife Services are the lead to respond.

Comment [o17]: The WDFW needs to help fund USDA Wildlife Services so they may help respond in Washington State

10
11 Wolf-livestock conflicts will be managed using a range of options to prevent depredation, as
12 presented in Table 7. Descriptions of these options are as follows:

13
14 Wolf location information: WDFW will notify livestock producers if wolves are living near their
15 operations and will update them, as needed. This will assist livestock producers in implementing
16 proactive precautions, if they choose, to reduce the likelihood of depredation by wolves.

17
18 Non-injurious harassment: Livestock owners will be allowed to harass wolves with non-injurious
19 techniques when wolves are in close proximity to livestock or livestock grazing areas on both private
20 and public land. These techniques could include scaring off an animal(s) by firing shots or cracker
21 shells into the air, making loud noises, or other methods of confronting the animal(s) without doing
22 bodily harm.

23
24 Non-lethal injurious harassment: This form of harassment involves striking wolves with non-lethal
25 projectiles, such as rubber bullets specifically designed and approved for use on wolves, paintballs,
26 and beanbags (Bangs et al. 2006). Livestock owners and grazing allotment holders (or their
27 designated agents) may be issued a permit to use non-lethal injurious harassment on their own land
28 or their legally designated allotment, respectively, during all listed phases. This will require
29 authorization from WDFW and training in the use of the above listed projectiles. While wolves are
30 listed as endangered, this management tool will be reconsidered if used inappropriately or if a
31 mortality occurs under this provision.

32
33 Move individual wolves: As described in Section B of this chapter, moving an individual wolf is a
34 possible management tool to remove the animal from a conflict situation. This activity would be
35 evaluated on a case-specific basis under all management phases, but would especially be considered
36 during endangered and threatened status. Examples of when this might occur are when a wolf or
37 wolves become involved in depredation on livestock, or are present in an area that could result in
38 conflict with humans or harm to the wolf.

39
40 If a wolf were moved, it would be transported and released into suitable remote habitat on public
41 land, generally within the same recovery region. A relocated individual would be released into an
42 area unoccupied by an existing wolf pack; and would not be moved to an area that had livestock
43 present on the ground. Any relocation would be conducted by WDFW or USDA Wildlife Services
44 in consultation with the appropriate land management agency, and U.S. Fish and Wildlife Service, if
45 wolves are federally listed in that portion of the state. Moving an individual wolf does not require a
46 public review process and is not used to facilitate dispersal.

1 Lethal control: Lethal removal may be used to stop repeated depredation if it is documented that
 2 livestock have clearly been killed by wolves, non-lethal methods have been tried but failed to resolve
 3 the conflict, depredations are likely to continue, and there is no evidence of intentional feeding or
 4 unnatural attraction of wolves by the livestock owner. Situations will have to be evaluated on a case-
 5 specific basis, with management decisions based on pack history and size, pattern of depredations,
 6 number of livestock killed, state listed status of wolves, extent of proactive management measures
 7 being used on the property, and other considerations. If it is determined that lethal removal is
 8 necessary, it will likely be used incrementally, as has been done in other states, with one or two
 9 offending animals removed initially. If depredations continue, additional animals may be removed.

10
 11 During endangered and threatened status, only WDFW or USDA Wildlife Services staff will
 12 conduct lethal control. Lethal removal methods may include trapping and euthanizing, or shooting.
 13 During sensitive and delisted status, WDFW may permit livestock owners (including their family
 14 members and authorized employees) to lethally control a limited number of wolves during a specific
 15 time period on private lands and public grazing allotments they own or lease. Wolves taken must be
 16 reported to WDFW within 24 hours, with additional reasonable time allowed if there is limited
 17 access to the take site.

Comment [o18]: USDA Wildlife Services must be fully funded

Comment [o19]: This is good!

18
 19 Lethal take in the act of attacking livestock: This provision will allow lethal take of wolves “in the
 20 act” of attacking livestock (defined as biting, wounding, or killing; not just chasing or pursuing) by
 21 livestock owners, family members, and authorized employees on private land they own or lease after
 22 wolves reach threatened status. While wolves are listed as state threatened, this management tool
 23 will be reconsidered if used inappropriately or if more than two wolves are killed under this
 24 provision in a year. WDFW will carefully monitor total statewide wolf mortality from all causes.
 25 Failure to report wolves killed under this provision would be in violation of state law (RCW
 26 77.15.120). State penalties for killing a state endangered species range up to \$5,000 and/or 1 year in
 27 jail; federal penalties range up to \$100,000 and one year in jail.

Comment [o20]: Lethal take of wolves in the act of attacking (biting, wounding, or killing) livestock. Alt. 1A The Responsible Approach allows lethal control by livestock owners (including family members and authorized employees) on private land they own or lease during the Sensitive status. (This = 6BPs with the Responsible Approach). Would be reconsidered if used inappropriately. The DEIS Alt. 2 allowed by livestock owners (including family members and authorized employees) on private land they own or lease when wolves reach Threatened status. Would be reconsidered if used inappropriately or more than 2 mortalities occur under this provision in a year. (DEIS Alt. 2 8 BPs + 3 yrs)

28
 29 After delisting, this provision will be expanded to include both private and public land that the
 30 livestock producer owns or leases. It is critical to understand that wolves passing near or stalking
 31 domestic animals are not considered to be in the act of attacking. Wolves passing near or stalking
 32 domestic animals can and should be deterred with non-lethal methods; and wolves may not be
 33 intentionally baited, fed, or deliberately attracted. Wolves killed under this provision must be
 34 reported to WDFW within 24 hours, with additional reasonable time allowed if there is limited
 35 access to the take site. The wolf carcass must be surrendered to WDFW and preservation of
 36 physical evidence from the scene of the attack for inspection by WDFW is required.

37
 38 Public education is necessary for this provision to be used appropriately and to not adversely affect
 39 wolf recovery. Currently, endangered and threatened species in the act of damaging domestic
 40 animals may not be killed (RCW 77.36.030). Allowing livestock owners to do so with wolves will
 41 require a change in state law. The ability to kill wildlife causing property damage in Washington is
 42 addressed in Section 61 of Substitute House Bill (SHB) 1778, effective on July 1, 2010 (Appendix
 43 K). The details and limitations of this law will be established by the Fish and Wildlife Commission
 44 through rulemaking. The law directs the Fish and Wildlife Commission to establish the limitations
 45 and conditions of this section of the law, and states that this must include: “Appropriate protection
 46 for threatened or endangered species”. It also states that in establishing the limitations and
 47 conditions of this section, the Commission “shall take into consideration the recommendations of

F. Compensation in Washington

Defenders of Wildlife currently offers the only compensation program to individual ranchers and farmers in Washington to help offset the costs of wolf-related depredations. A second source of compensation may be available on July 1, 2010. Substitute House Bill (SHB) 1778 directs that owners of commercial livestock (cattle, sheep, and horses held or raised by a person for sale) may be compensated for livestock killed or injured by bears, cougars, and wolves (Appendix K). The Washington Fish and Wildlife Commission will establish the limits and conditions of the compensation program in SHB 1778 through rulemaking, which will take effect by July 1, 2010. Under SHB 1778, claimants may receive no more than \$200 per sheep, \$1,500 per head of cattle, and \$1,500 per horse up to a \$10,000 limit per claim. ~~Other livestock are excluded from coverage.~~ Livestock compensation payments will be dependent on a specific legislative appropriation each biennium. To qualify for compensation under SHB 1778, livestock owners must have (1) gross sales of at least \$10,000 during the preceding tax year, (2) a minimum of \$500 in damage, (3) used self-help preventative measures (including non-lethal methods and department-provided materials; some exceptions may apply) prior to the depredation, and (4) exhausted other compensation options from non-profit organizations. Compensation will not be redundant with payments made by non-profit organizations and will not be paid if the damages are covered by insurance. Other conditions and limitations will be developed through rule-making process described above.

Comment [o21]: This needs to be funded during the 2010 session

Comment [o22]: Compensation should rely on Non-Gov Organizations, this should be the State's responsibility

After approval of the wolf conservation and management plan, it is recommended that the compensation provisions be incorporated into the existing state law (SHB 1778). It is also recommended that a separate state-sponsored and state-guaranteed compensation fund be developed for wolf-related depredations, which will manage state funds as well as private donations, grants, and federal funds in an interest-bearing account. This account will provide compensation to ranchers and farmers for confirmed and probable livestock depredations, and for unknown losses when that program is developed. Contributions may include funds that WDFW already provides for animal damage management (although these funds are not secure and demand for them regularly exceeds needs). It may also include monies that the department receives from the State Legislature for implementation of SHB 1778, as well as additional funding from the Legislature that may be necessary. WDFW will also work with the livestock industry and conservation organizations to identify additional funding from a diversity of sources, including special state or federal appropriations, private foundations, and other private resources. These funding sources will augment state compensation and may offer compensation for livestock losses related to wolf conflicts not covered by a state compensation fund.

Recommendation for a State-Funded Compensation Program

The recommendation for a state-funded compensation program is based on the need for: (1) public support, (2) fairness, and (3) a plan that meets the concerns of livestock producers. A plan that meets these needs will build support for wolf conservation and be consistent with existing precedent of compensation programs in other states and countries (Bangs et al. 2006). Public support for a state-funded compensation program was expressed in comments generated during public scoping meetings held around the state by WDFW in August 2007. Many people supporting wolf restoration view compensation as an opportunity to share in the burden that livestock producers endure and as a way to build public support for wolf recovery (see Montag et al. 2003). Many livestock producers support payment for livestock losses as a trade-off for wolves returning to

1 Washington. An effective compensation program supported by the public and State Legislature can
 2 also help increase the tolerance for wolves by some landowners and livestock producers, which can
 3 help decrease illegal killings and aid wolf recovery.

4
 5 The Washington Legislature will need to approve funding for a state-sponsored wolf compensation
 6 program before it can be implemented. The details of a proposed livestock compensation program
 7 will be developed through the Fish and Wildlife Commission rule process.

8
 9 Compensation

Comment [o23]: This must be fully funded!!!

10
 11 *Eligibility*

12
 13 To receive compensation, producers will be responsible for following appropriate management
 14 methods that seek to limit wolf attractants in the vicinity of their livestock, including removal of
 15 dead and dying animals and other proactive measures. Livestock producers who have already been
 16 compensated for a depredation will also be required to demonstrate that they are implementing
 17 appropriate management methods to be eligible for compensation for subsequent depredation
 18 occurrences.

Comment [o24]: Producers must be eligible for compensation regardless of what they have done proactively. If Wolves attack a producer should be compensated

19
 20 To qualify for compensation for direct losses, incidents of suspected wolf depredation must be
 21 reported to WDFW and verified as confirmed or probable (as defined below) during a follow-up
 22 investigation conducted by trained personnel authorized by WDFW. Prompt investigations are
 23 critical for determining the validity of reported complaints, thus livestock producers need to report
 24 suspected wolf depredations as soon as possible (see Appendix L for reporting guidelines and
 25 associated information). Agency personnel will conduct their investigation within 48 hours of
 26 receiving a report. After an investigation is completed, the complaint will be classified under one of
 27 the following categories:

- 28
 29 • Confirmed Wolf Depredation – There is reasonable physical evidence that the dead or injured
 30 animal was actually attacked or killed by a wolf. Primary confirmation would ordinarily be the
 31 presence of bite marks and associated subcutaneous hemorrhaging and tissue damage, indicating
 32 that the attack occurred while the victim was alive, as opposed to simply feeding on an already
 33 dead animal. Spacing between canine tooth punctures, feeding pattern on the carcass, fresh
 34 tracks, scat, hairs rubbed off on fences or brush, and/or eyewitness accounts of the attack may
 35 help identify the specific species or individual responsible for the depredation. Predation might
 36 also be confirmed in the absence of bite marks and associated hemorrhaging (i.e., if much of the
 37 carcass has already been consumed by the predator or scavengers) if there is other physical
 38 evidence to confirm predation on the live animal. This might include evidence of an attack or
 39 struggle. There may also be nearby remains of other victims for which there is still sufficient
 40 evidence to confirm predation, allowing reasonable inference of confirmed predation on an
 41 animal that has been largely consumed.
 42
 43 • Probable Wolf Depredation – There is sufficient evidence to suggest that the cause of death was
 44 depredation, but not enough to clearly confirm that the depredation was caused by a wolf. A
 45 number of other factors will help in reaching a conclusion, such as (1) any recently confirmed
 46 predation by wolves in the same or nearby area, and (2) any evidence (e.g., telemetry monitoring
 47 data, sightings, howling, fresh tracks, etc.) to suggest that wolves may have been in the area when

✓

From: Jack Field
To: SEPADesk2 (DFW);
Subject: WCA comments on Wolf Plan
Date: Tuesday, January 05, 2010 11:59:53 AM
Attachments: WCA comments on Draft Wolf Plan - Chap 5.doc

18

Attached are comments from the Washington Cattlemen's Association on Chapter 5 of the WDFW Wolf Plan.

thanks

jack field

Washington Cattlemen's Association

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5. WOLF-UNGULATE INTERACTIONS

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This chapter and related parts of Chapter 12 focus on interactions between gray wolves and wild ungulates, current status and management of ungulates in Washington, and strategies for ensuring the retention of healthy ungulate populations while achieving wolf recovery. Wolves dispersing into Washington likely will settle in areas with abundant prey that already support multiple types of predators and hunters. The effect on ungulate populations from adding wolves to existing predation levels and hunter harvest is difficult to predict in the state because of localized differences in predator and ungulate abundance and harvest management practices within each geographic area. However, information from Idaho, Montana, and Wyoming, each of which currently supports 300-850 wolves, provides useful insight on impacts that can be expected in Washington as wolves reestablish. In general, wolves have had little or no effect on elk and deer abundance or hunter harvest across large areas of these states, where most populations remain stable or are above population objectives (see Section B of this chapter). Wolves have been linked to declining elk herds in several areas, but often they are one of several factors affecting the herds (e.g., changes in habitat, severe winter weather, and increasing populations of other predators). In some wolf-occupied areas, hunter success rates may have declined because of changes in elk behavior and habitat use rather than by actual declines in elk abundance.

A. Wolf Predation of Ungulates

Ungulates are the primary food of wolves throughout their geographic range. Prey selection by wolves probably reflects a combination of capture efficiency and profitability versus risk (Mech and Peterson 2003). Thus, wolves may concentrate on species that are easier to capture or offer greater reward for the amount of capture effort expended rather than on species that are most common. Diet can vary greatly among locations in the same region (Table 2) or even among packs living in the same vicinity (e.g., Kunkel et al. 2004, Smith et al. 2004) in response to differences in prey populations, seasonality, weather conditions, the presence of other predators, levels of human harvest, and other circumstances (Smith et al. 2004). In the central and northern Rocky Mountains of the United States and Canada, wolves commonly rely on elk as their primary prey, but deer and moose are more important in some areas (Table 2). Moose are the major prey in much of British Columbia, including southern areas (G. Mowat, pers. comm.). Bighorn sheep and mountain goats are not regularly taken anywhere in the overall region, probably because of little habitat overlap with wolves (Huggard 1993).

Wolf diets in Washington are expected to be similar to those elsewhere in the region, with elk and deer being the primary prey species. Prey selection will likely vary among locations based on species availability and vulnerability over time, season, local terrain, and other factors. In areas of the state with few or no elk, deer will undoubtedly serve as the primary prey. Moose, which are widely distributed in northeastern Washington, may also contribute significantly to diets in that area. Predation on bighorn sheep and mountain goats will probably be minor. For goats, range overlap with wolves is most likely to occur in the spring as wolves follow other prey to higher elevations and encounter goats still lingering in mid- to high elevation forests used during winter (C. Rice, pers. comm.).

1 The rates at which wolves kill and consume prey are highly variable with respect to time of year and
2 species taken. Both rates (usually expressed as biomass per wolf per day) have been investigated in
3 many North American studies and average about 7.2 kg/wolf/day for kill rate (winter only; Mech
4 and Peterson 2003) and 5.4 kg/wolf/day for consumption rate (winter only; Peterson and Ciucci
5 2003). The figure for kill rate roughly corresponds to about one 150-kg elk killed per 21 days per
6 wolf (or 17 elk per wolf per year) or one 60-kg deer killed per 8.3 days per wolf (or 44 deer per wolf
7 per year). However, these estimates are probably somewhat inaccurate because they are based on (1)
8 winter studies, when predation rates in terms of biomass consumed are highest causing annual take
9 to be overestimated, and (2) do not account well for the number of fawns and calves killed in
10 summer or supplementary prey (e.g., beavers, hares) taken in other seasons (Mech and Peterson
11 2003, Smith et al. 2004). In contrast, Sand et al. (2008) found that predation rates in terms of
12 numbers of prey killed by wolves in Scandinavia were much higher in summer than winter due to
13 the large number of juveniles taken, which would cause total annual kill to be underestimated when
14 extrapolating from winter-only data. White et al. (2003) attempted to overcome some of these
15 problems and estimated an annual kill rate of 25 ungulates per wolf in prey-rich Yellowstone
16 National Park. It should be noted that wolf kill rates are generally higher for reestablishing and
17 expanding wolf populations like those at Yellowstone than for long established and stable
18 populations (Jaffe 2001). Predicting predation rates for wolves in Washington is difficult because of
19 many uncertainties, including where wolves will become reestablished in the state and at what
20 population level.

21
22 Wolves are selective hunters and tend to choose more vulnerable and less fit prey. Young-of-the-
23 year (especially in larger prey like elk and moose; Kunkel and Pletscher 1999, Boertje et al. 2009),
24 older animals, and diseased and injured animals are taken in greater proportion than healthy, prime-
25 aged individuals (Mech 1970, 2007, Kunkel et al. 1999, Mech and Peterson 2003, Smith et al. 2004,
26 Sand et al. 2008, Hamlin and Cunningham 2009). In some areas and situations, wolves select adult
27 bull elk disproportionately. This may relate to the relatively poorer condition bull elk are in during
28 winter and their choice of habitat (Atwood et al. 2007, Winnie and Creel 2007, Hamlin and
29 Cunningham 2009). Similar to other coursing predators that chase prey over long distances, wolves
30 will test and evaluate available prey, and will focus on those animals that require the least energy to
31 capture and present the least risk of injury or death to pack members. When young and infirm
32 animals are not available, wolves are capable of killing healthy, prime-aged animals.

Comment [o1]: Wolves are opportunistic killers that will kill whatever is easy to kill.

33
34 Prey species have evolved defensive techniques such as alertness, speed, herding behavior,
35 synchronous birthing of young, spacing, migration and retreating into water, all of which reduce
36 vulnerability to wolves (Mech and Peterson 2003). Because of these defense mechanisms, the
37 majority of hunts initiated by wolves are unsuccessful. Hunting success of wolves can be influenced
38 by many factors, including pack size, terrain, habitat features, snow and other weather conditions,
39 time of day, prey species, age and condition of prey, season, and experience (Mech and Peterson
40 2003, Hebblewhite 2005, Kauffman et al. 2007).

41
42 The impacts of wolves on prey abundance have been, and continue to be, widely debated (see
43 Boutin 1992). Some common conclusions on this topic have been drawn. A number of studies
44 indicate that wolf predation can limit ungulate prey populations (Bergerud and Snider 1988, Larsen
45 et al. 1989, Ballard et al. 1990, Skogland 1991, Gasaway et al. 1992, Dale et al. 1994, Messier 1994,
46 Van Ballenberghe and Ballard 1994, Adams et al. 1995, Boertje et al. 1996, National Research
47 Council 1997, Hayes and Harestad 2000, Hebblewhite et al. 2002, 2006, Hayes et al. 2003, Mech and
48 Peterson 2003, White and Garrott 2005, Hebblewhite and Merrill 2007). Population-level effects

1 result primarily through predation on young-of-the-year and are frequently enhanced when
2 occurring in combination with other predators (e.g., bears) (Larsen et al. 1989, Barber-Meyer et al.
3 2008, Boertje et al. 2009). However, Creel et al. (2009) reported that elk declines in the greater
4 Yellowstone ecosystem were not caused by actual wolf predation, but instead resulted simply from
5 the threat of wolf predation. Female elk responded to the presence of wolves by spending less time
6 feeding and moving to safer habitats of poorer nutritional quality, resulting in reduced nutrition and
7 lowered calf production that pushed the population downward. As pointed out in many studies,
8 numerous other factors (human harvest, severe winters, variable forage quality, fluctuating
9 abundance of other predators and prey, disease, human disturbance/development, and vehicle
10 collisions) also influence prey populations and complicate the ability to make solid conclusions
11 about wolf-related impacts. Several studies have detected little or no effect from wolves on ungulate
12 populations (Thompson and Peterson 1988, Bangs et al. 1989, Peterson et al. 1998; see Mech and
13 Peterson 2003). Mech and Peterson (2003) suggested three reasons why researchers have failed to
14 reach agreement regarding the significance of wolf predation on the dynamics of prey populations.
15 These are: (1) each predator-prey system has unique ecological conditions, (2) wolf-prey systems are
16 inherently complex, and (3) population data for wolves and their prey are imprecise and predation
17 rates are variable. Whether the prey population exists at or below its ecological carrying capacity is
18 another important element in assessing the results of such studies (D. W. Smith, pers. comm.). In
19 summary, wolf-prey interactions are probably best characterized as being exceedingly complex and
20 constantly changing, as seen at Isle Royale National Park, Michigan, where wolf-moose relationships
21 still cannot be predicted with confidence despite 50 years of detailed research on this subject
22 (Vucetich and Peterson 2009).

23
24 The question of whether wolf-caused mortality is “compensatory” or “additive” is another widely
25 debated topic. Predation is considered compensatory when it replaces other mortality sources
26 (starvation, disease, etc.) that would have otherwise occurred. Predation can be classified as additive
27 when prey are lost that would not have died of other causes in the short term. Mech and Peterson
28 (2003) concluded that in most cases wolf predation is probably a combination of both (e.g., see
29 Varley and Boyce 2006), making clear evidence even more difficult to discern. This holds especially
30 true for predation on young animals (calves and fawns), where because of their increased
31 vulnerability, some young killed by wolves would have likely survived to adulthood.

32
33 Recent analyses from Yellowstone National Park are contradictory on this topic. Vucetich et al.
34 (2005) reported that wolf predation on elk in the park was primarily compensatory and replaced
35 mortality that would have been caused by hunting and severe winter weather, but noted that wolf
36 predation could become more additive in the future as circumstances (e.g., weather patterns, overall
37 rates of predation) change. Others (White et al. 2003, White and Garrott 2005) have concluded that
38 take of female elk by wolves and hunters is probably additive because of the high survival rates of
39 females in the absence of hunting and major predators. In multi-predator ecosystems, where species
40 such as cougars, bears, and coyotes also exist, one might expect that wolf reestablishment would
41 result in declines in some other predators and that wolf predation would therefore be compensatory.
42 However, under recent conditions at Yellowstone, predation (primarily by bears, but also including
43 that by wolves and coyotes) on elk calves was considered mainly additive (Barber-Meyer et al. 2008).

44
45 At Glacier National Park, Kunkel and Pletscher (1999) reported that prey losses from wolves were
46 largely additive to those from other predators. A myriad of literature can be produced that presents
47 examples of each type of mortality in predator-prey systems involving mammals. Each is unique to
48 the ecosystem studied and the inherent strengths and weaknesses of the study design. However, one

1 major influence on the conclusions of such studies is whether or not the prey population occurred at
2 carrying capacity. Wolf predation is often determined to be compensatory for prey populations at or
3 near carrying capacity, but additive for those below carrying capacity (D. W. Smith, pers. comm.). It
4 is beyond the scope of this plan to attempt to evaluate these studies in the context of wolf
5 reestablishment in Washington, and would add little value in terms of a management plan. For a
6 more complete treatment on the theories of predator regulation, compensation, and other related
7 topics on population dynamics, see Sinclair and Pech (1996).

8
9 A recent finding by Eberhardt et al. (2007) is that predation by wolves has a much lower overall
10 impact on ungulate populations than does antlerless harvest by hunters. Wolves primarily prey on
11 young of the year and older individuals beyond their prime, both of which have lower reproductive
12 value, whereas antlerless removals by hunters result in a greater proportional take of adult females of
13 prime age. Thus, wolf predation has considerably less effect on reproductive rates and growth of
14 populations. Eberhardt et al. (2007) also remarked that to maintain ungulate populations exposed to
15 both hunting and predation by multiple species of large carnivores at or near carrying capacity,
16 hunter harvests of females need to be conservative.

Comment [o2]: Wolves will prey on anything they can kill.

17
18 As with other predators, wolf predation has the potential to threaten some small populations of
19 prey, which often have a limited capacity to increase. In Washington, examples of such populations
20 potentially include mountain caribou and certain herds of bighorn sheep.

Comment [o3]: how will the WDFW protect the Red Caribou in NE Washington?

21
22 Preliminary evidence suggests that wolf predation can reduce the occurrence of some diseases in
23 prey populations through the removal of infected individuals, thus perhaps imparting an overall
24 benefit to surviving animals (Barber-Meyer et al. 2007). However, increased prevalence of other
25 diseases can occur simultaneously if predation results in greater herding behavior, thereby enhancing
26 disease transmission.

Comment [o4]: According to a new study out in the October issue of the Journal of Wildlife Diseases, three-millimeter-long tapeworms known as *Echinococcus granulosus*, are documented for the first time in gray wolves in Idaho and Montana. ... turns out that of 123 wolf intestines sampled, 62 percent of the Idaho gray wolves and 63 percent of the Montana gray wolves were positive. The researchers wrote: "The detection of thousands of tapeworms per wolf was a common finding." This leads to the interpretation that the *E. granulosus* parasite rate is fairly widespread and established in the Northern Rocky Mountain wolves.

27 28 **B. Recent Impacts of Wolves on Ungulates in Neighboring States**

29
30 Observations from Montana indicate that elk abundance has declined in a few areas due in part to
31 wolf predation, but has remained stable or increased in many other areas where wolves are present
32 (Garrott et al. 2005, MFWP 2007a, USFWS et al. 2008, Ballard 2009, Hamlin and Cunningham
33 2009). For example, two-thirds of the hunting districts in southwestern Montana (all of which
34 support wolves) currently offer the most liberal elk hunting opportunities seen in nearly 30 years
35 because of higher elk populations. However, lethal wolf control is practiced in many of these areas
36 to remedy conflicts with livestock and may keep local wolf densities low enough to minimize
37 impacts on elk populations. Where decreasing elk populations have occurred, evidence suggests that
38 these were caused by a combination of factors rather than wolf predation alone, although wolves
39 may have exacerbated the declines or lengthened recovery times. Elk declines have also occurred in
40 at least one area without wolves. Most information suggests that pregnancy rates, calf survival, and
41 adult female survival of elk in Montana have not been affected by wolves (Hamlin and Cunningham
42 2009). During the winter, wolves can have localized effects on elk distribution and movement rates,
43 but such impacts are less than those created by human hunting activity (Hamlin and Cunningham
44 2009). Data suggest the possibility that wolves may have some effects on the larger-scale seasonal
45 distribution of elk and the timing of elk migration in parts of southwestern Montana (Hamlin and
46 Cunningham 2009). Direct impacts on deer and other ungulates in Montana have not been detected
47 to date (C. Sime, pers. comm.), but an increase in mule deer abundance and recruitment has been

1 noted in parts of southwestern Montana where elk abundance and recruitment have declined
2 (Hamlin and Cunningham 2009).

3
4 In Idaho, where wolves are now widely present, overall elk abundance is considered fairly stable,
5 with populations in some parts of the state declining and others increasing or remaining stable (B.
6 Compton, cited in Ballard 2009). The Lolo region, where experimental wolf control is proposed,
7 has experienced a significant reduction in elk abundance, but this trend began in the mid-1980s well
8 before wolves became common (IDFG 2006). The extent that wolves have contributed to this
9 decline in recent years is unknown but perhaps significant. Declines in elk herds were detected in
10 2007 in several other parts of the state with wolves, but the role of wolves in these declines has not
11 been investigated (S. Nadeau, pers. comm.). IDFG (2008) has also reported that wolves are possibly
12 reducing success rates for some hunters in parts of the state without declining elk populations by
13 changing the behavior and habitat use of elk during the hunting season. As observed in the greater
14 Yellowstone ecosystem (Creel and Winnie 2004, Mao et al. 2005), Idaho's elk may now be spending
15 more time in forested areas, on steeper slopes, and at higher elevations than before wolf
16 reintroductions, making it more difficult for hunters to find animals. Changes in herding behavior
17 and movement rates (Proffitt et al. 2009) may also affect hunting success. Other ungulates have not
18 been impacted by wolves in Idaho, with the possible exception of moose (S. Nadeau, pers. comm.).
19 Declines in moose in some areas are poorly understood and may in fact be related to habitat changes
20 or other causes.

Comment [o5]: This is an issue that is a hot discussion amongst hunters and IDFG and there is not consensus at this time

21
22 In Wyoming, all 25 elk herds surveyed during the winter of 2008-2009 were at or above population
23 objectives (Schilowsky 2009, J. Obrecht, cited in Ballard 2009), suggesting that wolves have had
24 relatively little, if any, impact on elk abundance statewide. However, wolf predation is one of several
25 causes, along with high human harvest, drought, and increased bear predation, contributing to a
26 roughly 50% decline in the elk population in and around northern Yellowstone National Park since
27 2000, where elk numbers have existed at artificially high levels for decades due to declines and
28 extirpations of large predators. As the wolf population has expanded, it has had an increasingly
29 greater impact on elk abundance in this portion of the park (Vucetich et al. 2005, White and Garrott
30 2005, Barber-Meyer et al. 2008). However, bear predation on elk calves has greatly expanded over
31 the last decade or two in the park and is currently having a much larger impact on recruitment into
32 the elk population than wolf predation (Barber-Meyer et al. 2008). There has not been enough time
33 to determine whether elk numbers at Yellowstone will increase in the future in response to
34 improved forage conditions and reduced predation pressure, both of which may result from the
35 current decline in elk. Wolf numbers were originally predicted to follow elk abundance, but have
36 instead continued to increase (USFWS et al. 2007) despite the lower elk population. Whether
37 wolves maintain high numbers or eventually decline in response remains to be seen. To date,
38 wolves have not had substantial effects on ungulates other than elk in and around Yellowstone
39 (White and Garrott 2005, White et al. 2008). Elsewhere in Wyoming, wolves are considered a
40 potential threat to important populations of bighorn sheep and moose on their wintering ranges, but
41 documented effects on such populations are lacking (WGFC 2008).

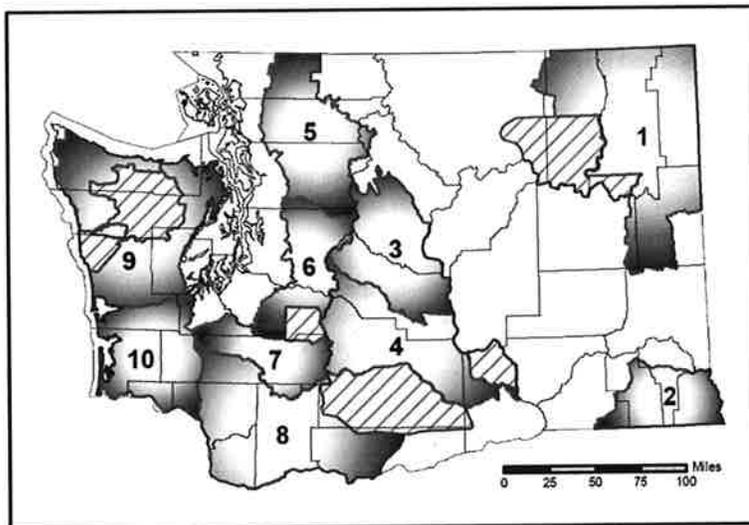
42 43 **C. Ungulate Status in Washington**

44 45 Elk

46
47 Elk are a highly valued resource in Washington. Ten major herds are recognized in the state (Figure
48 9) and range in size from estimates of 600 to 12,000 animals (Table 9). These total about 53,700

1 animals statewide, of which about 62% occur west of the Cascade crest. Additionally, smaller but
 2 unknown numbers of elk reside year-round on some tribal and federal lands (Figure 9), but are
 3 excluded from the herds recognized by WDFW. Elk are largely absent from a sizable portion of the
 4 state, including much of the Columbia Basin, much of Okanogan County, the North Cascades, and
 5 the Puget Trough (Figure 9). Elk are not uniformly distributed within identified herd ranges, but
 6 instead are concentrated in some areas and less abundant or absent in other areas. Many herds
 7 display distinct seasonal movements, which also influence distribution. Animals generally occupy
 8 higher elevations in the summer and lower elevations in the winter (usually November to April).
 9 Hunting mortality (including wounding loss and poaching) is by far the greatest source of elk
 10 mortality (64-82%) in those portions of the state examined thus far (Table 10). About 8,000 elk are
 11 harvested annually in Washington, excluding kill by treaty tribes. Marked reductions in timber
 12 harvest, especially in western Washington, increased exclusion of fire in eastern Washington, and
 13 increasing human populations in elk habitat have reduced the state's carrying capacity for elk
 14 compared to past decades. However, in eastern Washington, some of this reduced capacity has been
 15 offset in recent years by the occurrence of large high-severity fires, which have created significant
 16
 17

Comment [06]: Has the WDFW calculated how many fewer elk hunters will be able to harvest with the wolf recovery underway? If not why not?



18
 19 Figure 9. Ten major elk herds managed by WDFW in Washington (1, Selkirk herd; 2, Blue Mountains
 20 herd; 3, Colockum herd; 4, Yakima herd; 5, North Cascade (Nooksack) herd; 6, North Rainier herd; 7,
 21 South Rainier herd; 8, Mount St. Helens herd; 9, Olympic herd; and 10, Willapa Hills herd). Elk living
 22 year-round on some tribal and federal lands are not included in these herds, but their distribution is
 23 illustrated here (diagonal lines) to give a more complete depiction of elk distribution in the state.
 24
 25

26 Table 9. Current population estimates of the 10 major elk herds managed by WDFW in Washington (from
 27 WDFW 2008).
 28

Elk herd ^b	Estimated herd size ^a
-----------------------	----------------------------------

	Eastern Washington	Western Washington
1. Selkirk	2,400	-
2. Blue Mountains	4,400	-
3. Colockum	3,900	-
4. Yakima	10,200 ^c	-
5. North Cascade (Nooksack)	-	600
6. North Rainier	-	1,845
7. South Rainier	-	2,100
8. Mount St. Helens	-	12,000
9. Olympic	-	8,620
10. Willapa Hills	-	7,600
Total	20,900	32,765

^a Excludes animals residing year-round on tribal and National Park Service lands. For example, an estimated 5,000 elk live full-time inside the Yakama Reservation (J. Bernatowicz, pers. comm.) and 3,080 elk are present inside Olympic National Park (Jenkins and Manley 2008).

^b The herd numbers used in this column correspond to those displayed in Figure 9.

^c Includes the Rattlesnake Hills sub-herd.

Table 10. Reported causes of elk mortality in Washington.

Herd(s) and age group	Cause of mortality (%)							Unknown causes	Source ^a
	Legal harvest	Wounding loss	Poaching	Malnutrition	Predation	Other natural causes	Vehicle and other accidents		
Adults, yearlings									
Mt. St. Helens, Olympic, Colockum	59	7	15	12	2	-	<2	3	1
Blue Mountains ^b	41	14	9	-	11 ^c	-	-	25	2
Blue Mountains	60	5	5	1	13 ^d	8	-	8	3
Yakima	56	13	13	13 ^e	5 ^e	-	-	-	4
Calves									
Blue Mountains	5	-	-	-	76 ^f	-	2	16	5

^a Source, dates of study, and sample size: 1, Smith et al. (1994), 1988-1993, 165 elk; 2, Myers et al. (1999a), 1990-1996, 47 elk; 3, McCorquodale et al. (2009), 2003-2006, 78 elk; 4, McCorquodale et al. (2003) and S. M. McCorquodale (pers. comm.), 1992-1999, 39 elk; 5, Myers et al. (1999b), 1992-1998, 113 elk.

^b Study results also included two capture-related mortalities and three cougar mortalities that were likely related to capture activities, but these are excluded here.

^c Predation was attributed to cougars in three instances and undetermined predators in two instances.

^d Cougar predation was confirmed in four instances and strongly suspected in five others (S. M. McCorquodale, pers. comm.). An undetermined predator was involved in one instance.

^e In addition to the hunting-related losses cited in McCorquodale et al. (2003), S. M. McCorquodale (pers. comm.) reported that five elk were considered winterkill and two were killed by cougars.

^f Predation was attributed to cougars (60% of predation losses), black bears (21%), coyotes (6%), and unknown predators (13%).

areas of early successional forest (i.e., good foraging habitat). Each herd is different and has different management issues. Individual summaries of the 10 herds are provided below.

1. Selkirk Herd – Herd size currently totals about 2,400 elk, which represents substantial growth from an estimate of 1,200 animals in 2001 (WDFW 2001a, WDFW 2008). The management objective for this herd is being developed and will be finalized when the herd's management plan is completed. Nearly 70% of the herd occurs north of the Spokane River in the forested uplands of

1 eastern Ferry, Stevens, Pend Oreille, and northern Spokane counties. Habitat conditions in this
2 portion of the herd's range appear favorable for continued population growth for at least the near
3 future (Zender and Base 2006). Localized populations also occur south of Spokane and in parts of
4 Lincoln counties (WDFW 2001a). Damage to agricultural crops has been an ongoing problem at
5 various sites south of the Spokane River and at a few farms in northern Pend Oreille County.

6
7 Current harvest management consists of:

- 8 1) A general hunting season for bulls or either-sex elk, depending on the Game Management
9 Unit (GMU) and weapon type.
- 10 2) A special permit season for a limited number of either-sex elk in GMUs having any bull
11 general seasons.
- 12 3) A tribal either-sex season conducted by the Colville, Spokane, and Kalispel tribes on their
13 respective reservations and on the "North Half" (GMUs 101 and 204) by the Colville tribe.

14
15 **2. Blue Mountains Herd** – Total numbers have averaged about 4,500 animals during the past
16 decade, which is below the management objective of 4,800-5,900 elk (WDFW 2001b, WDFW 2008).
17 Abundance has been limited by habitat changes, loss of habitat, and past levels of antlerless and
18 damage-related hunting. The herd occupies an area of about 900 mi². Elk damage to crops and
19 fences is a continuing problem on the lowland portions of the herd's range.

20
21 Current harvest management consists of:

- 22 1) A general season for spike bulls or antlerless elk, depending on GMU and weapon type.
- 23 2) A special permit season for a limited number of any bulls, 3-point minimum bulls, or
24 antlerless elk, depending on GMU and weapon type.
- 25 3) A tribal either-sex season held by the Umatilla and Nez Perce tribes.

26
27 **3. Colockum Herd** – This herd has shown a declining trend since the late 1990s due to high
28 antlerless and damage-related harvest and hard winters in the early 1990s (WDFW 2006a). The
29 most recent herd estimate totals about 3,900 elk, which is beneath the desired population objective
30 of 4,100-5,000 animals (WDFW 2008). The herd inhabits about 1,600 mi², with most use occurring
31 in the eastern half of the area. Elk damage on private lands has been a problem at a number of
32 locations since the late 1980s.

33
34 Current harvest management consists of:

- 35 1) A general season for spike bulls or either-sex elk, depending on GMU and weapon type.
- 36 2) A special permit season for small numbers of bulls or antlerless elk, depending on GMU and
37 weapon type, mostly to address agricultural damage.
- 38 3) A tribal either-sex season held by the Yakama Nation.

39
40 **4. Yakima Herd** – Total numbers in this herd are currently about 10,200 elk. About 9,500 elk
41 (92% of the herd) occur in the Cascade Slope sub-herd that resides west of the Yakima River,
42 whereas the much smaller Rattlesnake Hills sub-herd, numbering about 630 animals, is centered on
43 the Arid Lands Ecology Reserve and Yakima Training Center east of the Yakima River (WDFW
44 2002a, 2008). The main sub-herd is considered at management objective (WDFW 2008). The herd
45 size estimate of 10,200 does not include an additional estimated 5,000 elk residing year-round on the
46 Yakama Reservation (J. Bernatowicz, pers. comm.). Two unique aspects of management of this
47 herd come from the extensive crop damage that it has caused dating back to the early 1900s. This
48 has resulted in the building and maintenance of more than 100 miles of elk-proof fencing to keep

Comment [o7]: How will the elk fence work in Garfield County? will wolves force elk through the fence and back into crop lands?

Comment [o8]: Has the WDFW consulted with the Big Game Management round Table about wolf recovery and its impacts on their efforts in the Kittitas Valley. Will the WDFW fully fund the repair expenses for the elk fence in both Garfield and Kittitas Counties when the wolves run the elk through the fences?

1 animals out of high value croplands and orchards. Because the fences block elk from their historical
2 winter range, WDFW conducts a large-scale winter-feeding program at nine sites to keep animals at
3 higher elevations (see Section D, this chapter, for more information on the winter-feeding of this
4 herd).

5
6 Current harvest management consists of:

- 7 1) A general season for spike bulls or antlerless elk, depending on GMU and weapon type.
- 8 2) A special permit season for a limited number of bulls, antlerless elk, or either-sex elk,
9 depending on GMU and weapon type.
- 10 3) Some tribal either-sex hunting by the Yakama nation and Umatilla tribe.

Comment [o9]: Has the WDFW considered the increased expenses and crop claims that wolf recovery will have as wolves force elk and other ungulates into valuable crop and horticultural lands?

Comment [o10]: How will the wolves impact the feeding areas? What is the WDFW plan to mitigate impacts?

11
12 **5. North Cascade Herd** – This herd, also known as the Nooksack herd, is the smallest in
13 Washington and currently numbers about 600 elk. The herd has shown positive growth in recent
14 years, but remains well below the stated population objective of 1,750-2,150 animals (WDFW
15 2002b, WDFW 2008). Augmentation efforts in 2003 and 2005 added reproductive-aged females
16 and calves to the herd. The core population currently inhabits about 500 mi² between the Skagit
17 River and Mt. Baker (WDFW 2002b). Intensive logging and loss of winter range from urban
18 development and agricultural conversion are the main threats to the herd. Elk cause some
19 agricultural damage in the Skagit River valley.

20
21 Current harvest management consists of:

- 22 1) A general season for 3-point minimum bulls or antlerless elk, depending on GMU and
23 weapon type.
- 24 2) A special permit season for a small number (less than 20 at this writing) of any bulls,
25 depending on GMU and weapon type.
- 26 3) An equally limited number of elk permits authorized by the Point Elliot Treaty tribes for
27 tribal members.

28
29 **6. North Rainier Herd** – Herd size totals about 1,845 elk, which is below the management
30 objective of 2,520-3,080 animals (WDFW 2002c, WDFW 2008). The bulk of the herd ranges over a
31 2,800-mi² area of eastern King and Pierce counties. Herd numbers declined 46% from 1989 to 2000
32 (WDFW 2002c), but have since stabilized. The decline was attributed to several interrelated factors
33 including antlerless harvest, predation, a decline in habitat quantity/quality due to forest succession,
34 low calf survival, and poor nutrition.

35
36 Current harvest management consists of:

- 37 1) A general season for any bull, 3-point minimum bulls, or antlerless elk, depending on GMU
38 and weapon type.
- 39 2) A special permit season for a small number of bulls in GMUs 485 and 653.
- 40 3) Tribal either-sex or bull-only hunts (depending on GMU) by the Medicine Creek Treaty and
41 Point Elliot Treaty tribes.

42
43 **7. South Rainier Herd** – This herd contains about 2,100 elk, which is below the desired objective
44 of 2,700-3,300 animals (WDFW 2002d, WDFW 2008). Most of the herd occupies a 1,000-mi² area
45 of northern Lewis and southern Thurston counties and southern Mt. Rainier National Park.
46 WDFW has tried to balance the desire to meet the current population objective, maintain hunting
47 opportunity, and address depredation on crops. Agricultural and property damage by the elk herd
48 has increased over the past 10-15 years.

1
2 Current harvest management consists of:

- 3 1) A general season for 3-point minimum bulls or antlerless elk, depending on GMU and
4 weapon type.
- 5 2) A tribal either-sex season by the Medicine Creek Treaty tribes.

6
7 **8. Mount St. Helens Herd** – This is one of the largest herds in the state, with an estimated 12,000
8 elk (WDFW 2006b, WDFW 2008). Management objectives call for numbers to be reduced to
9 9,000-11,000 animals by 2015, primarily through expanded antlerless harvest. Abundance is highest
10 in south-central Lewis, Cowlitz, and northern and central Skamania counties (WDFW 2006b).
11 Numbers are relatively low in the southern portion of the herd's range (GMUs 564, 568, 574, 578,
12 and 388), where liberal harvests of elk are conducted to enhance deer abundance and minimize
13 conflicts. Wintering elk in the Toutle River valley, which typically comprise only about 3-6% of the
14 herd, occasionally suffer substantial mortality from malnutrition caused by winter weather
15 conditions and declining forage quality (WDFW 2006b). Chronic elk damage to agriculture and
16 commercial forestlands occurs in several areas and has become more widespread in recent years.

17
18 Current harvest management consists of:

- 19 1) A general season for 3-point minimum bulls, antlerless elk, or either-sex elk, depending on
20 GMU and weapon type.
- 21 2) A special permit season for bulls or antlerless elk, depending on GMU and weapon type.
- 22 3) No tribal harvest currently occurs.

23
24 **9. Olympic Herd** – This herd holds an estimated 8,620 elk and has shown some recent population
25 growth, but remains below the management objective of 10,200-12,500 animals (WDFW 2005b,
26 WDFW 2008). These numbers exclude Olympic National Park, where an additional 3,060 elk are
27 estimated to reside year-round (Jenkins and Manley 2008). Elk abundance is highest on the west
28 side of the Olympic Mountains, followed by several southern drainages (WDFW 2005b, Jenkins and
29 Manley 2008). Elk are less common on the northeast and east sides of the Olympic Peninsula,
30 where small groups are generally present. Restrictions on antlerless harvest have allowed the herd to
31 increase over the past decade. Damage caused by the herd is generally restricted to a few localized
32 areas.

33
34 Current harvest management consists of:

- 35 1) A general season for 3-point minimum bulls or antlerless elk, depending on GMU and
36 weapon type.
- 37 2) A special permit season for small numbers of any bull or 3-point minimum bulls, depending
38 on GMU and weapon type, mostly to address agricultural damage issues.
- 39 3) A tribal either-sex hunt by nine treaty tribes on the Olympic Peninsula.

40
41 **10. Willapa Hills Herd** – This herd occurs almost entirely on private industrial timberland and
42 holds an estimated 7,600 animals, which meets the current management goal of 7,200-8,800 elk
43 (WDFW 2008). Little research has been conducted on the biology of this herd, but one current
44 study suggests that survival among adult bulls is below herd objectives. The herd causes only minor
45 agricultural damage. A herd management plan has not yet been prepared by WDFW.

46
47 Current harvest management consists of:

- 1) A general season for 3-point minimum bulls, antlerless elk, or either-sex elk, depending on GMU and weapon type.
- 2) A special permit season for small numbers of antlerless elk, depending on GMU and weapon type, mostly to address agricultural damage issues.
- 3) No tribal harvest currently occurs.

Deer

Two species of deer, represented by four subspecies, occur in Washington: mule deer, black-tailed deer, white-tailed deer, and Columbian white-tailed deer (Figure 10). Total deer numbers in the state are estimated at roughly 300,000 animals (J. Nelson, pers. comm.), with population trends varying by species and location. From 1996 to 2005, hunters harvested an average of about 38,000 (range of

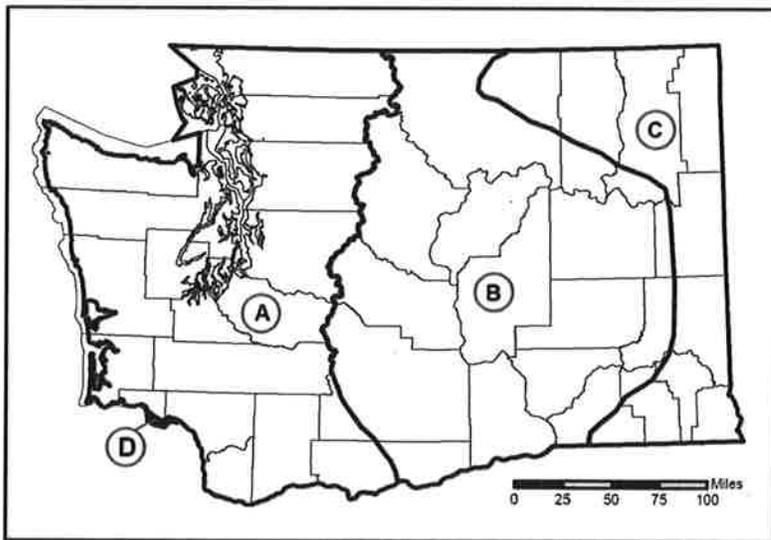


Figure 10. Distribution of four deer subspecies in Washington (A = black-tailed deer; B = mule deer, C = mule deer and white-tailed deer, D = Columbian white-tailed deer and black-tailed deer). Some overlap of subspecies occurs along the depicted range boundaries.

30,300 to 44,600) deer annually in Washington, which was divided fairly equally among black-tailed deer, white-tailed deer, and mule deer (Nelson 2006). Deer generally prefer habitat in early to mid-successional stages. Reductions in clear-cutting, fire exclusion in eastern Washington, and other changes in forest management practices on public lands and expanding human development in low elevation habitats have caused a decline in deer abundance in Washington since the early 1990s (Nelson 2006). However, some of the loss of suitable habitat for deer has been offset in recent years by the increased occurrence of large fires of severe intensity in eastern Washington, which have created large areas of early successional forest.

1 Unlike elk, deer in Washington are not currently assigned to or managed as herds. Instead, WDFW
2 manages deer harvest by Population Management Units (PMU), which are defined geographic areas
3 usually comprised of multiple game management units. Population estimates are generally
4 unavailable for specific PMUs, but population trends are tracked using harvest and survey data.
5 WDFW's goal for managing black-tailed deer, mule deer, and white-tailed deer populations is to
6 maintain numbers within habitat limitations, while taking into account landowner tolerance, a
7 sustainable harvest objective, and interests in non-consumptive opportunities. Deer-related damage
8 to agricultural land and residential properties is widespread and will continue to increase as human
9 activity expands across traditional deer habitat. Deer-vehicle collisions are a problem in some areas.

10 *White-tailed Deer*

11
12
13 White-tailed deer occur primarily in the eastern quarter of Washington (Figure 10). Total population
14 estimates are beyond the scope of WDFW's budget and staffing resources, but white-tailed deer
15 numbers statewide are probably somewhat higher than for mule deer or black-tailed deer.
16 Population trends are generally stable or somewhat declining in northeastern Washington (S.
17 Zender, pers. comm.) and stable or increasing elsewhere (Nelson 2006, WDFW 2006c, WDFW
18 2008). Densities are highest in Pend Oreille, Stevens, and Ferry counties.

19
20 White-tailed deer commonly undertake seasonal movements in elevation in many areas of their
21 Washington distribution. Populations are influenced significantly by winter severity and tend to
22 increase during years with mild winters and experience major declines during severe or protracted
23 winters. Outbreaks of epizootic hemorrhagic disease have also produced some temporary localized
24 declines. White-tailed deer have one of the highest potential maximum rates of increase of any
25 North American ungulate due to their early age at first reproduction and ability to produce twins
26 when nutritionally fit. Coupled with a higher tolerance for human disturbance and agriculture,
27 white-tailed deer can persist and thrive in Washington. These traits make the white-tailed deer
28 somewhat less susceptible to harvest level than mule deer.

29
30 Estimated numbers of white-tailed deer harvested in Washington have gradually increased since
31 1995, with an average annual kill of about 13,500 animals from 2001 to 2005 (Nelson 2006).

32 Current harvest management consists of:

- 33 1) An early general season in October for bucks as well as either-sex hunts in many locations
34 for youth, seniors, and hunters with disabilities. Some GMUs have 3-point antler
35 restrictions.
- 36 2) A late general season for bucks in November, with some antlerless opportunity for youth,
37 seniors, and hunters with disabilities.
- 38 3) Early (September) and late (November-December) archery seasons for either-sex or
39 antlerless deer, or 3-point minimum bucks.
- 40 4) Early (September) and late (November-December, with a limited number of GMUs)
41 muzzleloader seasons for either-sex or antlerless deer, or 3-point minimum or any bucks.
- 42 5) A late (December) general season for antlerless deer in a limited number of GMUs.
- 43 6) A substantial number of special permits are offered for antlerless or any deer, with a more
44 limited number of late season buck special permits for quality hunts.
- 45 7) Tribal either-sex seasons held by the Colville, Spokane, Umatilla, and Nez Perce tribes.

46 *Columbian white-tailed deer*

47
48

1 This subspecies is state and federally listed as endangered in Washington. Information on
2 population size and distribution is presented in Chapter 6.

3
4 *Mule Deer*

5
6 Mule deer are distributed throughout eastern Washington (Figure 10). Total population size is
7 unknown. Densities are currently highest in Okanogan and Chelan counties, whereas populations in
8 northeastern Washington, the Blue Mountains, and Kittitas and Yakima counties are declining or
9 remain below management objectives (Nelson 2006, WDFW 2006c, WDFW 2008). Although
10 populations in Okanogan County are in relatively good condition, abundance has nevertheless
11 shown a gradual long-term decline that suggests a reduction in landscape carrying capacity (Fitkin
12 2006). Populations have also been declining in the southern Cascades since about 2006 (WDFW
13 2008). Most mule deer in Washington undertake seasonal elevational movements and the species is
14 considered more reliant on access to winter range than other deer in the state. Population levels are
15 closely tied to winter severity and are sensitive to overharvest. The species is also more vulnerable
16 than white-tailed deer to suburban sprawl, agricultural expansion, fire suppression, and ecological
17 succession of younger-aged habitat. These factors suggest that mule deer in Washington may
18 experience declining trends in the future.

19
20 Statewide harvest of mule deer has remained fairly steady since 2000, averaging about 12,900 animals
21 per year (Nelson 2006). Current harvest management consists of:

- 22 1) An early general season in October for bucks having at least three antler points on one side.
- 23 2) Early (September) and late (November-December) archery seasons for antlerless deer or 3-
24 point minimum bucks. Antlerless hunting is allowed during archery if population numbers
25 can sustain the pressure. Currently, antlerless hunting is not offered in central Washington
26 due to low mule deer numbers.
- 27 3) Early (September) and late (November-December) muzzleloader seasons primarily for 3-
28 point minimum bucks, with a very limited number of GMUs open for late muzzleloader
29 (November-December).
- 30 4) Antlerless special permits are offered when populations can sustain the pressure. A limited
31 number of late season buck special permits are offered for quality hunts, mostly in Chelan,
32 Okanogan, and Douglas counties.
- 33 5) Tribal harvest by the Colville, Spokane, and Yakama tribes.

34
35
36 *Black-tailed Deer*

37
38 Black-tailed deer occur throughout western Washington (Figure 10). No estimates of total
39 population size exist, but harvest data suggest that densities are highest in Cowlitz, Lewis, San Juan,
40 and portions of Thurston and Grays Harbor counties. Black-tailed deer numbers appear to be
41 stable throughout their range in Washington (WDFW 2008). Some animals move elevationally in
42 response to seasonal conditions, but the extent of this behavior is less than in either mule deer or
43 white-tailed deer. Hairloss syndrome has had some localized impacts on abundance in recent
44 decades, but the effects are usually short-term. Habitat for black-tailed deer has been reduced in
45 western Washington due to reductions in timber harvest, natural succession of aging timber stands,
46 and expansion of human development. These changes are expected to result in a gradual decline in
47 overall abundance in the future. Black-tailed deer readily hybridize with mule deer where their
48 ranges meet in Washington, especially in the southeastern Cascades and parts of Klickitat County.

1
2 Estimated numbers of black-tailed deer harvested in Washington have been fairly constant during
3 the past decade, with an average annual kill of about 14,300 animals between 2001 and 2005 (Nelson
4 2006). Current harvest management consists of:

- 5 1) Early (October) and late (November) general seasons primarily for bucks. Some GMUs are
6 restricted to 2-point minimum bucks or either-sex deer.
- 7 2) Early (September) and late (November-December) archery seasons for either-sex deer, 2-
8 point minimum bucks, or bucks only.
- 9 3) Early (October) and late (November-December) muzzleloader seasons for bucks only or
10 either-sex deer.
- 11 4) Antlerless special permits are offered when populations can sustain the pressure. A limited
12 number of late season special permits for bucks are offered for quality hunts.

13 14 Moose

15
16 Numbers of moose in Washington increased from about 60 in 1972 to about 1,500-2,000 in 2007 (S.
17 Zender and H. Ferguson, pers. comm. in WDFW 2008), corresponding to an average annual
18 increase in population size of 9.6-10.5%. This growth is the result of greater moose density in prime
19 habitats and colonization of animals into new areas. Moose primarily occur in Pend Oreille,
20 Spokane, Stevens, Ferry, and Okanogan counties (Figure 11). They are occasionally recorded in
21 Chelan, Lincoln, Whitman, and Whatcom counties, with a few dispersing animals documented in
22 more distant areas. Small numbers of moose are in the process of colonizing the Blue Mountains in
23 Asotin, Garfield, Columbia, and Walla Walla counties, but have not yet formed a breeding
24 population there. Moose generally occur above 3,000 feet in elevation (S. Zender, pers. comm.) and
25 prefer dense thickets of willows and other hardwood shrubs that are frequently associated with 15-
26 25-year-old clear cuts or thinnings on mesic sites (Base and Zender 2006). Forest successional
27 conditions in northeastern Washington generally appear to be excellent for moose and will likely
28 remain so over the next few decades, thus moose numbers are expected to continue at current levels
29 or gradually increase for some time. Harvests are currently by permit only and have totaled about
30 90-100 animals annually in recent years (Base and Zender 2006; D. A. Martorello, unpubl. data).
31 Moose occasionally become a nuisance or create problems for human safety, but agricultural damage
32 has not been reported.

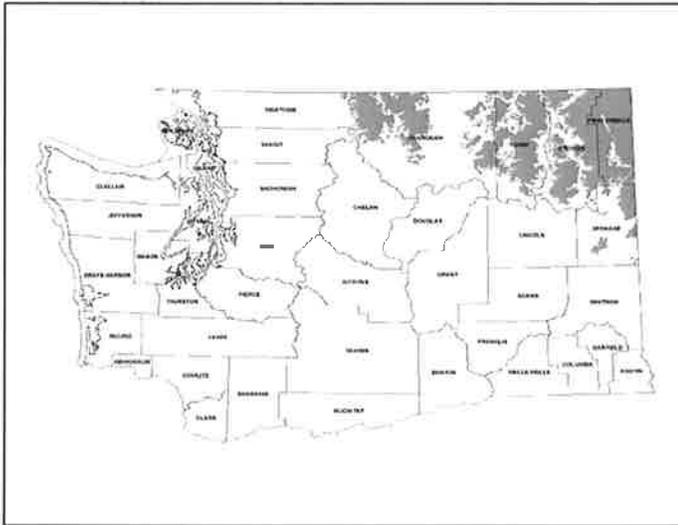


Figure 11. Primary distribution (shaded area) of moose in Washington.

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Bighorn Sheep

Washington’s population of bighorn sheep currently numbers about 1,500-1,600 animals distributed in 16 isolated herds distributed in the Cascades, northeastern Washington, and the Blue Mountains (Figure 12; WDFW 2007). Herd size averages about 95 sheep and ranges from about 10 to 275. Populations are stable to increasing in 13 herds and declining in three herds. The statewide population estimate is beneath the desired objective of 1,750-2,130 sheep, which is based on potential habitat capacity (WDFW 2008). Diseases and parasites from domestic sheep are the primary causes for decline (e.g., Fowler and Wik 2006), but many herds are also limited by habitat availability. Harvests are currently by permit only and have totaled about 20-25 animals annually in recent years (D. A. Martorello, unpubl. data).

Comment [o11]: will these hunt numbers be reduced by wolves?

Mountain Goats

Mountain goat populations have been declining in Washington for many years. Current numbers total about 2,400-3,200 animals, with nearly all populations located in the Cascade and Olympic Mountains (Figure 13; Martorello 2006; C. Rice, pers. comm.). A few populations appear to be stable or slightly increasing, including those in the southern Cascades, along the north shore of Lake Chelan, around Mt. Baker, in the Methow region, and in the Olympics. Historical overharvest, impacts of timber harvest on wintering habitat, degradation and loss of alpine meadows, and increasing human recreational use and disturbance of alpine habitat likely have had the greatest negative impacts on abundance. Hunting opportunity and total harvest have decreased with falling populations. Harvests are currently by permit only and total about 20 goats annually (D. A. Martorello, unpubl. data).

Comment [o12]: will these numbers be reduced by wolves?

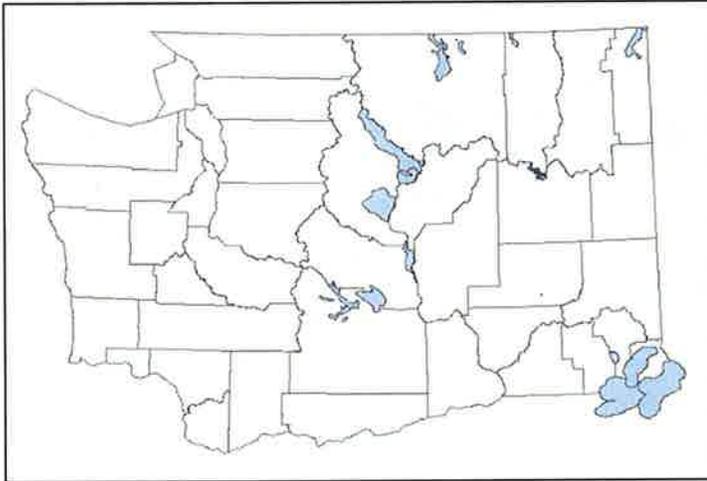


Figure 12. Distribution (shaded areas) of bighorn sheep in Washington.



Figure 13. Approximate distribution (shaded areas) of mountain goats in Washington.

Mountain Caribou

Washington's population of mountain caribou is state and federally listed as endangered. Information on numbers and distribution is presented in Chapter 6.

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1 **D. Wolf-Ungulate Interactions on Wintering Grounds**

2
3 WDFW is mandated by statute (RCW 77.36) to address damage to commercial agricultural crops,
4 orchards, and vineyards caused by elk and deer, which occurs primarily in the winter. Two of the
5 methods used to accomplish this have been fencing and supplemental winter-feeding to keep
6 animals at higher elevations away from agricultural sites. About 100 miles of 8-ft-tall elk-proof fence
7 exist in Yakima and Kittitas counties and border nine permanent feeding stations. An additional 27
8 miles of elk fence run between the Wooten and Asotin Wildlife Areas in the northern Blue
9 Mountains to segregate elk from agricultural lands. Fencing along Highway 97A north of
10 Wenatchee is also being built to keep mule deer and bighorn sheep off the highway. WDFW
11 conducts winter elk feeding operations at nine permanent feeding stations in Yakima and Kittitas
12 counties. Feeding starts as soon as elk arrive in significant numbers (usually in December) and lasts
13 until animals depart during spring green-up. An estimated 70% of the main Yakima sub-herd, or
14 about 6,500-6,800 elk, is fed during typical winters (J. Bernatowicz, pers. comm.), although up to
15 90% of the sub-herd visits feeding sites during harsh winters with extreme snow depths. Sub-herd
16 use of these feeding stations is predicted to gradually increase in the future. Up to 200 bighorn
17 sheep also make use of one feeding site.

Comment [o13]: How will the WDFW pay for the repair costs to the elk fences?

18
19 How wolves will interact with ungulates at fenced sites and winter-feeding stations in Washington is
20 mostly speculative. Fencing will likely impede ungulate escape and facilitate capture by wolves.
21 Presence of wolves near feeding stations and at other fenced locations will probably increase
22 management costs for WDFW (e.g., see discussion below for Wyoming). Reasons for this may
23 include (1) increased fence maintenance if elk are pushed into or break through fences by wolf
24 activity, (2) increased transport and manpower costs associated with hauling feed to more dispersed
25 locations, (3) higher costs for conducting winter population surveys, and (4) changes in disposal or
26 burial practices for elk carcasses at feeding stations. Some nearby landowners may also experience
27 financial losses if elk break through fences and enter croplands. Furthermore, wolves could
28 potentially follow elk onto farmlands, thereby possibly increasing wolf-livestock conflicts. These
29 situations will be evaluated on a case-specific basis to determine if management responses are
30 needed and, if so, what the responses should be (Chapter 12, Section 5.3).

Comment [o14]: Will the WDFW increase the maintenance of all of its fences or just elk fences? They need to maintain all of their fences.

Comment [o15]: What is the WDFW plan to address these impacts? I do not see it anywhere, it needs to be clearly spelled out how the WDFW will pay and where the funds are coming from.

31
32 Observations from Wyoming, which is the only state or province with wolves and elk interacting at
33 winter-feeding stations, may be instructive for determining the types of interactions that could occur
34 at these locations in Washington. Dean et al. (2003) reported that wolf visitation increased from one
35 of Wyoming's 22 feeding sites in 1999 to 14 sites by 2003. Total numbers of elk killed by wolves at
36 these sites were insignificant when compared to herd size. In four of the five years between 1999
37 and 2003, wolves killed fewer than 30 elk per year. Wolves tended to select for elk calves when
38 hunting at feeding stations. Attempted predation by wolves often temporarily displaced elk less than
39 3 miles from feeding sites for as long as a day. On occasion, elk moved up to 30 miles away and
40 relocated to another feeding station, or were displaced onto private lands, where they created
41 conflicts with livestock and landowners. None of the feeding sites were ever completely abandoned
42 by elk during any given winter.

43
44 Elk commonly responded to the presence of wolves by banding together in larger than normal
45 herds, which increased the potential competition between elk, damage to soil and vegetation, and
46 possibly disease transmission. However, there were also some management benefits gained because
47 elk diversified their use of feeding stations. The unpredictable movements of elk in response to
48 wolf activity created logistical problems for the Wyoming Game and Fish Department, which

1 needed to increase the amount of hay purchased and stored for the program. During mild winters,
2 elk made less use of feeding stations and more animals were dispersed in the surrounding landscape.
3 In response, wolf packs made fewer visits to stations and preyed more frequently on animals in
4 poorer condition than those being fed. Wolves and coyotes are known to key in on fence lines and
5 follow them while searching for prey (M. D. Jimenez, pers. comm.). However, increased fence
6 breaching by elk has not been noted in wolf-occupied areas in Wyoming.
7

J

From: Jack Field
To: SEPADesk2 (DFW);
Subject: WCA wolf comments chap 6-13
Date: Tuesday, January 05, 2010 10:57:18 AM
Attachments: Draft Wolf Plan Public review Version 12-29-09 - Chaps 6-13.doc

Attached is a copy of the comments from the Washington Cattlemen's Association on Chapters 6-13 of the wolf plan.

thanks
jack field
Washington Cattlemen's Association

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8. LAND MANAGEMENT

Gray wolves are habitat generalists and one of the most adaptable large predators in the world (USFWS 2009). They require only a sufficient year-round prey base and protection from excessive human-caused mortality. Wolf populations are able to persist in many parts of the world featuring greater human development than the northwestern United States (Boitani 2003). Even active wolf dens can be resilient to non-lethal disturbance by people (Thiel et al. 1998, Frame et al. 2007, Person and Russell 2009). In parts of the species' range (e.g., in northwestern Montana), wolf packs use a matrix of public, private, and corporate-owned lands where a variety of land uses occur, including dispersed outdoor recreation, timber production, livestock grazing, home sites within the rural-wildland interface, hobby farming/livestock, and even full-scale resort developments with golf courses.

Restrictions on human development and other land use practices have not been necessary to achieve wolf recovery in Idaho, Montana, and Wyoming (USFWS 2009), and the U.S. Fish and Wildlife Service did not designate critical habitat for wolves in the western United States. With the exception of some temporary area closures near den sites in national parks, there have been no restrictions on grazing methods, road use, timber management and logging, mining, recreation (e.g., camping, hiking, and backcountry horse use), public access, or other activities due to the presence of wolves. Outside of national parks, no wolf-related restrictions have been placed on public or private lands in Montana (C. Sime, pers. comm.).

Based on the habitat use and large home ranges of wolves in Idaho, Montana, and Wyoming, it is expected that wolves will use a matrix of public, private, and corporate-owned lands in Washington, but with primary occupancy on public lands (see Chapter 2, Section C, for further background on habitat use). In some areas, expanded use of private lands may occur in the winter as wolves follow their prey to lower elevations. As in Idaho, Montana, and Wyoming, wolf reestablishment is not expected to result in any additional land use restrictions in Washington.

A. Federal Land

Responsibility for managing federal lands resides with the federal administering agencies. WDFW has no legal authority to implement land use restrictions on land it does not manage and land management agencies can and may adopt seasonal or localized area restrictions independently from WDFW. Therefore, it will be important for federal agencies and WDFW to coordinate on land use issues as they relate to wolf management, especially the administration of livestock grazing permits.

Comment [o2]: The WDFW and appropriate land management agencies must also include permittees in these discussions

Wolf activity on national forest lands in Montana has not generally prompted any area closures or travel restrictions, primarily because recreational use of these lands is often dispersed and sporadic (MFWP 2003). Temporary area closures are sometimes established around occupied den or rendezvous sites in national parks because of the strong public desire to view wolves and the high visitation of areas with wolf activity that would otherwise occur. At Yellowstone National Park, areas around dens are closed until June 30, but at Glacier National Park, this type of seasonal closure has been implemented for only one wolf pack (MFWP 2003).

1 **E. Wolf Hybrids and Pet Wolves**
2

3 Wolves are capable of hybridizing with other canid species and have been documented breeding
4 with coyotes, domestic dogs, and feral dogs. However, behavioral differences between wolves,
5 coyotes, dogs, and wolf hybrids usually keep the populations distinct. Possession of wolf hybrids
6 and wolves as pets should be discouraged because of the potential threat to human safety. Hybrids
7 and pet wolves are dangerous to people because of their physical strength, lack of shyness, and
8 predatory instincts, which make their behavior unpredictable in many situations (Fritts et al. 2003).
9 Hybrids and pet wolves killed at least 13 children and injured at least 43 others in North America
10 from 1981 to 1999 (Linnell et al. 2002). Wolf hybrids and pet wolves regularly end up in the wild
11 when their owners allow them to run free, abandon them, permanently release them, or when the
12 animals escape. Washington has had a number of instances of hybrids being killed on roads in
13 vehicle collisions, or released in national forests or other areas. These are commonly reported as
14 wolf sightings by the public (Appendix H).
15

16 Because wolf hybrids can be difficult to distinguish from wild wolves, negative encounters between
17 humans, and hybrids often are attributed to wild wolves and therefore can impede efforts to
18 reestablish and conserve wolves. There is also potential for the genetic pollution of wild wolf
19 populations, although the risk is low considering the poor survival of wolf hybrids released into the
20 wild. Genetic evidence of hybridization between wolves and dogs or hybrids was recently described
21 from Vancouver Island, British Columbia (Muñoz-Fuentes et al. 2009b). A domestic dog
22 mitochondrial DNA haplotype was detected in three females (2 adults, 1 immature) that were
23 morphologically identified as wolves in 1986. The data suggested that a female dog or hybrid with
24 dog mitochondrial DNA must have mated with a male wolf and produced at least one female
25 offspring that subsequently reproduced. Muñoz-Fuentes et al. (2009b) attributed this hybridization
26 event to the small size of the population and lack of available mates when wolves were recolonizing.
27 Wolves were virtually eliminated from the island by 1950 as a result of eradication efforts, and slowly
28 re-colonized from mainland British Columbia beginning in the mid to late-1970s. Their findings
29 exemplify how small wolf populations are at risk of hybridization.
30

31 A new state law (RCW 16.30) prohibiting the ownership, possession, and breeding of pet wolves
32 and other potentially dangerous wildlife species was enacted on July 22, 2007. Provisions of the law
33 allow current owners of pet wolves to retain their animals until the death of the animals; and allow
34 licensed facilities to possess wolves. The law is enforced by local animal control authorities and law
35 enforcement officers or, in their absence, WDFW law enforcement officers. Wolf hybrids, also
36 known as wolf dogs, were excluded from RCW 16.30 and are regulated as domestic dogs in
37 Washington; hence WDFW has no jurisdiction over wolf hybrids. Authority to regulate the
38 ownership, possession, and breeding of wolf hybrids currently lies with individual Washington
39 counties and cities. King County, Tacoma, and Puyallup are among the jurisdictions that have
40 adopted ordinances prohibiting possession of wolf hybrids (and wolves) as pets by private citizens.
41 Wolf hybrids are commonly kept as pets in Washington, with an estimated 10,000 animals present in
42 the state in the late 1990s (P. Joslin, pers. comm., cited in Gaines et al. 2000).

Comment [o1]: The WDFW should run a bill banning wolf-hybrids

1 In Wyoming, the U.S. Fish and Wildlife Service always discouraged other agencies from placing any
2 restrictions on federal lands to protect wolves (M. Jimenez, pers. comm.). The only exception would
3 have been potential take involving a den site. For example, if an agency planned a controlled burn
4 in April, the U.S. Fish and Wildlife Service would have asked the agency to wait until the wolves
5 were out of the affected den later that summer. No other restrictions on federal lands have been
6 added by other agencies.

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8 **B. State Land**
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10 As with federal lands, responsibility for managing state lands resides with the state administering
11 agencies. WDFW has no legal authority to implement land use restrictions on land it does not
12 manage and land management agencies can and may adopt seasonal or localized area restrictions
13 independently from WDFW. The only lands that WDFW has management authority over are 32
14 designated wildlife areas totaling nearly a million acres that are located across the state.

15
16 The Washington Department of Natural Resources administers the Washington State Forest
17 Practices Act Critical Habitats Rule for threatened and endangered species (WAC 222-16-080),
18 which contains a provision for wolves. The rule applies to timber harvest permit applications on
19 state and private lands. Forest practices where harvesting, road construction, or site preparation is
20 proposed within 1 mile of a known active wolf den, as documented by WDFW, between the dates
21 of March 15 and July 30, or 0.25 mile from the den at other times of the year, are designated as a
22 Class IV-Special and require an extra 14 days of review, and are subject to State Environmental
23 Policy Act (SEPA) review. The lack of confirmed wolf dens in Washington has meant that no forest
24 practice applications for state lands have been affected to date by the wolf critical habitat rule. The
25 rule was established in 1992, but much has been learned since then about habitat issues involving
26 wolves in neighboring states, in particular that large disturbance buffers are not necessary for
27 conservation of the species. This newer information suggests that the rule should be reviewed and
28 modified to reflect prevention of excessive disturbance of occupied dens only during the denning
29 period.

30
31 **C. Private Land**
32

33 As noted above, private lands in Idaho, Montana, and Wyoming have never had wolf-related
34 restrictions placed on them by federal or state agencies. Therefore, minimal impacts to private land
35 uses in Washington are expected due to the presence of wolves. Although WDFW has no legal
36 authority to implement land use restrictions on private lands (with the exception of hydraulic
37 permits), it may nevertheless ask a private landowner to temporarily delay an activity near a den
38 during the denning period, especially while wolves remain state listed.

39
40 The Washington State Forest Practices Act Critical Habitats Rule for threatened and endangered
41 species (WAC 222-16-080), discussed above in Section B, also applies to timber harvest permit
42 applications on private lands. No forest practice applications for private lands have been affected to
43 date by the wolf critical habitat rule.

Comment [o3]: The WDFW needs to be sure that they have local support from landowners before they attempt to request restrictions be placed on private lands

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9. INFORMATION AND EDUCATION

A well-informed public is essential to gray wolf conservation and some authorities consider outreach efforts to be the highest priority in restoring the species (Fritts et al. 1995, 2003). It is crucial that wolves and wolf management issues be portrayed in an objective and unbiased manner, and that the public receives accurate information on the species. Conflicts with wolves and the solutions and compromises needed to resolve those conflicts must be discussed fairly (Fritts et al. 2003).

Extensive public outreach was conducted before and during wolf recovery in Montana, Idaho, and Wyoming, with a broad mix of approaches used (Fritts et al. 1995). These efforts conveyed a factual and balanced view of wolves, stressed the differences between wolves and other canids, described the legal and biological rationale for recovery, pointed out that some wolf control must accompany recovery, and emphasized that very few restrictions on use of public or private lands are necessary for wolf recovery. The success of wolf recovery in these states is at least in part due to these information and education efforts.

Washington's citizens need access to factual information about wolves and wolf management from wildlife managers; and wildlife managers need information from the public on sightings, depredation events, and wolf behavior to effectively manage wolves in the state. With this two-way communication, implementation of the Wolf Conservation and Management Plan will have a higher probability of success and both managers and the public will have the necessary information to make conservation and management decisions to achieve plan objectives. Two-way communication depends on a public that is informed about wolves and ongoing management activities and agency staff who are well informed and willing to listen to the real and perceived concerns of residents about wolves.

An outreach campaign that is aggressive, rather than passive, in reaching specific groups will best benefit wolf conservation. Information and education strategies must be adaptive, reflecting the adaptive wolf conservation and management strategies described in the overall plan. Communication tools and education methods should be flexible and based on ongoing conservation and management activities, feedback from public attitude surveys, and available funding. To avoid problems with misinformation and perceived bias, agency staff should be well trained about wolves before engaging in education and outreach efforts.

WDFW has two groups that work on information and education. Most official information dissemination is coordinated by the Public Affairs staff, who work with the news media and update website information. Outreach and Education staff, working with schools, community groups, and other organizations, coordinate most formal education efforts. Strategies and tasks for informing and educating people about wolf behavior, conservation, and management in Washington are presented in Chapter 12.

Comment [o4]: Public education must be a high priority of the WDFW. The WDFW also needs to be able to have a Wolf Specialist to assist them

Comment [o5]: Outreach and education: Alt. 1A The Responsible Approach allows the WDFW to hire wolf specialists and to use staff to conduct outreach and education programs. The Recording of accurate counts of BPs and individual numbers of wolves per recovery zones and Game Management Areas will be a high priority activity for the WDFW. Regular updates will be provided to the Commission. The DEIS Alt. 2 uses WDFW wolf specialists to conduct outreach and education programs. These are important issues but, not as important as a socially acceptable plan, that has transparent wolf numbers with wide support.

Comment [o6]: The WDFW has done a very good job thus far meeting with various interest groups.

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10. RESEARCH

Development and implementation of research programs are essential parts of any successful wildlife conservation and management plan. Such programs should provide information that can promote adaptive management and process improvement over time. Future conservation and management actions involving Washington's gray wolves will depend on accurate and complete data related to a broad range of biological and social topics, including population status and impacts on affected resources and human activities.

Extensive research on wolves and their impacts has been conducted in recent decades in Idaho, Montana, and Wyoming, and has provided excellent information for directing wolf recovery and management in those states. This body of work will be useful in guiding future wolf investigations in Washington. In some instances, the results of this research will be directly applicable to Washington, but in many cases similar studies will be needed in-state because of differences among states in habitat quality, prey availability, human densities, and other characteristics.

Research will be needed to clarify the understanding of wolves in Washington, their impacts on other species, and to guide the development of longer-term area-specific conservation and management objectives for wolves. Research will likely be conducted by WDFW, other federal (and state agencies, tribes, universities, and other scientists and will rely on cooperative relationships among these entities.

Important research needs relating to wolf conservation and management in Washington are identified in Chapter 12. Availability of funding and personnel will determine the rate at which research is conducted. Long-term commitments of funding and support will be needed to do this work. Efforts will be made to obtain funding from multiple sources to conduct the needed research.

Comment [o7]: It is important that the WDFW develop some research here in Washington State so we know how the wolves respond

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11. REPORTING AND EVALUATION

The purpose of reporting and evaluation is to determine the success of the plan in meeting the established goals and objectives. Measurements of positive and negative outcomes for wolves and other groups must be identified, compiled, and compared to a standard. Tracking the status and trend of various measurements against a standard will indicate whether implementation of the plan is meeting its goals. An adaptive management approach will be used so that new information can be incorporated into management strategies, which can then be changed if warranted. Strategies for monitoring, evaluating, and reporting the effectiveness of the wolf plan's implementation are presented in Chapter 12. These strategies will begin after this plan goes into effect.

Comment [o8]: The Commission must receive quarterly updates on the status of the breeding pairs and their locations

Benchmarks for measuring progress toward achieving wolf conservation and management in Washington will be whether objectives are being met for recovery (population numbers and distribution), for managing wolf-livestock conflicts and wolf-ungulate conflicts, for public outreach and education, and for law enforcement. While benchmarks measure results, not effort, monitoring those results can help determine whether to modify program objectives or management practices. The Washington Wolf Interagency Committee and a citizen advisory group could assist WDFW in evaluating the effectiveness of wolf conservation and management in Washington. An evaluation could include measuring how well each portion of the plan is being implemented.

Comment [o9]: The WDFW must be required to prepare a regular report to the public to update them on the status of the wolf

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12. GOALS, OBJECTIVES, STRATEGIES, AND TASKS

The purpose of the Washington Wolf Conservation and Management Plan is to ensure a self-sustaining population of gray wolves in the state and to encourage social tolerance for the species by reducing and addressing conflicts. The following goals, objectives, strategies, and tasks are intended to meet this purpose.

A. Goals

The goals of the Washington Wolf Conservation and Management Plan are to:

- Restore the wolf population in Washington to a self-sustaining size and geographic distribution that will result in wolves having a high probability of persisting in the state through the foreseeable future (>100 years).
- Manage wolf-livestock conflicts in a way that minimizes livestock losses, while at the same time not negatively impacting the recovery or long-term perpetuation of a sustainable wolf population.
- Manage ungulate populations in Washington to maintain harvest opportunities for hunters and an adequate prey base for wolves so that wolf conservation goals can be met.
- Develop public understanding of the conservation and management needs of wolves in Washington, thereby promoting the public's coexistence with the species.

Comment [o10]: It should be a goal to have a socially acceptable plan, that has transparent wolf numbers with support.

Comment [o11]: This 100 year figure was never discussed in the WWG

Comment [o12]: Hunters need to be re-assured that there will be the same level of hunter harvest in the future that they currently enjoy today

B. Objectives, Strategies, and Tasks

This section identifies objectives, strategies, and tasks associated with the recovery and management of wolves so that the species can be removed from state listed status in Washington.

1. Develop and implement a program to monitor the population status, trends, and conservation and management needs of wolves in Washington.

A comprehensive population monitoring program is an essential part of the wolf conservation and management program and will be conducted throughout the implementation of this plan. Monitoring will begin as wolves become reestablished and be most intense while the species remains classified as state endangered, threatened, and sensitive. Upon delisting, monitoring should transition from counting numbers of successful breeding pairs to numbers of packs or total wolves.

WDFW will have primary responsibility for monitoring wolves, but collaboration with tribes, other state, federal, and provincial agencies, jurisdictions, universities, landowners, local governments, and the public will be necessary for a successful monitoring program. This coordination will be especially important when monitoring animals located on or near federal, tribal, and private lands, and along state borders. In areas where wolves are federally delisted, the U.S. Fish and Wildlife Service will continue its monitoring and reporting for five years, as required by the Endangered Species Act. WDFW will work with the U.S. Fish and Wildlife Service to coordinate monitoring activities during this period.

1 1.1. Establish and maintain a minimum of two wolf specialist positions within WDFW to
2 locate wolf packs, monitor wolf movements, and conduct other wolf-related activities.

Comment [o13]: A wolf specialist is important but it is unnecessary to have more than 2 for only 15 BPs

3
4 1.2. Monitor locations of wolves dispersing into Washington and determine when resident
5 packs and territories become reestablished.

6
7 1.2.1. Use howling and “howlbox” surveys, winter tracking, remote camera surveys,
8 trapping, genetic testing, and other methods to determine locations of
9 recolonizing wolves.

10 Refinements in survey methodology developed and tested in other states will be
11 employed in Washington when appropriate.

12
13
14 1.2.2. Solicit, collect, and evaluate sighting reports by the public and cooperators and
15 conduct follow-up investigations, where warranted, to locate colonizing wolves
16 and packs.

17
18 The public will be encouraged to submit reports of wolf activity and sightings
19 (Appendix L). Outreach will be conducted to encourage the public to provide
20 credible wolf sighting reports. Information on wolf identification and where to
21 report sightings will be included in WDFW publications and on the agency’s
22 webpage. All recent and current sighting reports will be mapped and reviewed to
23 evaluate their accuracy and to look for clusters of reports.

24
25 1.3. Determine the status, trends, distribution, and other population parameters of wolves
26 while listed.

27
28 1.3.1. Trap and radio-collar members of each pack as packs become reestablished.

29
30 Radio telemetry will be an important tool for monitoring wolves while listed.
31 The goal will be to collar the breeding male and female, and as many remaining
32 members of each pack as feasible. An attempt will be made to track at least one
33 member of each pack via radio collars using satellite technology to locate and
34 record an individual’s movements. Captured animals will be genotyped using
35 collected DNA to allow identification and may be marked with a pit tag.

36
37 1.3.2. Determine the locations and numbers of successful breeding pairs, packs, and
38 individual wolves each year.

39
40 Numbers of successful breeding pairs (pups surviving until December 31), packs,
41 and total wolves will be determined annually using the results of radio-tracking
42 and other survey techniques. Packs with territories straddling recovery region (or
43 state) boundaries will be counted only in the area where the den site is located. If
44 the den location is not known with certainty, then other criteria such as amount
45 of time, percent of territory, or number of wolf reports will be used to determine
46 pack residency. Thus, a pack will not be counted in more than one
47 administrative area.

1 1.3.3. Determine home ranges, mortality, reproductive success, habitat selection,
2 dispersal, and animal health.

3
4 Information from radio tracking and other survey methods will be used to
5 determine ecological and biological characteristics of each pack, such as habitat
6 use, prey selection, locations of den sites and rendezvous sites, number of pups,
7 survival, and mortality.

8
9 1.3.4. Assess the genetic characteristics and monitor their health through the collection
10 and analyses of biological samples from live-captured and dead wolves.

11
12 1.3.5. Publish an annual report with monitoring results, including status, trends,
13 distribution, and other population parameters for wolves each year, and assess
14 progress toward meeting conservation/recovery objectives.

15
16 1.4. Determine the status, trends, distribution, and other population parameters of wolves
17 after delisting.

18
19 Following delisting, wolf populations will be monitored to determine annual population
20 status and trends. Because of the difficulty in validating successful breeding pair status
21 as numbers of packs increase, monitoring efforts will change from determining numbers
22 of successful breeding pairs to numbers of packs or total number of wolves. These
23 efforts may provide an indirect estimator of breeding pairs or alternative measures to
24 assist with determining population size. Some newer techniques (e.g., genetic testing of
25 scat and hair, greater deployment of remote cameras, and use of “howlboxes” and
26 hunter surveys) may prove to be more cost-effective and less intrusive than trapping and
27 radio-collaring (Ausband et al. 2009b, USFWS et al. 2009). Collaring may be used in
28 select situations, such as with wolves that appear in new locations.

29
30 1.5. If needed, move individual wolves within Washington for genetic purposes.

31
32 If the results of genetic research (Task 11.2) determine that an isolated wolf population
33 has reduced genetic diversity, an individual wolf from another population/pack may be
34 moved into the population to increase genetic diversity, in an effort to increase
35 population viability. This activity would be conducted solely to facilitate genetic
36 exchange with other populations in the state. Because wolves would already be present
37 in the release area, this would not require a feasibility assessment or reviews under SEPA
38 or NEPA.

40 2. **Protect wolves from sources of mortality and disturbance at den sites.**

41
42 2.1. Identify human-related and natural sources of mortality.

43
44 Intensive monitoring and research activities will be the primary means of identifying
45 both human-related and natural mortality factors for wolves.

46
47 2.2. Minimize factors contributing to wolf mortality.

48

1 2.2.1. Minimize mortality from lethal control|

2
3 Although lethal control is a necessary tool for reducing wolf depredation on
4 livestock, excessive levels of lethal removal can preclude the recovery of wolf
5 populations, as noted with the Mexican gray wolf in New Mexico and Arizona
6 (USFWS 2005). WDFW will therefore monitor and, if necessary, adjust the
7 extent of lethal removals (including mortalities from lethal take of wolves “in the
8 act” of attacking livestock and domestic dogs) to meet both conservation and
9 management needs. Constraints on lethal control have recently been
10 recommended by Brainerd et al. (2008) to minimize negative impacts on
11 recolonizing wolf populations. They suggested that lethal control be limited to
12 solitary individuals or territorial pairs whenever possible, and that removals from
13 reproductive packs should not occur until pups are more than six months old,
14 the packs contain six or more members (including three or more adults or
15 yearlings), neighboring packs exist nearby, and the population totals 75 or more
16 wolves. Consideration should also be given to minimizing lethal control around
17 or between any core recovery areas that are identified, especially during the
18 denning and pup rearing periods (April to September) (E. Bangs, pers. comm).

Comment [o14]: Mech continued, “As indicated above, 28-50% of a wolf population must be killed by humans per year (on top of natural mortality)”

20 2.2.2. Minimize mortality from illegal killing|

21
22 Illegal killing is expected to be a source of mortality as wolves recolonize
23 Washington, based on findings from other western states (USFWS 2009).
24 Programs that increase social tolerance for wolves will help reduce this type of
25 mortality. Effective management programs that respond to and limit livestock
26 depredation and provide compensation for losses will be especially important in
27 reducing illegal killing. Education programs that provide accurate information
28 about wolves to the public are equally necessary to reduce this threat. In areas
29 where wolves are federally delisted, the WDFW Enforcement Program will be
30 the lead for investigating illegal killings.

Comment [o15]: On page 7 of NRM Wolf Project Leader Ed Bangs’ Declaration, he wrote that human-caused mortality accounted for an annual average of 23% of the wolf population (agency kill–10%, illegal kill–10% and vehicle and other–3%) yet the wolves still multiplied at a rate of 24% per year despite additional mortality from natural causes.

31 32 2.2.3. Minimize mortality from accidental killing|

33
34 Strategies will be implemented to minimize mortality of wolves from incidental
35 shooting and trapping. Information and education efforts are needed to inform
36 hunters and trappers about the presence of wolves in occupied areas of the state.
37 Use hunting, fishing, and trapping regulation pamphlets and other means to
38 provide educational messages and identification materials about wolves,
39 including how to avoid accidental shooting during legal hunting seasons. These
40 programs will assist hunters in becoming proficient at distinguishing wolves from
41 coyotes, and trappers in learning methods for avoiding accidental capture of
42 wolves and what to do if a wolf is inadvertently caught. Incidental trapping of
43 wolves is expected to be minimal because, with the exception of tribal trappers,
44 licensed trappers in Washington are only allowed to use box and cage traps.

Comment [o16]: Mech continued, “As indicated above, 28-50% of a wolf population must be killed by humans per year (on top of natural mortality) to even hold a wolf population stationary. Indeed, the agencies outside the NRM which are seeking to reduce wolf populations try to kill 70% per year (Fuller et al. 2003).”

Comment [o17]: A six-year study of the impact of hunting and trapping on wolf populations in Alaska’s Central Brooks Range by Layne Adams and four other scientists concluded that liberal harvest by hunters and trappers of 29% or less of a wolf population has no impact (yes I said NO impact) on wolf population increases. If you doubt that, I suggest you read more about this study, published in the May 2008 issue of Wildlife Monographs

46 2.3. Minimize disturbance at active wolf den sites.
47

1 2.3.1. Review information pertaining to human disturbance of wolf den sites in other
2 states to determine what protective measures may be appropriate in Washington.
3

4 Implementation of such measures around wolf den sites would likely be case-
5 specific. Provide information to landowners where den sites are located on
6 timing and duration of denning, and how to avoid disturbance at the den site.
7

8 2.3.2. Evaluate the state's Forest Practices Act Critical Habitats Rule for the gray wolf
9 and determine if it should be revised.
10

11 The critical habitat rule protecting the den sites of wolves from disturbance or
12 possible adverse impacts from forest practice activities was established in 1992
13 under the Washington State Forest Practices Act Critical Habitats Rule for
14 threatened and endangered species (WAC 222-16-080). Since that time, a great
15 deal of information and data on these concerns has been collected on wolves in
16 Idaho, Montana, and Wyoming. This information should be used to evaluate
17 whether the rule is still appropriate or if changes should be recommended.
18

19 **3. Translocate wolves, if needed, to help achieve conservation/recovery objectives.**
20

21 The overall timeframe for wolves to disperse naturally into Washington and reestablish a
22 population is difficult to predict, but it could take several decades to reach downlisting and
23 delisting objectives. If wolves have exceeded recovery objectives in some recovery regions and
24 not others, then the process will be initiated to evaluate potential translocation of wolves to
25 areas not achieving recovery objectives. Funding for both a feasibility assessment and an
26 implementation plan should be a high priority.
27

28 3.1. Determine if wolves are successfully dispersing to each recovery region and establishing
29 successful breeding pairs.
30

31 Howling surveys, monitoring of radio-collared individuals, and other methods will be
32 used to determine whether (1) wolves are successfully dispersing to new areas of the
33 state and (2) sufficient numbers of wolves exist in a recovery region to be used as a
34 source for translocation.
35

36 3.2. Prepare a feasibility assessment for translocating wolves into recovery areas where
37 recovery objectives have not been met.
38

39 The feasibility assessment will investigate whether an adequate amount and configuration
40 of suitable habitat and prey are available to support successful breeding pairs of wolves
41 at potential translocation sites. Federal and state lands will be targeted for inclusion in
42 the assessment, especially those that are forested and have low densities of people and
43 livestock. The connectivity of the potential translocation sites to other locations with
44 wolves will also be considered.
45

46 3.3. Develop an implementation plan for a translocation.
47

1 The implementation plan will be initiated following completion of the feasibility
2 assessment, if it concludes translocation is feasible. If wolves are still federally listed in
3 Washington, WDFW will seek approval from the U.S. Fish and Wildlife Service to
4 translocate wolves within the state. Coordination with the appropriate land management
5 agencies will also occur.

6
7 The implementation plan will investigate and determine the best methods for conducting
8 a translocation (e.g., release methods, disease testing protocols, etc.) and identify and
9 prioritize core release areas. Based on translocations in Idaho and Yellowstone National
10 Park during the 1990s, a genetically diverse founding stock of wolves should be used in
11 the translocation and a location capable of holding several packs and receiving
12 immigrants from other populations should be selected (vonHoldt et al. 2008).

- 13
14 3.4. Conduct the environmental review process required to evaluate the proposal to
15 translocate wolves.

16
17 If translocation is proposed on federal land, work with the federal land managers to
18 conduct a National Environmental Policy Act (NEPA) review process. If wolves remain
19 federally listed, this will also include a Section 7 consultation with the U.S. Fish and
20 Wildlife Service. A NEPA review would preclude the need for a State Environmental
21 Policy Act (SEPA) review. If the proposal is to translocate wolves onto non-federal
22 land, a SEPA review process would be conducted.

- 23
24 3.5. Coordinate with federal and state agencies, tribal governments, landowners, and non-
25 governmental organizations on translocation activities.

- 26
27 3.6. Translocate wolves within Washington.

28
29 Upon completion of SEPA or NEPA review and a decision to implement a
30 translocation, wolves will be captured, radio-collared and permanently marked, and
31 translocated, as specified in an implementation plan.

- 32
33 3.7. Conduct post-release monitoring of wolves to evaluate translocation success.

34
35 The implementation plan will describe the monitoring needed to evaluate the
36 translocation success. Success will be defined in terms of establishing successful
37 breeding pairs of wolves within the targeted recovery region.

38
39
40
41
42 **4. Develop and implement a comprehensive program to manage wolf-livestock conflicts in**
43 **cooperation with livestock producers.**

44
45 Based on experiences in other states, wolf depredation on livestock is expected to occur in
46 Washington as wolves become reestablished. Resolving wolf-livestock conflicts will require
47 both non-lethal and lethal control responses. Resolution of conflicts will need to be managed
48 in a way that does not jeopardize recovery of the species or require relisting. This approach for

Comment [o18]: There must be a full public process in order for this to occur. Please state the full process in the plan wherever Translocation is mentioned

1 managing a listed species is highly unusual, but is required because of the desire to reduce
2 conflicts and build social tolerance for wolves, thereby enhancing the chances for reestablishing
3 the species in the state. It is recognized that there will be some economic costs to producers
4 when conflicts occur. Depredation concerns will be addressed by investigating reported
5 complaints, verifying depredations accurately, implementing depredation management actions
6 to abate or prevent damage, and providing adequate compensation for documented losses in a
7 timely manner.

8
9 4.1. Work with livestock producers to resolve conflicts with wolves.

10 The two wolf management specialist positions will work directly with livestock
11 producers in resolving conflicts with wolves. The specialists will also train existing
12 biologists and enforcement staff to work with livestock producers in resolving conflicts.

Comment [o19]: This is good

13
14
15 4.2. Manage wolf-livestock conflicts using a range of options to reduce the occurrence of
16 depredations and to resolve conflicts associated with depredations.

17
18 4.2.1. Respond to and resolve reported wolf depredation events in a timely period and
19 work with livestock owners to reduce potential conflicts with wolves.

Comment [o20]: The WDFW shall be required to respond to a Wolf interaction within 3-6 hours day or night. Time is of the essence

20
21 Depredation management approaches are described in Chapter 4 and
22 summarized in Table 7. Responses to specific depredation events will be based
23 on the local status of wolves to ensure that conservation/recovery objectives are
24 met. Management responses will emphasize non-lethal techniques while wolves
25 are recolonizing and will transition to more flexible approaches as wolves
26 progress toward a delisted status. Livestock producers and the public will be
27 actively informed of and given technical assistance, training, and other resources
28 as available to implement proactive non-lethal wolf management techniques.
29 State personnel and cooperators will receive regular training for investigating
30 complaints and resolving conflicts.

31
32 4.2.2. Provide information and assist livestock owners with obtaining resources
33 necessary to implement non-injurious wolf control techniques such as fladry,
34 hazing supplies, radio-activated guard devices, electric fences, and
35 guarding/herding animals.

Comment [o21]: These tools are not practical for the majority of livestock operations in WA State

36
37 4.2.3. Work with livestock producer organizations, county extension services, the
38 Washington Department of Agriculture, local governments, conservation
39 organizations, and other appropriate groups and agencies to develop and
40 conduct a comprehensive outreach and educational program on methods to
41 discourage wolf depredation through the use of media materials, workshops,
42 website resources, site reviews, evaluations, and other tools.

Comment [o22]: This is good. The WDFW has done a good job thus far responding to requests for information on this topic

43
44 4.2.4. Work with state and federal land managers who administer grazing permits in
45 areas of wolf activity to provide permittees with information on resolving wolf-
46 livestock conflicts.

- 1 4.2.5. Provide livestock owners with information on how to report suspected livestock
2 depredation and protect the site so that the cause of death can be determined.
3
4 4.2.6. Inform public and private land managers of wolf activities on their respective
5 lands.
6
7 4.3. Verify reported wolf depredations.

8
9 Verification of reported wolf depredations is a critical step in the process of managing
10 depredation problems. Documenting losses is necessary for both the livestock owner
11 and WDFW to understand the severity of the problem, to plan appropriate action, to pay
12 compensation, and to foster good relations between agencies and livestock-owners.
13 Rapid notification of agencies by the livestock owner about suspected depredations is
14 crucial for verification, and a timely response to suspected livestock depredation reports
15 by state or federal staff is critical for accurately determining the cause of death.
16

- 17 4.3.1. Establish a contract with USDA Wildlife Services to assist WDFW staff in
18 responding to wolf depredation calls where wolves are not federally listed.

Comment [o23]: How will this be funded?

19
20 Prompt response by personnel trained in depredation investigation techniques is
21 important for determining the validity of reported complaints. Either WDFW
22 personnel or USDA Wildlife Services personnel will conduct wolf depredation
23 investigations.
24

- 25 4.3.2. Provide the public with contact numbers so that complaints of suspected wolf
26 depredation can be promptly reported.

Comment [o24]: This is a good idea

27
28 If livestock are suspected to have been killed or injured by a wolf, complaints
29 should be reported to WDFW or USDA Wildlife Services as soon as possible,
30 preferably within 24 hours of finding the animal. See Appendix L and the
31 WDFW wolf website for current contact telephone numbers, reporting
32 guidelines, and associated information.
33

- 34 4.3.3. Respond to complaints of suspected wolf depredation in a timely manner.

Comment [o25]: 3-6 hours should be the goal

35
36 Upon receiving a complaint involving suspected wolf depredation, WDFW or
37 USDA Wildlife Services will contact the complainant by phone within 24 hours.
38 If agency staff determine that a field investigation is warranted, an on-site
39 inspection will be made within 24 hours of the telephone consultation. In the
40 interim, the livestock operator should be given instructions on how to protect
41 the site. In addition to an on-site inspection, an investigation into a reported
42 wolf complaint may include examination of wolf pack location data and
43 interviews with the complainant, adjacent landowners, and veterinarians.
44

- 45 4.3.4. Complete the investigation about the suspected wolf depredation and provide
46 the final results.
47

1 Upon completion of the investigation, the complaint will be classified as one of
2 the following: confirmed wolf depredation, probable wolf depredation,
3 confirmed non-wolf depredation, unconfirmed depredation, non-depredation, or
4 unconfirmed cause of death (see definitions in Chapter 4, Section G). Results of
5 the investigation will be provided to the complainant. Confirmed and probable
6 wolf depredations will be eligible for compensation under this plan. Where
7 appropriate, land management agencies will also be notified of the results of
8 depredation investigations. If a reported complaint is determined by trained
9 personnel authorized by WDFW to be a confirmed non-wolf depredation or
10 unconfirmed depredation, the incident will be recorded. If wild animals other
11 than wolves are determined to be the cause of the depredation, WDFW or other
12 authorized personnel will provide the appropriate assistance. Appropriate
13 assistance depends on the species involved and may include providing technical
14 or operational assistance.

- 15
16 4.4. Provide compensation for livestock losses due to wolves and to implement proactive
17 deterrents to reduce such depredations.

- 18
19 4.4.1. Develop a program to compensate livestock operators for confirmed and
20 probable wolf livestock losses.

21
22 WDFW will develop a program and process to implement the recommended
23 compensation rates for the two-tiered payment plans identified in Chapter 4,
24 Section G, for confirmed and probable depredation by wolves.

- 25
26 4.4.2. Process and reimburse valid compensation claims for confirmed and probable
27 wolf depredations within a timely period.

- 28
29 4.4.2.1. Develop an application and reimbursement process, including forms
30 and instructions to applicants.

- 31
32 4.4.2.2. Provide technical assistance to help applicants apply for
33 reimbursement.

- 34
35 4.4.2.3. Respond to applications within a reasonable time frame, e.g., 14 days,
36 by either affirming the claim and initiating payment or seeking
37 additional justification for the claim.

- 38
39
40 4.4.3. Develop a program to compensate livestock operators for unknown livestock
41 losses.

42
43 WDFW will work with a multi-interest stakeholder group to consider a
44 compensation program for unknown losses based on the criteria provided in
45 Chapter 4, Section G. If such a program is developed, it should include
46 standards for devising appropriate procedures for documenting historical and
47 current-year livestock losses, determining the validity of claims, and paying valid
48 claims.

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4.4.4. Secure a funding source to provide compensation for confirmed, probable, and unknown livestock losses from wolves.

WDFW will work with livestock producers and other members of the public to explore funding sources for the compensation program, including state appropriations (such as those authorized under Substitute House Bill 1778), foundations, and other sources. Legislative support for funding for compensation will be sought.

Comment [o26]: this needs to be a number one priority of the WDFW

4.4.5. Ensure a high degree of accountability within the compensation programs.

A compensation program for unknown losses will need to include as part of that process a mechanism to ensure that the program has a high degree of accountability. This may involve some sort of multi-interest review board to determine valid claims, or strict criteria that are agreed upon by a multi-interest group.

4.4.6. Secure a funding source for implementing proactive non-lethal deterrents to reduce livestock losses from wolves.

Use of proactive non-lethal tools by livestock producers will be encouraged as a way of reducing depredations by wolves. Funding for this activity could be included as part of Task 4.4.4, which seeks funding to compensate producers for livestock losses. Defenders of Wildlife has stated its intention to make its Bailey Proactive Carnivore Conservation Fund available to producers in Washington for this purpose. However, it is unclear how much funding will be available under this program, so additional sources would be desirable.

Comment [o27]: the WDFW should not rely on NGO's for funding of compensation

4.5. Cooperate with other entities to resolve wolf-livestock conflicts.

Cooperative relationships and agreements with other state, federal, and provincial agencies, tribes, landowners, local governments, and non-governmental entities will be developed and implemented to address depredation concerns. Close coordination with USDA Wildlife Services will be necessary to respond to wolf damage problems in a timely manner. Details regarding who will respond and what protocols are followed will be essential to successfully address wolf conflicts. Non-governmental organizations such as Defenders of Wildlife, Washington Cattlemen's Association, and Washington State Sheep Producers will be engaged to assist on aspects of wolf-livestock conflict management.

5. Manage ungulate populations and habitats in Washington to provide an adequate prey base for wolves and to maintain harvest opportunities for hunters.

5.1. Monitor ungulate populations in areas occupied by wolves.

WDFW and its cooperators already conduct surveys of annual production, recruitment, and harvest of ungulate populations in the state. These data are used to monitor

Comment [o28]: The WDFW needs to assure the hunting public that they (WDFW) will continue to provide at least the current levels of harvest for hunters once wolves are recovering and delisted

1 population abundance, and trends, and to make recommendations for hunting seasons
2 and other management actions. Nevertheless, management of many populations would
3 benefit from increased survey intensity to improve the precision and accuracy of
4 information. Improvements in survey protocols may enhance efforts to assess the
5 impacts of wolves on prey and to determine if changes in ungulate management
6 strategies are needed.

- 7
8 5.2. Enhance ungulate populations wherever possible, subject to habitat limitations and
9 landowner tolerance.

10 Maintaining robust prey populations will result in three key benefits for wolf
11 conservation in Washington: (1) providing wolves with an adequate prey base, (2)
12 supplying hunters and recreational viewers of wildlife with continued opportunities to
13 hunt and observe game, and (3) reducing the potential for livestock depredation by
14 providing an alternative to domestic animals. Implement management plans for deer
15 and elk to increase their abundance in areas occupied or likely to be occupied by wolves.

- 16
17
18 5.2.1. Improve habitat for ungulate populations.

19
20 Healthy ungulate populations rely on adequate summer and winter habitat. Deer
21 and elk are generally most abundant in early successional forests, but this habitat
22 has declined in many parts of Washington in recent decades due to reduced
23 timber harvest, fire exclusion, intensification of reforestation methods,
24 development, and other causes.

25
26 WDFW will work with other public land agencies, private landowners, non-
27 governmental organizations (e.g., Rocky Mountain Elk Foundation, Mule Deer
28 Foundation), and tribal governments to cooperatively manage forestlands and
29 winter habitat for the benefit of ungulate populations and wolves. This will
30 include the use of appropriate management practices to improve forage quality in
31 various habitats; manage some habitats preferentially for ungulates; reduce road
32 densities and off-road vehicle use in critical habitat; maintain open habitats (e.g.,
33 meadows), winter habitats, and productive early successional habitat; improve
34 control of noxious weeds; and protect valuable lands through acquisitions, leases,
35 landowner agreements, and other methods.

- 36
37 5.2.2. Manage recreational hunting to ensure sufficient prey for viable wolf populations
38 while maintaining hunting opportunities for hunters.

39
40 Recreational hunting comprises the largest mortality source for elk and deer
41 populations in Washington (Smith et al. 1994, McCorquodale et al. 2003).
42 Hunter take of antlerless animals is one of the primary tools used to manage
43 ungulate population levels in the state. In some cases, management requires
44 adjustment of harvest levels if localized ungulate populations decline due to any
45 of a variety of factors such as severe weather, disease, overharvest, predation, or
46 habitat loss. In the future, situations may arise where consideration would be
47 given to adjusting recreational harvest levels to maintain ungulate populations at
48 desired management objectives and provide adequate prey for wolves. Greater

Comment [o29]: Ungulate management:
Alt. 1A The Responsible Approach, allows the WDFW to manage ungulates by utilizing Wildlife Management Plans including the wolf in each Game Management Area, while also recognizing the social, economic and biological needs of wolf recovery and sustainability of all species. This will be done by using existing WDFW game management plans and by adhering to WDFW and Commission mandates (this alternative builds trust with impacted parties to ensure social acceptance of the wolf plan). *The DEIS Alt. 2 manages for healthy ungulate populations through habitat improvement, harvest management, and reduction of illegal hunting using existing WDFW game management plans.* The WDFW and sportsman have been doing habitat improvement for decades and in today's uncertain economy there will be fewer dollars available for these activities. Managing for healthy ungulate populations through harvest management is a great concern as this is viewed as managing ungulate for wolf prey first. Today sportsman through numerous programs have practically eliminated illegal hunting and with limited resources it would be virtually impossible to increase enforcement.

1 restrictions on antlerless hunting and increased road closures (e.g.,
2 McCorquodale et al. 2003) are two means of achieving this goal.

3
4 5.2.3. Reduce illegal hunting of ungulate populations in wolf-occupied areas.

5
6 Illegal hunting remains a significant source of mortality among elk and deer
7 populations in Washington (Table 10). Smith et al. (1994) recommended
8 increased patrolling during October, November, and December, when most elk
9 poaching occurs. They also recommended concentrating patrols within 30 miles
10 of human population centers and in locations with high hunter and road
11 densities because most poaching occurs in these areas.

Comment [o30]: Today sportsman through numerous programs have practically eliminated illegal hunting and with limited resources it would e virtually impossible to increase enforcement.

12
13 5.3. Manage wolf-ungulate conflicts

14
15 5.3.1. Manage conflicts at winter-feeding stations and sites with game fencing.

16
17 Wolves could eventually be attracted to WDFW-operated winter-feeding stations
18 for elk and bighorn sheep and to other locations where fences have been built to
19 keep ungulates off croplands and highways. If wolf disturbance at these sites
20 proves serious, it could cause some elk to disperse into agricultural lands and
21 highway rights-of-way. These situations will be evaluated on a case-specific basis
22 to determine if management responses are needed and, if so, what the responses
23 should be. In some cases, it may be desirable to develop a response plan in
24 advance to address an anticipated conflict.

25
26 5.3.2. Manage conflicts with ungulate populations.

27
28 Wolf predation is not expected to harm ungulate populations across broad
29 geographic areas of the state. While it is possible for wolf predation to have an
30 effect on ungulate abundance in localized areas, this most often occurs where
31 ungulate populations are already compromised. Other factors such as declining
32 habitat quality, hunter harvest, severe weather conditions, and predation by other
33 carnivores are expected to exert far greater influence on ungulate abundance. In
34 the future, following delisting, if research determines that wolf predation is
35 significantly contributing to declines in specific localized at-risk ungulate
36 populations, site-specific strategies may be developed to address predation
37 effects. These may include consideration of moving wolves, lethal control, or
38 other non-lethal control techniques.

39
40 5.4. Integrate management of multiple species.

41
42 Management of ungulate and carnivore populations should be integrated on an
43 ecological basis. The statewide Game Management Plan includes chapters for each of
44 Washington's major ungulate and carnivore species (WDFW 2008) and management
45 plans exist for eight of the state's 10 elk herds and for bighorn sheep (WDFW 1995,
46 2001b, 2002a, b, c, d, 2005, 2006a, b). Achieving management goals for all of these
47 species will be enhanced if the plans are considered collectively. Coordination among

1 public agencies, landowners, tribes, and non-governmental organizations is also
2 necessary to meet management goals.
3

4 **6. Manage wolf-human interactions to reduce human safety concerns, prevent habituation**
5 **of wild wolves, decrease the risk of conflicts between domestic dogs and wolves, and to**
6 **build awareness of the risks posed by wolf hybrids and pet wolves.**
7

Comment [o31]: This is a very important issue that may have a large influence on the plan

8 6.1. Respond to human safety concerns.
9

10 Attacks on humans by healthy wild wolves are extremely rare events. However, when
11 necessary, WDFW or a cooperating agency will take action if the continued presence of a
12 wolf or wolves poses concerns for human safety, consistent with existing policy for black
13 bears and cougars.
14

15 6.1.1. Provide information to the public on the low risk of attacks on humans by
16 wolves, how to prevent and react to wolf attacks, and other concerns.
17

18 In particular, provide information to people who might encounter wolves,
19 including hunters, trappers, rural landowners, outdoor recreationists, outfitters
20 and guides, forest workers and contractors, other natural resource workers.
21

22 6.1.2. Respond to reported wolf-human interactions of concern in a timely manner.
23

24 Reports of wolf-human interactions of concern will receive a high priority and be
25 investigated by trained personnel authorized by WDFW. Reported wolf-human
26 safety concerns will be verified and evaluated on a case-by-case basis before
27 management actions are initiated, unless circumstances necessitate immediate
28 action.
29

30 6.1.3. Develop WDFW response protocols for reported wolf-human conflicts.
31

32 Protocols similar to those used in responding to human safety concerns
33 involving cougars and black bears will be prepared and implemented. Non-lethal
34 methods will be used first unless the situation dictates a more aggressive
35 response, including immediate lethal control (NPS 2003).
36

37 6.1.4. Move individual wolves if needed to resolve conflicts.
38

39 As described in Chapter 4, Section B, relocation could occur proactively when a
40 wolf or wolves are present in an area that could result in conflict with humans or
41 harm to the wolf. Wolves would be moved to suitable remote habitat on public
42 land, generally within the same recovery region, at the direction of WDFW and
43 in collaboration with responsible land managers. Relocated individuals will be
44 released in areas unoccupied by other wolves. This could be near, but not
45 within, the territories of existing wolf packs.
46

47 6.2. Take actions to reduce the chances that wolves will become habituated to humans.
48

1 6.2.1. Inform the public on the risks of habituation and the actions that can be taken to
2 prevent it from occurring.

3
4 A number of recommendations exist for people to prevent the habituation of
5 wolves, such as not letting wolves become comfortable around humans or
6 human-inhabited areas, not leaving food outdoors, and not feeding wolves
7 (Chapter 7, Section A).

8
9 6.2.2. Work with land management agencies on actions that can be taken to reduce the
10 chances of wolves becoming habituated to humans.

11
12 Examples of such actions would include, where appropriate, the installation of
13 wildlife resistant food and garbage storage structures at recreation sites and the
14 posting of signs and other educational materials at trailheads and campgrounds.

15
16 6.2.3. Provide information on avoiding wolf habituation to humans, thereby
17 minimizing the need for lethal management responses.

18
19 6.3. Manage wolf-pet conflicts.

20
21 Situations where wolves and pet dogs (including hunting and service dogs) encounter
22 each other can result in dog mortality. As wolves expand their range in Washington, dog
23 owners must be made aware of the potential risks to their animals and become informed
24 on methods for avoiding interactions with wolves. WDFW wolf specialists should
25 provide informational materials to dog owners who live or recreate in wolf habitat,
26 which explains how to prevent and react to wolf attacks on dogs. Because dogs can
27 transmit disease into wolf populations, the public should be informed and educated
28 regarding the importance of keeping pets vaccinated against rabies, canine parvovirus,
29 and other canid diseases.

30
31 6.4. Address issues regarding wolf hybrids and pet wolves.

Comment [o32]: The WDFW needs to run agency request legislation that bans wolf-hybrids

32
33 6.4.1. Work with local jurisdictions, veterinarians, and non-governmental organizations
34 to discourage the ownership of wolf hybrids by members of the public and to
35 prevent the release of wolf hybrids into the wild. Ownership of pet wolves is no
36 longer allowed in Washington unless the animal was possessed prior to the
37 passage of state law RCW 16.30 in July, 2007. Provide information to the public
38 and local jurisdictions about the new law. Develop and deliver educational
39 messages for wolf hybrid and pet wolf owners about the dangers that hybrids
40 and pet wolves pose to wild wolf recovery and human safety. Information
41 efforts should be aimed at communities where wolf hybrids and pet wolves
42 might be confused with wild wolves.

43
44 6.4.2. Explore options for having a voluntary registration of wolf hybrids in
45 Washington, similar to Montana Fish, Wildlife & Park's program.

46
47 6.4.3. Support efforts to further regulate wolf hybrids in Washington.
48

1 **7. Maintain and restore habitat connectivity for wolves in Washington.**

2
3 Safe passage within and between habitat areas is vital for allowing wolves to recolonize
4 unoccupied habitat and for promoting genetic and demographic exchange between
5 subpopulations.

- 6
7 7.1. When evaluating lands within landscapes that might provide connectivity for large-
8 ranging carnivores, consider areas that would benefit wolf dispersal and connectivity
9 between populations.

10
11 In Washington, areas of greatest importance for restoring or maintaining connectivity
12 between regions of suitable wolf habitat currently include the upper Columbia-Pend
13 Oreille valleys, Okanogan Valley, Steven Pass-Lake Chelan, Snoqualmie Pass, and the I-5
14 corridor between the southern Cascades and the Willapa Hills-Olympic Peninsula
15 (Singleton et al. 2002; S. Fitkin, pers. comm.). Other areas may be recognized in the
16 future. Mechanisms to conserve lands and maintain working landscapes include
17 conservation easements, agreements or land acquisitions with willing landowners, and
18 other methods.

- 19
20 7.2. Coordinate with neighboring states and British Columbia to ensure cross-border
21 connectivity between wolf populations.

- 22
23 7.3. Increase opportunities for wolves to safely move across landscapes.

24
25 Where appropriate, work with the Washington Department of Transportation to create
26 wildlife crossing structures for assisting wolf movement across highways that act as
27 barriers. Use education and enforcement programs to help reduce illegal and accidental
28 killing of wolves in landscapes used by dispersing wolves.

29
30 **8. Manage conflicts between wolves and state and federal listed/candidate species.**

31
32 Conflicts between wolves and other listed/candidate species may occur in the future.

- 33
34 8.1. If conflicts between wolves and other state and federal listed/candidate species occur,
35 make case-specific evaluations to determine if management responses are needed and, if
36 so, what the responses should be.

37
38 If wolves are federally listed, or if conflicts involve federally listed species, work with
39 U.S. Fish and Wildlife Service to plan and implement appropriate responses.

- 40
41 8.2. If determined to be needed, develop a response plan in advance to address an anticipated
42 conflict.

43
44 For some species (e.g., mountain caribou), it may be desirable to have a response plan
45 already developed. Determine appropriate potential response options.

46
47 **9. Develop and implement a comprehensive outreach and education program.**

Comment [o33]: Manage for landscape connectivity: Alt. 1A The Responsible Approach recommends to continue existing efforts. The DEIS Alt. 2, recommends to expand existing efforts to maintain and restore habitat connectivity for wolves. This expansion may be the single most expensive and publicly sensitive component of Alt. 2.

Comment [o34]: This needs to be a high priority that is fully funded by the WDFW

1 A comprehensive outreach and education program will be needed to provide accurate and
2 updated information on wolf conservation and management and to prepare Washington
3 residents to coexist with wolves. Such a program will have many aspects to address the varied
4 types of information needs.

5
6 9.1. Provide information to the public about ongoing wolf conservation and management
7 activities.

8
9 9.1.1. Develop a wolf outreach and information plan for Washington.

10
11 9.1.2. Implement wolf outreach and education efforts with programs and materials
12 appropriate for key audiences.

13
14 9.1.3. Provide information on wolf biology, habitat use, history in Washington, status,
15 and threats. As information becomes available, and is appropriate (i.e.,
16 information must be non-sensitive), have maps of current wolf pack territory
17 polygons on the WDFW website. Include links to the websites of other
18 government agencies and non-government organizations with additional wolf
19 information. Update the WDFW website with information on implementation
20 of the wolf plan and adaptive management, including public feedback tools such
21 as surveys and blogs.

22
23 9.1.4. Issue news releases to news media and e-subscribers, as needed, about significant
24 wolf activity or plan implementation, including field activities, new research,
25 management responses, and public conduct advisories.

26
27 9.1.5. Work with local communities, land management agencies, and others to develop
28 safe and unobtrusive wildlife viewing opportunities for wolves, as they may
29 develop in the future.

30
31
32 9.2. Develop and provide training, information, and education programs to address concerns
33 over wolf-livestock conflicts.

34
35 9.2.1. Provide livestock producers with training in methods to prevent, reduce, and
36 respond to wolf-livestock conflicts or depredations, using USDA Wildlife
37 Services staff in Washington and the experience of USDA Wildlife Services field
38 staff in Idaho, Montana, and Wyoming.

39
40 9.2.2. Provide livestock producers with information on response options that they can
41 take to protect their livestock from wolves, as described Chapter 4, Section E,
42 and summarized in Table 7. Provide updates on these options as wolf listing
43 designations change.

44
45 9.2.3. Inform livestock producers on how to report suspected wolf depredations.

46
47 9.2.4. Contact public and private land managers about wolf activities on their lands.
48 Provide ongoing wolf monitoring information to livestock producers as needed.

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- 9.3. Develop and provide information and education programs for hunters, people viewing ungulates, and others to address concerns over wolf-ungulate interactions.
 - 9.3.1. Provide information on ungulate population status and trends in Washington. Provide research results from Washington or elsewhere on wolf diet, wolf-ungulate relationships, and wolf-ungulate population studies.
 - 9.3.2. Communicate information for hunters and wildlife viewers through the WDFW website (e.g., Wolf, “Living with Wildlife,” and wildlife viewing webpages); presentations to the WDFW Game Management and Wildlife Diversity Advisory Councils, hunting groups, and wildlife viewing organizations; and WDFW hunter education course materials.
- 9.4. Develop and provide training, information, and education programs for the public on how to co-exist with wolves.
 - 9.4.1. Produce and distribute informational materials and give presentations and workshops on how to safely live, work, and recreate in areas occupied by wolves. When possible, integrate training and educational opportunities about wolves with information about living with other carnivores in Washington, such as cougars, bears, and coyotes. A similar program that has been conducted in Washington, Oregon, and Idaho is the “Living with Carnivores” program. Such programs can be sponsored cooperatively by multiple agencies and organizations.
 - 9.4.2. Distribute information at backcountry trailheads and other appropriate outlets on wolf identification, behavior, dealing with wolf encounters, methods for avoiding wolf habituation, and the potential for negative interactions with domestic dogs.
 - 9.4.3. Give presentations to provide information to the public about coexisting with wolves in Washington.

Before conducting outreach, it is important that any potential staff that might be giving presentations (including WDFW) receive accurate background information about wolves on an ongoing basis so that they can present consistent and factual messages about wolf conservation and management to the public. Target communities closest to the most wolf activity and conduct open houses, town hall meetings, or other events to teach co-existence with wolves.
 - 9.4.4. Work with other agencies and organizations to promote wolf outreach.

Work with agencies and a variety of non-governmental and tribal organizations to conduct effective information and education programs about living, recreating, and working with wolves in Washington. These entities could assist in the development and presentation of wolf education materials to the public.

1 A potential model for community outreach is the Grizzly Bear Outreach Project
2 (GBOP), a non-governmental organization (<http://www.bearinfo.org>). The
3 project engages community members in a process of education and multi-party
4 dialogue and provides a non-advocacy setting for the involvement of all
5 stakeholder groups. The approach includes:

- 6 • Assessing the knowledge and attitudes of community members prior to
7 implementing education components.
- 8 • One-on-one meetings between project staff and community members to
9 gauge concerns and share information.
- 10 • Small focus group meetings to discuss grizzly bear issues with 4–6 people
11 at a time in informal settings.
- 12 • A coalition of community members to provide a local information source
13 and extend the reach of project staff.
- 14 • A project brochure containing information about grizzly bear ecology,
15 and sanitation and safety tips for the home, ranch, and campsite for
16 distribution to hikers, horse packers, hunters, fishers, and communities.
- 17 • A modular slide show paralleling the content of the brochure.
- 18 • A project website for distribution of information and solicitation of
19 comments from the public.

20
21 A similar program for wolves could be developed for selected local communities.

22
23 9.5. Develop and provide informational material about wolves and co-existing with them for
24 use in school classrooms, environmental learning centers, and other appropriate outlets.

25
26 9.5.1. Develop and distribute materials for K-12 classrooms.

27
28 Develop lesson plan kits that include sets of materials and activities for students
29 to learn about wolves (identification, biology, behavior, habitat use, history in
30 state, etc.), using WDFW education webpages and as many already established
31 wolf education resources as available and appropriate.

32
33 9.5.2. Develop a wolf education webpage.

34
35 Work with outreach and education staff to develop a wolf education webpage to
36 assist with lesson planning and presentations, serve as a clearinghouse for
37 approved and appropriate links to more wolf education materials, and provide
38 online learning games and activities.

39
40 9.6. Determine public attitudes towards wolves and their recovery in the state.

41
42 Conduct public attitude surveys in Washington to determine current perceptions about
43 wolves and needs for information and education. Make follow-up surveys to determine
44 the effectiveness of outreach programs relating to wolves and whether changes are
45 needed in these programs.

46

1 **10. Coordinate and cooperate with public agencies, landowners, tribes, and non-**
2 **governmental organizations to help achieve wolf conservation and management**
3 **objectives.**
4

5 10.1. Coordinate and communicate with other entities and jurisdictions to share resources,
6 reduce costs, and avoid potential duplication of effort.
7

8 10.1.1. Develop memoranda of understanding or cooperative agreements, if appropriate,
9 to spell out roles and responsibilities and to ensure that certain actions are
10 conducted in a timely manner.
11

12 It will be desirable to have key contact people identified in advance to facilitate
13 rapid responses and decision making during conflict situations. Coordination
14 with the following agencies and entities will be important: USDA Wildlife
15 Services; U.S. Fish and Wildlife Service; U.S. Forest Service; National Park
16 Service; Bureau of Land Management; tribal governments; Washington
17 Department of Natural Resources; Washington Department of Agriculture;
18 Washington Department of Transportation; other Washington state agencies;
19 county governments; private landowners; law enforcement entities including the
20 U.S. Fish and Wildlife Service, U.S. Forest Service, and county sheriff
21 departments; natural resource agencies in neighboring states and British
22 Columbia; and non-governmental organizations such as the Defenders of
23 Wildlife, Washington Cattlemen's Association, Washington State Sheep
24 Producers, Washington Farm Bureau, and hunting organizations.
25

26 10.1.2. Work with adjacent states and British Columbia to encourage maintenance of
27 populations and habitat connectivity to support long-term viability of wolf
28 populations in Washington.
29

30 10.2. Cooperate with other entities to secure funding for wolf conservation and management.
31
32

33 Recovery of wolves in Washington through the conservation and management activities
34 described in this plan will be expensive and require long-term funding from new sources.
35 WDFW will seek funding from a variety of sources, including special state or federal
36 appropriations, private foundations, and other private sources. Coordination with other
37 agencies and non-governmental organizations will ensure the optimal use of resources
38 devoted to wolf conservation and management.
39

40 **11. Conduct research on wolf biology, conservation, and management in Washington.**
41

42 Seek funding and initiate partnerships with universities and other entities to carry out research
43 on wolf biology, conservation, and management in Washington. The WDFW will initiate wolf
44 research if important management questions arise that could be answered through research and
45 monitoring. Universities and other entities may also be interested in partnering and/or
46 initiating research on the following topics and/or on more purely science-based questions.
47

Comment [o35]: This is very important since there is currently not any significant research in WA State on wolves

- 1 11.1. Determine wolf population status, pack sizes and distribution, mortality rates and causes,
2 productivity, rates of recolonization, dispersal behavior, and disease/health status in
3 Washington.
4

5 Long-term research should be conducted on pack establishment, home ranges and
6 movements of packs and lone animals, diet, habitat use, population dynamics, sources of
7 mortality, diseases, threats to wolves and other factors limiting the reestablishment of
8 populations, and related topics. Data from these studies and monitoring efforts should
9 then be used to model the estimated size, viability, and habitat use of the state's wolf
10 population, as well as to identify information gaps for additional surveys and research.
11

- 12 11.2. Determine the genetic relationships of recolonizing and established wolves to assess
13 rates of gene flow, genetic diversity, risk of inbreeding, and sources of recolonizing
14 individuals.
15

- 16 11.3. Determine the impacts of wolves on prey and other carnivore populations as wolves
17 become reestablished.
18

19 Predator-prey relationships are inherently complex, especially in systems with multiple
20 prey and predator species, as will be the case with wolves and their ungulate prey in
21 Washington. These studies will require baseline data on prey and carnivore populations
22 prior to wolf recolonization to help assess the impacts of wolves during and after their
23 reestablishment. Such studies should also examine landscape-level effects.
24

- 25 11.3.1. Determine the prey selection of wolves in Washington.
26

27 The year-round food habits of wolves should be identified in multiple regions of
28 the state. Elk and/or deer are expected to comprise the vast majority of prey in
29 most locations, but the contribution of other species (e.g., moose, bighorn sheep,
30 mountain goats) is also of interest. Prey selection will likely vary with season,
31 location, and species availability. Age and sex of prey should also be investigated
32 and compared with availability.
33

- 34 11.3.2. Investigate the dynamics of ungulate populations in areas occupied by wolves.
35

36 If management questions arise about the status of ungulate populations in areas
37 occupied by wolves, the ungulate populations in those areas should be
38 investigated in greater detail to obtain improved information on abundance,
39 demographic parameters, and sources of mortality. This information would
40 provide a strong foundation for determining the extent that wolves or other
41 factors affect prey populations and for making sound management decisions.
42

- 43 11.4. If it is determined to be needed, conduct research on wolf depredation of livestock and
44 domestic animals.
45

46 As wolves become reestablished, investigations may be needed on the levels and effects
47 of depredation on livestock and other domestic animals, and the factors influencing
48 depredation. Improved baseline data on depredation levels by other carnivores prior to

1 wolf recolonization will be necessary to assess the impacts of wolves during and after
2 their reestablishment. There is also a strong need to conduct research on non-lethal
3 control methods to reduce wolf depredation on livestock.
4

- 5 11.5. Conduct research on the broader ecological impacts that wolves have on plant and
6 wildlife communities.
7

8 As noted at Yellowstone National Park, wolves have the potential to affect ecosystems
9 through regulation of ungulate abundance, thereby benefiting a variety of plants,
10 habitats, and animals. These types of ecological interactions should be investigated in
11 the future as wolves become reestablished in Washington.
12

13 12. Report on and evaluate implementation of the plan. 14

- 15 12.1. Centralize data collected during the wolf monitoring program.
16

17 WDFW will maintain a centralized database of wolf monitoring data and results to
18 ensure accurate and consistent information is shared with wolf co-managers and the
19 public. WDFW maintains a centralized database (Wildlife Resource Data System) and
20 will retain copies of data collected during annual monitoring activities.
21

- 22 12.2. Publish an annual report summarizing information from wolf conservation and
23 management activities.
24

25 Because of the intense interest in wolves and the implementation of this plan, WDFW
26 will produce an annual report summarizing all the activities and results of wolf
27 conservation and management that occurred in Washington during the previous year.
28 The first report will be written one year after adoption of this plan. Reports will be
29 similar to those produced by other western states (e.g., USFWS et al. 2009) and will
30 provide summaries of monitoring results with information on population status,
31 distribution, reproduction, population growth, and mortality; documented depredation
32 on domestic animals and management responses; law enforcement; research; outreach;
33 and other activities pertinent to wolves. The annual report will be available to the public
34 on the WDFW agency website and provided to the Washington Fish and Wildlife
35 Commission, elected officials, and any others requesting copies. Upon request, the
36 Commission, Legislature, and others will be briefed and updated regarding the plan's
37 implementation.
38

- 39 12.3. Evaluate WDFW's effectiveness in meeting the wolf plan goals, objectives, and
40 strategies.
41

- 42 12.3.1. Develop measures to track progress toward meeting the objectives of this plan.
43

44 Measures to track progress might include: estimates and trends over time in the
45 numbers and distribution of successful breeding pairs, packs, and total wolves;
46 numbers and success of responses to wolf-livestock conflicts, numbers of wolf-
47 human interactions, and extent of impacts on ungulate populations.
48

1 12.3.2. Review the effectiveness of the plan's implementation every five years.
2

3 WDFW will evaluate the status of Washington's wolves and the effectiveness of
4 implementing the conservation and management plan every five years, with the
5 first review expected in 2014. Measures identified under Task 12.3.1 will be used
6 to assess progress in implementing the plan's objectives and areas where
7 improvements and adaptive management are needed. The Washington Wolf
8 Interagency Committee and a citizen advisory group will be asked to provide
9 feedback on the evaluation.

10
11 12.4. Use the Washington Wolf Interagency Committee to help coordinate implementation
12 and monitoring of the wolf plan.
13

14 There is currently a Washington Wolf Interagency Committee, consisting of members
15 from WDFW, USDA Wildlife Services, U.S. Fish and Wildlife Service, U.S. Forest
16 Service; National Park Service, tribal governments, Washington Department of Natural
17 Resources, and Washington Department of Transportation. In the future, participation
18 could be expanded to include other state, federal, and local agencies, as well as wildlife
19 management agencies in Idaho, British Columbia, and Oregon. The purpose of the
20 committee is to coordinate wolf management across land ownerships in the state.
21 Meetings are open and available to the public. The group should prepare an annual
22 report of its activities and contribute to five-year evaluations assessing the effectiveness
23 of the wolf plan's implementation.
24

25
26
27
28 12.5. Form a citizen advisory group to provide public feedback on implementation of wolf
29 conservation and management in Washington.
30

31 A citizen advisory group will be formed to provide feedback to WDFW on
32 implementation of the conservation and management plan. Aspects addressed might
33 include wolf conservation activities, depredation control activities, the impacts of
34 outreach and education, reviewing problems, and determining needs for new adaptive
35 management procedures. Membership of the advisory group should include a balanced
36 representation of the range of stakeholder values regarding wolf reestablishment in
37 Washington.

1
2 **13. IMPLEMENTATION SCHEDULE AND COSTS**
3
4

5 This chapter includes preliminary annual cost estimates beyond those already expended by existing
6 resources to implement some of the most important tasks in the Wolf Conservation and
7 Management Plan during the next six years (fiscal years 2010-2015). Adequate funding for
8 implementing conservation and management activities is key to the long-term success of the overall
9 plan. Overall program costs are expected to be smaller during the initial years of wolf
10 reestablishment when there are fewer wolves to monitor and few claims for compensation of
11 livestock losses, and are expected to expand over time. Some sources of funding for these activities
12 will be federal endangered species recovery grants, shared costs with partner agencies and non-
13 governmental organizations, research grants, and state nongame and endangered species funding.
14 Suggestions have also been made to create a wolf license plate that would fund wolf management
15 activities (this would have to wait until a moratorium on creating new background license plates is
16 lifted). Revenues from hunting licenses and game program funds would be used for managing game
17 populations, but would not be used for the wolf management program. If wolves become a game
18 species following delisting, game funds would be used for management. Some parts of the
19 recommended program, such as funding for compensation, will likely come from non-profit
20 organizations as well as from the Washington State Legislature.
21

22 Table 11 identifies the conservation and management tasks, task priorities, parties responsible for
23 actions (either carrying out or funding), and annual estimated costs for the tasks over the next six
24 fiscal years. Responsible parties are agencies or organizations with authority, responsibility, or
25 expressed interest to implement a specific conservation or management action. When more than
26 one party has been identified, the proposed lead is the first party listed. The listing of a party in the
27 table does not require them to implement the action(s) or to secure funding for implementing the
28 action(s). Costs are estimates per fiscal year in thousands of dollars and are not corrected for
29 inflation.
30

31 Estimates of costs came from a variety of sources including comments submitted during comment
32 periods, discussion with government agencies and organizations about current expenditures and
33 readily available budget information for ongoing programs. There are several ongoing programs in
34 place that benefit wolves that would be carried out regardless of the status of wolves. Only some
35 estimates of partial costs of these ongoing programs (e.g., habitat management for ungulates) that
36 can be directly linked to the conservation and management of wolves are included at this time.
37

38 **Cost estimates in Table 11 do not mean that funds have been designated or are necessarily**
39 **available to complete the recovery tasks; they are an estimate of the level of new funding**
40 **needed to carry out the task. Implementation of conservation and management strategies is**
41 **contingent upon availability of sufficient funds to undertake recovery tasks.**
42

Comment [o36]: I think the estimates for livestock conflicts are too low and should be increased. I think the annual cost of the plan including compensation will be closer to \$750,000-1,000,000 per year

✓ 

From: Jack Field
To: SEPADesk2 (DFW);
Subject: WCA Comments on Chapter 14
Date: Tuesday, January 05, 2010 10:32:58 AM
Attachments: Draft Wolf Plan Public review Version12-29-09 - Chap 14 economics.doc

Attached are the Washington Cattlemen's Association comments regarding Chapter 14.
thank you
jack field
Washington Cattlemen's Association

14. ECONOMIC ANALYSIS

This chapter focuses on economic values and impacts associated with wolf conservation and management, with particular emphasis on livestock, hunting, the forest products industry, and wildlife viewing values. The main objectives of the chapter are to describe and assess potential economic impacts (both negative and positive) to specific sectors as wolves become reestablished in Washington.

Values of wildlife are reflected in social attitudes and actions associated with wildlife use and management. Until recently the negative economic impacts of wolves, such as livestock depredation and wild game losses, dominated social perceptions of the species. Yet, economic activities and their relative importance change as social norms and practices change. This chapter provides recent data on a number of pertinent topics, including (1) economic activity in Washington, (2) statewide livestock production, (3) wolf depredation in neighboring states, (4) big game status and hunting in Washington, (5) WDFW license revenues and hunting tag sales, (6) wildlife watching in the state, (7) wolf viewing in other states, and (8) the forest products industry in Washington. This background information comes from many sources, but primarily from economic evaluations of wolf reintroductions in other states (e.g., MFWP 2003, Kroeger et al. 2005, Unsworth et al. 2005, Duffield et al. 2006, 2008), other literature on wolves from elsewhere in the United States, published and unpublished data from WDFW and other state and federal agencies, and interviews and correspondence with state and federal officials, especially state wolf managers in Idaho and Montana, and others such as the president of the Washington Outfitters and Guides Association. Data limitations have required that some information be presented on a broader statewide or subregional basis rather than on a county level, where wolf-related impacts are most likely to be felt.

Many of the (negative) costs and (positive) benefits that could result from the presence of wolves are included in this chapter. This discussion employs a regional economic accounting approach that focuses on expenditures and market prices to evaluate the economic impacts of wolves returning to Washington. It does not use a full benefit-cost framework wherein the net benefits and costs to society as a whole are examined. Under this latter approach, non-market values would also be considered (Duffield and Neher 1996, MFWP 2003) and would include, for example, the personal benefits that hunters derive from the experience of going hunting. Passive use or non-use values, such as those that some individuals may place on knowing that wolves are being restored in Washington, also fall under this approach.

Additionally, this chapter does not make use of multiplier values because they have not been reliably estimated for many of the economic sectors discussed. Multipliers reflect the total spending impact throughout an economy that can be expected from a specific activity through resulting "ripple effects" or spin-off activities.

A. Washington's Population and Economy

Washington had an estimated human population of 6.49 million people in 2007, which is the second largest of any western state (OFM 2007a, USCB 2007). Seventy-eight percent of the population, or about 5.07 million people, live in western Washington, whereas 22%, or about 1.42 million people,

Comment [o1]: How do livestock producers feel about their animals being endangered?
Comment [o2]: What about the cost to protect campers?
Comment [o3]: What about the negative impacts of wolf packs on land values?
Comment [o4]: What about the cost to protect kids and pets?

1 southeastern Washington, and the Cascades) held about 669,000 cattle and 6,100 cattle ranching and
 2 farming operations in 2002, or 61% and 63% of the state's totals in these categories, respectively
 3 (Tables 12, 13). Within these regions, cattle numbers were largest in Yakima, Whatcom, and
 4 Okanogan counties and smallest in Skamania and Chelan counties (Table 12). The vast majority of
 5 non-confined cattle in the state are produced in eastern Washington.

6
 7 Washington's sheep industry is far smaller than its cattle industry, with the statewide production
 8 value of sheep and wool totaling \$3.9 million in 2006 and accounting for 0.3% of all livestock-
 9 related output. Historical sheep production peaked in the early 1900s, when more than 800,000
 10 head were present, but has declined greatly since then. Estimated numbers have fluctuated between
 11 46,000 and 58,000 head during the past decade (NASS 2007a). In 2002, the last year for which full
 12 data are available, sheep inventories totaled 58,000 head statewide and were largest in Yakima,
 13 Okanogan, Grant, and Whitman counties (Table 12). Most sheep operations in the state are
 14 categorized as extra small (1-24 head; 71% of total), whereas 5% of operations held 100 or more
 15 head (Table 13). The three geographic regions where wolves are most likely to first reestablish (i.e.,
 16 northeastern Washington, southeastern Washington, and the Cascades) held about 35,000 sheep and
 17 960 sheep ranching operations in 2002, or 60% and 56% of the state's totals in these categories,
 18 respectively. Among the counties in these regions, sheep numbers were largest in Yakima and
 19 Okanogan counties and smallest in Skamania, Pend Oreille, Garfield, Columbia, and Asotin counties
 20 (Table 13).

21
 22 Other livestock that are vulnerable to wolf predation include goats, llamas, and horses. Inventories
 23 of these animals in Washington in 2002 were as follows: horses, nearly 76,000 head, most numerous
 24 in Spokane, Yakima, King, and Okanogan counties; goats, about 23,200 head, most numerous in
 25 Yakima, Benton, and Snohomish counties; and llamas, 12,700 head, most numerous in Clark,
 26 Spokane, and King counties (Table 12). Goats are the only livestock species to have significantly
 27

28 **Table 12. Inventories of livestock and farmland in Washington's 39 counties in 2002 (NASS 2004).**

Comment [o5]: Are these numbers inclusive of both beef cow and feeder cattle?

	Number of animals					Total farmland (acres) ^d	% of county in farmland
	Cattle ^a	Sheep ^b	Horses	Goats ^c	Llamas		
Washington total	1,100,181	58,470	75,951	23,217	12,701	15,318,008	36.0
Average per county	28,210	1,499	1,947	595	326	392,769	33.0
Northeastern Washington							
Ferry	8,891	511	1,259	9	136	799,435	56.7
Okanogan	43,602	3,490	5,084	925	196	1,241,316	36.8
Pend Oreille	5,001	209	640	D ^e	59	61,239	6.8
Stevens	30,009	2,244	3,437	693	265	528,402	33.3
Average	22,626	1,614	2,605	542	164	657,598	33.4
Southeastern Washington							
Asotin	9,939	537	431	181	5	280,393	69.0
Columbia	5,709	384	326	94	D ^e	294,661	53.0
Garfield	10,520	376	273	51	-	312,425	68.7
Average	8,723	432	343	109	3	295,826	63.6

	Number of animals					Total farmland (acres) ^d	% of county in farmland
	Cattle ^a	Sheep ^b	Horses	Goats ^c	Llamas		
Columbia Basin							
Adams	36,462	981	508	115	37	1,067,079	86.6
Benton	28,513	2,116	2,434	1,855	144	607,963	55.8
Douglas	11,389	154	742	311	42	878,867	75.4
Franklin	43,745	1,477	1,221	558	143	664,875	83.6
Grant	156,999	3,369	2,929	956	169	1,074,074	62.6
Lincoln	22,706	940	1,412	814	14	1,233,377	83.4
Spokane	25,821	2,430	5,623	1,033	1,306	643,377	57.0
Walla Walla	24,358	1,131	1,356	910	208	700,560	86.2
Whitman	15,721	3,213	908	527	83	1,328,337	96.1
Average	40,635	1,757	1,904	787	238	910,945	76.3
Cascades							
Chelan	1,404	D ^e	836	104	105	112,023	6.0
Clark	16,068	1,993	3,433	1,362	1,396	70,694	17.6
Cowlitz	4,546	824	1,066	117	178	39,582	5.4
King	22,529	1,780	5,227	423	1,054	41,769	3.1
Kittitas	31,415	2,284	3,749	369	6	230,646	15.7
Klickitat	22,719	2,669	1,525	1,429	315	606,794	50.6
Lewis	31,917	1,658	2,891	660	442	130,950	8.5
Pierce	14,090	2,013	4,621	1,146	683	57,224	5.3
Skagit	36,059	766	1,394	403	294	113,821	10.2
Skamania	626	157	142	64	31	5,712	0.5
Snohomish	32,165	1,676	4,907	1,536	584	68,612	5.1
Whatcom	112,417	691	2,350	1,069	408	148,027	10.9
Yakima	230,275	10,786	5,616	3,130	685	1,678,984	61.1
Average	42,787	2,275	2,904	909	475	254,218	15.4
Other Western Washington Counties							
Clallam	5,744	1,071	929	304	493	22,372	2.0
Grays Harbor	10,543	574	808	141	281	53,594	4.4
Island	5,217	388	707	102	846	15,018	11.3
Jefferson	3,306	442	385	110	142	12,274	1.1
Kitsap	1,300	682	1,837	341	323	16,094	6.4
Mason	1,552	188	502	240	75	21,641	3.5
Pacific	7,108	D ^e	321	D ^e	D ^e	51,824	8.7
San Juan	2,333	2,731	347	148	820	17,145	15.3
Thurston	23,928	860	3,639	868	687	74,442	16.0
Wahkiakum	3,535	558	136	104	D ^e	12,386	7.3
Average	6,457	833	961	262	458	29,679	7.6

Comment [o6]: This number includes both beef and dairy cattle and is not accurate

Comment [o7]: This number includes both beef and dairy cattle and is not accurate

1
2
3
4
5
6
7
8
9

^a Includes cattle and calves for both beef and dairy cattle. Total numbers in the state for 2007 were estimated at 1,140,000 head (NASS 2007a).

^b Includes sheep and lambs. Total numbers in the state for 2007 were estimated at 51,000 head (NASS 2007a).

^c Includes angora, milk, and meat goats. Total numbers in the state for 2007 were estimated at 33,200 head (NASS 2007a).

^d Farms are defined as any location from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year.

^e Figures are withheld in USDA (2004) to avoid disclosing data for individual farming operations.

1 expanded in abundance over the past decade, with numbers more than doubling from 16,000 head
 2 in 1997 to 33,200 goats in 2007 (NASS 2004, 2007a). Horses, goats, llamas, and other livestock are
 3 kept mainly by hobby owners rather than for commercial production. Statewide sales figures totaled
 4 \$18.6 million for horses (combined with small numbers of ponies, mules, burros, and donkeys) in
 5 2002 (NASS 2004), but do not exist for goats and llamas. Swine are excluded from this discussion
 6 because they have not been depredated by wolves in neighboring states and are therefore not
 7 considered at risk.

8
 9 Many livestock producers in Washington rely entirely on private land for their annual operations,
 10 whereas some depend on a combination of private land and public land grazing leases. In these
 11 latter cases, animals are typically kept on private land during the winter, with most calving and
 12 lambing occurring in late winter or early spring. During the warmer months, livestock are taken to
 13 grazing allotments on public lands, many of which occur in more remote locations with rougher
 14 topography and natural vegetative cover. Livestock are then gathered in the fall, with young shipped
 15 to market and breeding stock returned to private land for winter.

Comment [o8]: There a higher likelihood that there will be more wolf habitat on public lands

16
 17 About 2.2 million acres in 155 active grazing allotments currently exist on national forests in
 18 Washington (Table 14). This coverage represents about 24.0% of all national forest lands in the
 19 state. By far the most allotments occur in the eastern Washington and are assigned for cattle.
 20 Considerable variation exists in the percent of land designated as allotments within each national
 21 forest, ranging from a high of 52.7% in Colville National Forest to 0% in Mt. Baker-Snoqualmie
 22 and Olympic National Forests (Table 14). Numbers of active allotments have declined substantially
 23 over the past 15 years primarily because of economic and social reasons (W. Gaines, pers. comm.).

Comment [o9]: This comment is not completely accurate. In many parts of the state the number of permittees may have decreased but the number of AUM and acres has not decreased.

24
 25 Producers can lose livestock to a variety of natural and non-natural causes, including disease,
 26 weather, birthing problems, and predation. In Washington, death losses from all causes totaled
 27 44,000 cattle and calves in 2005 and 5,000 sheep and lambs in 2004 (Table 15). These represented
 28 4.1% of all cattle and calves and 10.9% of all sheep and lambs raised in the state. Ninety-four
 29 percent of cattle and calf death losses were non-predator related and were valued at \$28.7 million
 30 (Table 15). For sheep and lambs, 54% of death losses were non-predator related and were valued at
 31 \$293,000. Predators (primarily coyotes and cougars) killed an estimated 2,500 cattle and calves
 32 worth \$1.53 million and 2,300 sheep and lambs worth \$192,000 (Table 15).

Comment [o10]: Livestock producers can not afford to lose additional animals to wolves. Economically 1 - 2% could break an operator

33
 34 Wolf Depredation on Ranch Animals

35
 36 Background information on this topic appears in Chapter 4, Sections A and B.

37
 38 Compensation Programs for Wolf-Related Losses and Deterrence

39
 40 Several compensation programs currently exist or are under consideration in the western United
 41 States to help producers recover some of the costs associated with wolf predation. These are
 42 described in Chapter 4, Section C.
 43

1 **Table 14. Numbers and acreages of active grazing allotments by livestock category on national forests in**
 2 **Washington in 2004-2007 (J. Begley, U.S. Forest Service, unpubl. data)^a.**
 3

National Forest	Cattle		Sheep		Unassigned by species		Total		Percent of National Forest ^d
	No.	Acreage	No.	Acreage	No.	Acreage	No.	Acreage	
Okanogan	69	770,563	-	-	1	11,427	70	781,990	45.1
Colville	52	714,990	-	-	1	2,333	53	717,323	52.7
Wenatchee	14	147,937	10	266,108	-	-	24	414,045	16.4
Gifford Pinchot	3	188,531	-	-	-	-	3	188,531	13.8
Umatilla	5	85,010	-	-	-	-	5	85,010	27.3
Total	143	1,907,031	10	266,108	2	13,760	155	2,186,899	-

Comment [o11]: These figures do not appear to be accurate, compared to what actually in use, based on size of the forest and industry recollection of active permits

Comment [o12]:

4 ^a Two other national forests, Mt. Baker-Snoqualmie and Olympic, no longer have active grazing allotments.
 5 ^b Allotment coverage as a percent of the total land area of each National Forest. For Umatilla National Forest, this represents
 6 land coverage within Washington only.
 7
 8

9 **Table 15. Annual death losses of livestock from different causes and their monetary values for**
 10 **Washington in 2004-2005 (NASS 2005, 2006).**
 11

Causes of losses	Cattle ^{a,b}	Calves ^a	Sheep ^a	Lambs ^a
Non-predator losses (no. of head)				
Digestive problems	4,000	5,200	200	100
Respiratory problems	3,000	8,500	200	200
Metabolic Problems	2,600	300	100	100
Mastitis	1,400	-	-	-
Other diseases	1,200	400	-	-
Calving/lambing problems	1,300	3,200	200	-
Lameness/injury	2,400	300	-	-
Weather-related	300	800	-	-
Old age	-	-	800	-
Theft	300	-	-	-
Poisoning	100	-	-	-
Other non-predator ^c	1,400	700	400	100
Unknown non-predator ^d	2,100	2,000	200	100
Total non-predator losses	20,100	21,400	2,100	600
Value of all non-predator losses (\$)	20,703,000	8,025,000	258,000	35,000
Predator losses (no. of head)				
Coyotes	-	600	500	1,000
Dogs	-	-	100	300
Cougars and bobcats	200	600	200	-
Bears	-	-	-	100
Other predators	300	300	100	-
Unknown predators ^e	400	100	-	-
Total predator losses	900	1,600	900	1,400
Value of all predator losses (\$)	927,000	600,000	111,000	81,000
Losses from all causes (no. of head)				
	21,000	23,000	3,000	2,000
Value of all losses (\$)	21,630,000	8,625,000	369,000	116,000

Comment [o13]: Do these figures combine both beef cow production numbers, feeder numbers and dairy numbers?

12 ^a Data for cattle and calves are from 2005; data for sheep and lambs are from 2004. Cattle include beef and dairy
 13 cattle as well as cattle in feedlots.
 14 ^b Cattle are defined here as all cows, bulls, steers, and heifers weighing over 500 pounds.
 15 ^c Includes accidents, fire, starvation, dehydration, etc.
 16 ^d Exact cause of death was unidentifiable.
 17 ^e Species of predator was not determined.

Economic Concerns of Washington’s Ranching Industry over Wolves

The reestablishment of wolves in Washington will affect some ranchers living in or near wolf-occupied areas through impacts to their livestock and/or property management (Unsworth et al. 2005). Concerns about possible economic impacts that have been expressed by ranchers include:

- 1) Depredation of ranch animals, including possible deaths and injuries of cattle, sheep, dogs, and other ranch animals resulting from wolf attacks.
- 2) Possible non-lethal physiological impacts on ranch animals, including possible weight loss, stress, and lower birth rates in ranch animals resulting from the presence of wolves nearby.
- 3) Changes in forage use, if ranchers needed to move livestock more often or had to move them to alternative grazing sites to avoid depredation.
- 4) Need for additional labor, if they had to increase supervision of ranch animals and invest time in reporting depredation losses.
- 5) Increased expenditures, including purchasing of replacement stock and proactive non-lethal control measures, such as herding and guarding dogs, fencing, fladry, and noise deterrents, as well as increased wear on vehicles and fuel use.
- 6) That ranches affected disproportionately by wolves might go out of business or experience reduced market values.

Comment [o14]: These are not “possible” these are documented “real” impacts that the livestock producer must bear.

Comment [o15]: If livestock need to be moved more often where do they get moved too?

Comment [o16]: Who pays for that??\$\$\$\$\$\$\$\$

Comment [o17]: Who pay for this \$\$\$\$\$\$\$\$!

Comment [o18]: This is also where reduced land values must be considered

In many cases, wolf-related losses may cause disproportionately greater financial hardship for extra small or small producers (which comprise the large majority of the cattle and sheep operations in Washington; see Section B) than for larger producers.

In addition to these possible costs, some positive impacts for livestock operations could result from wolf presence. These could include reducing populations of coyotes and other predators, thereby reducing predation on livestock by those species. Improved forage conditions for livestock could result if elk and deer populations were redistributed off ranch properties by wolves; however, if elk and deer were moved onto grazing land by wolf presence, then there could be negative impacts to livestock forage availability.

Wool, meat, and other products can be marketed for higher prices when certified as being raised using “predator friendly” practices (Predator Friendly 2008). Under this approach, livestock producers commit to not kill wolves and other predators during their ranching operations and instead deal with conflicts using non-lethal means. Although operators may incur some additional losses in their herds or flocks, higher prices for the product are intended to offset the difference. The number of producers using this type of marketing remains quite small, but there is potential for expansion.

Comment [vic stok19]: Where are these markets and do they last during economic downturns?

Predicted Losses of Ranch Animals in Washington Due to Wolves

Predicting the numbers of ranch animals that might be killed annually in Washington as wolves become reestablished is difficult because of the many uncertainties over where and how many wolves will eventually inhabit the state, the frequency that they will interact with livestock, problems in determining actual versus confirmed numbers of livestock killed, and ongoing improvements in the adaptive management responses of ranchers and wildlife agencies. Nevertheless, this section presents some rough estimates of confirmable losses and their monetary value that might be expected to occur based on analyses of depredation data from Idaho, Montana, and Wyoming for 1987 to 2007 (Table 4). To obtain these estimates, separate regression lines were fitted to the loss data for cattle, sheep, and dogs from each state (Figure 14). Low and high estimates of losses for Washington were then derived for four population size categories (50, 100, 200, and 300) of wolves using the shallowest and steepest of the three regression lines for Idaho, Montana, and Wyoming, respectively. These population size categories roughly correspond to the following numbers of packs and successful breeding pairs, as described in Table 16: 50 wolves, 5-8 packs, and 5-7 successful breeding pairs; 100 wolves, 9-16 packs, and 8-13 successful breeding pairs; 200 wolves, 18-33 packs, and 12-21 successful breeding pairs; 300 wolves, 27-49 packs, and 19-34 successful breeding pairs.

The projections of depredations presented here assume that interactions between livestock and wolves in Washington will be similar to those in neighboring states. However, this assumption must be viewed cautiously because of differences in livestock numbers (especially sheep) and distribution, husbandry methods, availability of natural prey, land use, and human densities. In addition, these projections represent average expected losses per year and do not demonstrate the annual variation in depredations that commonly occurs in Idaho, Montana, and Wyoming.

Low and high predictions of confirmable annual losses of ranch animals for Washington are presented in Table 16 for each of four population size categories of wolves. Total populations of 50 and 100 wolves are expected to depredate very small numbers of livestock. Fifty wolves may kill about 1-6 cattle and 7-16 sheep per year, with annual take perhaps doubling for 100 wolves. Larger wolf populations will likely kill greater numbers of livestock, with projections of 6-28 cattle and 20-60 sheep killed annually by 200 wolves, and 12-67 cattle and 22-92 sheep killed annually if 300 wolves became reestablished (Table 16). However, sheep losses are expected to be on the low end of these estimates because sheep numbers are much smaller in Washington than in Idaho, Montana, and Wyoming (see NASS 2004). Even at a population of 300 wolves, these levels of depredations represent 4% or less of the annual predator-caused death losses experienced by Washington cattle and sheep producers. Depredations on horses, other livestock, and guarding/herding dogs are expected to be minor for each of the four wolf population size categories.

The annual monetary worth of ranch animals confirmed as being killed by wolves in Washington is estimated in Table 16. To determine this value, average monetary values (in current dollars for 2007) of livestock and dogs were assigned as follows:

- **Cattle** - \$669 per head, based on the average fall (September to November) value of 600-pound calves using Washington auction prices for 500- to 600-pound steer calves during

Comment [o20]: Therefore why not cap the number of wolves at 50?

1
 2 For smaller populations of 50 and 100 wolves, the annual monetary value of confirmed losses of
 3 livestock and ranch dogs (including the higher compensation payments for cattle killed on grazing
 4 sites of 100 acres or more; Chapter 4, Section G) is expected to range from about \$2,254-13,243 and
 5 \$4,508-23,876, respectively. Monetary losses are expected to increase as wolf populations become
 6 larger and are projected to reach an estimated \$11,663-108,296 for about 300 wolves. As noted
 7 above, these values are probably overestimated because not all cattle losses are expected to occur on
 8 grazing sites of 100 acres or more and because sheep losses are expected to be at the lower end of
 9 the range of estimates presented here. Overall, most of the monetary value of losses is expected to
 10 result from cattle deaths, especially when larger wolf populations are present.

11
 12 Physiological Impacts on Livestock

13
 14 In addition to depredation, the presence of wolves near livestock may cause behavioral changes in
 15 livestock that result in physical effects. Livestock may lose weight because wolves force them away
 16 from suitable grazing habitat and water sources or because of greater energy expenditures due to
 17 wolf-related agitation. These problems may also lower birthrates by reducing conception levels and
 18 causing miscarriages. Although these outcomes are possible, their occurrence has not yet been
 19 verified under field conditions. These same problems can result from other causes, such as poor
 20 forage or weather conditions, making it difficult to measure the true impacts of wolves. Because of
 21 these uncertainties, this analysis does not attempt to quantify the economic impacts of such
 22 outcomes.

Comment [owner21]: this is an important aspect that livestock producers will have to handle. Unfortunately the plan does nothing to account for reduced conception rates and weaning weights

23
 24 Changes in Grazing Methods

25
 26 Some ranchers may feel compelled to modify their grazing methods in an effort to avoid problems
 27 with wolves. This could involve herding or hauling livestock to different portions of grazing
 28 allotments, which in some instances may result in penalties from land management agencies for
 29 violating allotment grazing plans. Avoidance of wolves may lead some ranchers to bring livestock
 30 off the range prematurely or to provide supplemental feeding to delay turnout. Estimates of the
 31 extent and frequency of these activities do not exist for other areas with wolves, such as Idaho,
 32 Montana, and Wyoming. Therefore, this analysis does not attempt to quantify the economic
 33 impacts of modifying grazing activities in response to the reestablishment of wolves in Washington.

Comment [owner22]: this is a documented problem in ID, and NE OR.

Comment [o23]: What does the WDFW plan to compensate livestock producers for reduced body conditioning in livestock that graze in areas of wolf activity?

34
 35 Need for Additional Ranch Labor

36
 37 Ranchers and their employees frequently spend additional time managing livestock operations to
 38 avoid depredations by wolves. This can include increased supervision of herds, moving livestock to
 39 different grazing areas, implementing non-lethal techniques to reduce conflicts, treating injured
 40 livestock, and checking animals for pregnancy that may have aborted due to wolves (Unsworth et al.
 41 2005). These activities may require that less time be spent on other important activities such as
 42 ranch maintenance and improvement. Some ranchers may hire additional employees specifically to
 43 herd livestock when wolves are in the area. Estimates of the extent and frequency of these types of
 44 responses are not available for neighboring states. Therefore, this analysis does not attempt to
 45 quantify these future costs for Washington.

1 livestock. Both of these scenarios have been detected in natural habitats at Yellowstone National
 2 Park (see Chapter 6) and could possibly occur in Washington. However, neither benefit has been
 3 quantified in economic terms for any location, making it difficult to place a value on these benefits.
 4 Many coyote-caused losses probably occur in parts of the state that are unlikely to be recolonized by
 5 wolves. The benefits from these two impacts would probably be localized and relatively minor.

Comment [o29]: Therefore these are not based on fact and should be removed from the plan

Comment [owner30]: There is no way the re-establishment of another predator will benefit a rancher. Please provide complete documentation not opinion on this issue or remove the reference from the plan everywhere it is stated

6
 7 Summary

8
 9 Reestablishment of wolves in Washington will likely result in differing costs for livestock producers
 10 living in or near occupied wolf range, with some producers more affected than others. Financial
 11 impacts to individual producers will depend not only on the numbers of depredations experienced
 12 but also on non-lethal physiological impacts on livestock, increased expenditures on ranch supplies,
 13 and additional labor needs. This analysis provides cost approximations only for confirmed losses of
 14 ranch animals and time spent preparing compensation claims. **For populations of 50-300 wolves,**
 15 **these costs together could range from several thousand dollars to possibly more than**
 16 **\$110,000 annually for producers as a whole in the state.** Costs of other impacts are not
 17 quantified in this analysis due to a lack of adequate information. These costs would be partially
 18 offset by compensation payments for confirmed and probable wolf-caused livestock deaths through
 19 the Defenders of Wildlife's Bailey Wildlife Foundation Wolf Compensation Trust for areas where
 20 wolves remain federally listed or other sources, such as the state of Washington. The Bailey Wildlife
 21 Foundation Proactive Carnivore Conservation Fund, also operated by Defenders of Wildlife, is
 22 available to help defray the costs of non-lethal deterrents for small numbers of producers in
 23 Washington, including those in areas where federal delisting has occurred. In addition, there may be
 24 a state compensation program developed in Washington in the future.

Comment [o31]: Where is the WDFW going to come up with this money? Is this a line item in the WDFW budget? If not why not?

25
 26 Wolf numbers between 50 and 100 animals should pose little detriment to the state's livestock
 27 industry as a whole. At these population levels, the vast majority of producers will probably
 28 experience few if any annual costs, whereas a few individual producers could be more affected. As
 29 wolf populations become larger and more widely distributed, financial impacts are likely to accrue to
 30 more producers.

Comment [owner32]: So why won't the WDFW simply set a 50 wolf cap then re-visit the plan and adjust the number accordingly at that time

Comment [o33]: How many wolves were used in the development of this section of the plan?

Comment [o34R33]: What would the economic analysis look like for 500 wolves?

31
 32 **C. Big Game Hunting**

33
 34 Healthy and abundant prey populations are important for maintaining hunting opportunities that
 35 contribute to many local economies in Washington, especially in more rural regions. The challenge
 36 for wildlife managers is to manage for healthy ungulate population levels that also sustain wolves,
 37 other carnivores, harvest opportunities for the public, and subsistence and ceremonial needs of
 38 treaty tribes.

Comment [vic stok35]: Hunting wolves should be considered as a possible money maker, as evidenced in Idaho and Montana.

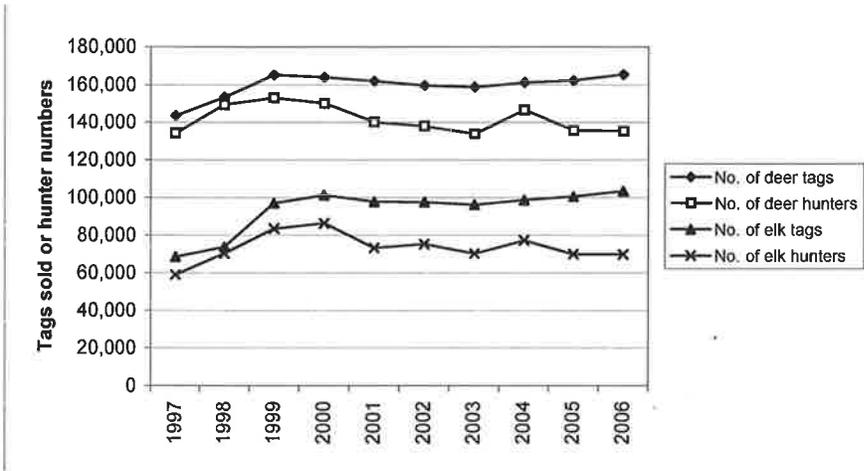
Comment [owner36]: this is a major economic concern for all of rural WA and the WDFW must consider this before they move forward

39
 40 Big Game Hunting Statistics for Washington

41
 42 Hunting, especially for big game, is an important recreational activity in Washington. The 2006
 43 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, which is based on
 44 household interviews nationwide, estimated that 187,000 residents of Washington, or 3.8% of the
 45 state's population aged 16 years old and older, were hunters (for either big or small game, or both;
 46 USFWS and USCB 2008). This is below the national average of 5.5% of the population aged 16
 47 years and older. **An estimated 182,000 hunters hunted in Washington in 2006,** with an

Comment [o37]: Why is this an estimate and not a solid number?

1
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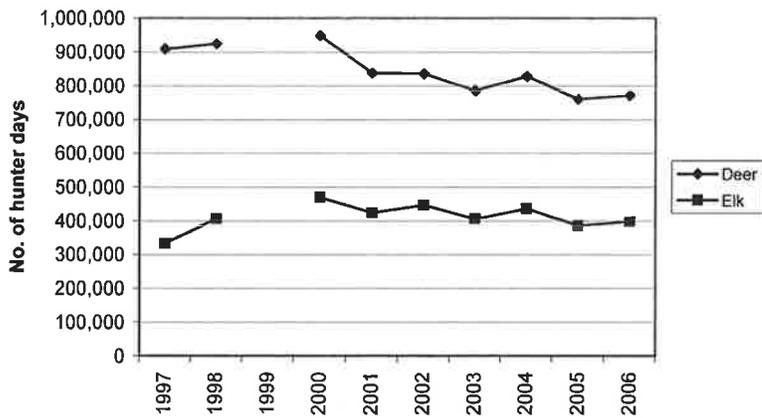


Comment [o38]: Where is the 07-08-09 data

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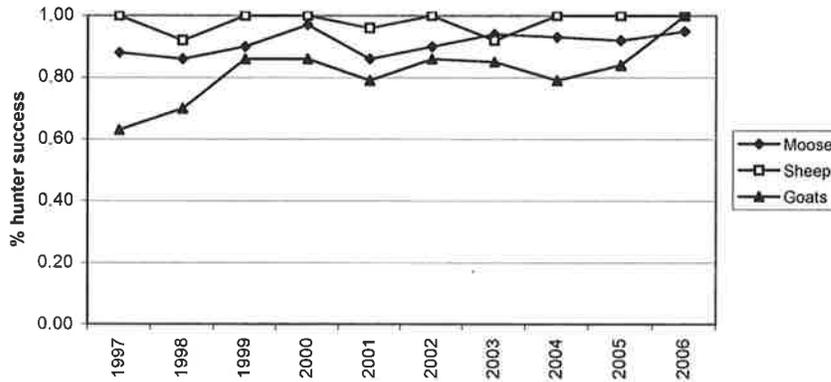
Figure 15. Trends in numbers of tags sold and hunters participating in general deer and elk seasons (all weapons) statewide in Washington, 1997-2006.

Comment [o39]: Where is the 07-09 data



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11
12
13

Figure 16. Trends in numbers of hunter days during general deer and elk seasons (all weapons) statewide in Washington, 1997-2006 (excluding 1999).



1
 2 Figure 23. Trends in hunter success for moose, bighorn sheep, and mountain goats in Washington,
 3 1997-2006.
 4
 5

6 over the past decade, fewer than 300 days per year for goats and declining, and fewer than 200 days
 7 per year for sheep and increasing (Figure 21). During the past decade, annual harvests have
 8 numbered fewer than 100 moose and are increasing, fewer than 40 sheep and are increasing, and
 9 fewer than 40 goats and are decreasing (Figure 22). Hunter success rates have reached 80-100% for
 10 all three species in nearly every year since 1997 (Figure 23).
 11

12 Hunter Expenditures in Washington

13
 14 Washington’s hunting community spent an estimated \$313 million on hunting-related expenses in
 15 2006 (Table 17; USFWS and USCB 2008). This corresponds to an average of \$1,598 per hunter per
 16 year or about \$147 per hunter day. Equipment and trip-related costs accounted for about 60% and
 17 24% of all expenses, respectively (Table 17). Hunting-related expenditures in 2006 were strongly
 18 skewed toward big game (86% of total expenditures), with smaller amounts for small game (5%),
 19 migratory birds (4%), and others (USFWS and USCB 2008).
 20

21 Washington attracts few out-of-state hunters compared with nearby states. Non-resident hunters
 22 comprise fewer than 2% of the hunters and about 0.1% of the hunter days expended in Washington,
 23 whereas in 10 other western states (excluding California and Hawaii), non-residents comprise on
 24 average 28% (range = 8-51%) of the hunters and 20% (range = 3-48%) of the hunter days expended
 25 (Figure 24; USFWS and USCB 2007). Washington’s non-resident license fees are competitive with
 26 other states and the state has no special restrictions limiting the number of out-of-state hunters.

27 **However, out-of state big-game hunters are more likely to visit other western states such as**
 28 **Idaho, Colorado, Wyoming, and Montana, where larger ungulate populations, land mass,**
 29 **and lower human populations allow for more opportunity, higher success rates, and better**
 30 **overall hunting value.** As a result, non-resident hunters contribute less to Washington’s economy
 31 than they do to other western states’ economies.
 32
 33

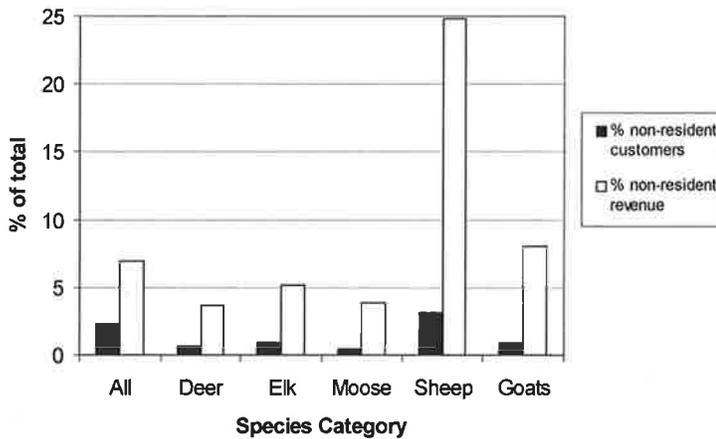
Comment [o40]: So why does the WDFW plan call for 15 BP when the NRM only called for 10 BP per state?

1 Table 17. Estimated total expenditures by hunters and average expenditures per hunter for all types of
 2 hunting combined in Washington in 2006 (from USFWS and USCB 2008).
 3

Category of expenditure	Total amount	Average amount per hunter ^a
Food and lodging	\$33,083,000	\$169
Transportation	36,528,000	186
Other trip costs (land use fees, guide fees, heating and cooking fuel, other)	4,622,000	24
Total trip related	74,233,000	379
Hunting equipment (guns, ammunition, bows, dogs, other)	66,625,000	340
Auxiliary equipment (clothing, processing and taxidermy, optics, camping equipment, other)	44,120,000	225
Special equipment (boats, campers, cabins, trail bikes, other)	77,994,000	398
Total equipment	188,739,000	963
Other items (land leasing and ownership, licenses, other)	50,163,000	256
Total expenditures	\$313,134,000	\$1,598

4
 5 ^a Based on an estimated total of 196,000 resident and non-resident hunters hunting each year in Washington.
 6 This number presumably includes some people who spent money on hunting activities and equipment, but did
 7 not actually hunt.
 8
 9
 10

Comment [o41]: These numbers appear to be inaccurate. Please show how you calculate the Transportation and lodging numbers?



11 Figure 24. Representation of non-resident hunters as a percentage of total hunting customers in
 12 Washington and their contribution to WDFW hunting revenues, according to species and averaged for
 13 fiscal years 2002-2007. Customers are defined as anyone buying a hunting license or applying for a
 14 special permit, with no individual counted more than once. Some customers may not have hunted during
 15 the year. Revenue figures are based on fees collected for licenses, permits, and applications, but
 16 exclude monies from auctions and raffles.
 17

1
2 Summer trips offering fishing, packing, camping, and other family- or group-related outdoor
3 activities are the largest source of revenue for most land-based outfitters in Washington (G. Ulin,
4 pers. comm.). Hunting trips are of lower importance as a source of income for most outfitters.

5
6 Hound Hunting
7

8 An estimated 500-700 hunters participate in hound hunting in Washington (D. Martorello, pers.
9 comm.). Use of hounds is currently restricted to three game species (see Chapter 7), with cougars
10 being the most popular quarry. Cougar hunting with hounds is largely limited to six counties (Pend
11 Oreille, Stevens, Ferry, Okanogan, Chelan, and Klickitat) in the state. Hound hunters typically
12 employ two to five dogs per party. Hounds can be either registered purebreds (e.g., Black & Tan,
13 Walker, Redbone) or of mixed ancestry. Monetary values per dog range from several hundred
14 dollars to more than \$5,000, but average about \$2,500 (D. Martorello, pers. comm.). In Idaho,
15 Montana, and Wyoming, losses of hunting hounds to wolves are not reimbursed by Defenders of
16 Wildlife or any other compensation program.

17
18 Recent Impacts of Wolves on Big Game Hunting in Neighboring States
19

20 To date, wolves have not resulted in any sizable losses of hunter opportunity in Montana, although
21 seasons for antlerless elk in some locations have been reduced to compensate for mortality from
22 multiple sources including wolves (MFWP 2007a; C. Sime, pers. comm.). In southwester
23 Montana, some of the most liberal opportunities for elk harvest over the past three decades are
24 currently being offered in two-thirds of the region's hunting districts, all of which support wolves.
25 However, lethal wolf control in many of these areas to reduce conflicts with livestock may keep local
26 wolf densities low enough to minimize impacts on elk herds. Recently, Montana Fish, Wildlife &
27 Parks has reduced hunting limits for antlerless elk in the northern Yellowstone herd, which has
28 undergone a substantial decline since the mid-1990s due to a large past antlerless harvest, drought,
29 and predation by wolves and other predators (Eberhardt et al. 2007). This is designed to enhance
30 adult female elk survival and to decrease the removal of animals with the highest reproductive
31 potential. Wolf impacts on deer and other ungulates have not been detected to date (C. Sime, pers.
32 comm.). In the northern Yellowstone area, no reductions in hunting permits, harvest size, or hunter
33 success for mule deer or moose have occurred as a result of wolves (White et al. 2005). Montana
34 Fish, Wildlife & Parks has not experienced any declines in hunting generated revenue, license sales,
35 or hunter success on a statewide level because of wolf presence (C. Sime, pers. comm.).
36

Comment [owner42]: this is an issue that is of great concern in ID and to a number of guides in WA

37 Wolf impacts on big game hunting in Idaho have not been well quantified. IDFG (2008) reported
38 that wolf predation may be causing reductions in the harvestable surplus of elk in some parts of the
39 state, even if elk populations are not declining. The Lolo region, where experimental wolf control is
40 proposed, has experienced a significant reduction in elk abundance, but this trend began in the mid-
41 1980s well before wolves became common (IDFG 2006). The extent that wolves have contributed
42 to this decline in recent years is unknown but perhaps significant. IDFG (2008) has also reported
43 that wolves are possibly reducing success rates for some hunters in parts of the state by changing the
44 behavior and habitat use of elk during the hunting season. As observed in the greater Yellowstone
45 ecosystem (Creel and Winnie 2004, Mao et al. 2005), Idaho's elk may now be spending more time in
46 forested areas, on steeper slopes, and at higher elevations than before wolf reintroductions, making
47 it more difficult for hunters to find animals. Changes in herding behavior and movement rates

Comment [owner43]: The WDFW needs to contact guides in ID to get accurate info on the impacts to guided hunting

1 (Proffitt et al. 2009) may also affect hunting success. Other ungulates have not been impacted by
2 wolves in Idaho, with the possible exception of moose (S. Nadeau, pers. comm.). Declines in
3 moose in some areas are poorly understood and may in fact be related to habitat changes or other
4 causes.

5
6 Big game revenue and tag sales to resident and non-resident hunters have remained stable in recent
7 years for the Idaho Department of Fish and Game (B. Compton, pers. comm.; S. Nadeau, pers.
8 comm.). Some hunters have indicated that they would not return to their hunting areas because of
9 real or perceived impacts of wolves, but whether this has produced significant changes in hunter
10 activity has been difficult to assess. Hound hunting permit sales have also remained level or slightly
11 increased in the state (S. Nadeau, pers. comm.).

12
13 In Wyoming, at present, there are no definitive data showing decreased hunter harvest or
14 opportunity due to wolf predation on elk or moose (WGFC 2008).

15
16 Mexican gray wolves were reintroduced to a portion of western New Mexico and eastern Arizona
17 beginning in 1998 and numbered 44-50 animals by 2004 and 2005. Unsworth et al. (2005) reported
18 that this level of abundance caused no measurable changes in elk harvest or outfitter income
19 between 1998 and 2004, and that numbers of elk and deer hunters and hunter days to the area
20 actually increased. Elk and deer populations declined in the area during this period, but this was
21 likely due to changes in forage conditions and game management decisions rather than predation by
22 wolves.

23
24 Summary

25
26 The possible impacts of wolf predation on ungulate populations are debated by both the general
27 public and the scientific community (see Chapter 5, Section A). Big game hunters in Washington are
28 concerned that wolves will cause declining ungulate populations and opportunities for hunting. As
29 described in Chapter 5, many factors affect the population sizes and trends of elk, deer, and other
30 big game species, including habitat quantity and quality, severe weather, levels of hunter harvest,
31 predation, and disease. Thus, it is difficult to determine the effect that wolf predation has on
32 ungulate populations and hunter success.

33
34 **It is very difficult to predict with confidence the impacts that different population sizes of**
35 **wolves will have on ungulate populations and hunter harvest in Washington.** This is due
36 largely to the many uncertainties involving where and how rapidly wolves become reestablished,
37 their eventual abundance and diet composition, prey species behavior and population changes,
38 hunter responses, and other influences. For these reasons, the effects of wolf predation on ungulate
39 populations are highly situation-specific (Garrott et al. 2005).

Comment [o44]: Shouldn't this be reason enough for fewer than 15 BP? If not why not?

40
41 Keeping these limitations in mind, some general approximations of wolf predation levels are
42 presented in Table 18 using dietary information from neighboring states. Total populations of 50
43 and 100 wolves are expected to have minor overall impacts on Washington's ungulate populations.
44 **Fifty wolves may kill about 425-630 elk and 700-1,050 deer per year, with annual take**
45 **doubling for 100 wolves** (see Table 18 for an explanation of these estimates). These levels of
46 predation could result in

Comment [o45]: Exactly how many individual wolves will 15 BP equal? And how much revenue will this cost the state in lost hunter dollars?

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Table 18. Projected numbers of packs, successful breeding pairs, lone wolves, and ungulate prey for four different population size categories of wolves in Washington. Because of the absence of biological data on wolves living in Washington, numbers presented here should be considered as very rough approximations.

Number of wolves present	Population size category			
	50	100	200	300
Estimated total no. of prey killed per year ^a	1,130-1,675	2,260-3,350	4,520-6,700	6,780-10,050
Estimated no. of elk killed per year ^a	425-630	850-1,260	1,700-2,520	2,550-3,780
Estimated no. of deer killed per year ^a	705-1,045	1,410-2,090	2,820-4,180	4,230-6,270

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^a Numbers represents the estimated range in numbers of prey killed by different sizes of wolf populations based arbitrarily on (1) an average kill rate of 7.2 kg/wolf/day (derived from Table 5.5 in Mech and Peterson [2003]) plus or minus 20%, (2) average body weights of 150 kg per elk and 60 per deer, and (3) a diet of 60% elk and 40% deer by biomass (see Table 2, Chapter 2). Because of the large differences in body weight between elk and deer (Chapter 5), fewer elk than deer are expected to be killed. Estimates given here are based on an average annual kill rate of 8.5-12.6 elk and 14.1-20.9 deer per wolf, or about 22.8-33.5 ungulates total per wolf.

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noticeable effects on elk and deer abundance in some localized areas occupied by wolf packs, but should not have broad-scale impacts. These levels of loss potentially represent 1-2% of the state's elk population and less than 1% of the combined deer population. With larger populations of wolves, greater numbers of ungulates would be removed annually, with perhaps 1,700-3,800 elk and 2,800-6,300 deer taken if 200-300 wolves became reestablished (Table 18). Predation levels on moose are also difficult to estimate, but may be significant if wolves become numerous in northeastern Washington. Wolf take of bighorn sheep and mountain goats is expected to be minor.

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The estimates presented above come with many caveats. For example, wolf expansion may result in lowered coyote and cougar populations, thereby reducing ungulate and other game (e.g., upland birds, rabbits) losses caused by these predators. Changes in harvest strategies (e.g., reduced antlerless take, shortened hunting seasons, etc.) and further efforts to manage habitat for elk and deer may be necessary to offset some wolf-related losses and keep game populations at their intended management objectives. In areas without severe winter snowpack and without full protection for wolves, Garrott et al. (2005) has suggested that wolf impacts on elk may be lower than expected.

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Populations of 50 to 100 wolves should have few negative effects on big game hunting in Washington, as demonstrated by the relatively small estimated take of ungulates described above. As in the Yellowstone region (Creel and Winnie 2004, Mao et al. 2005, Proffitt et al. 2009), wolves may also cause some redistribution of game, which could make these species somewhat less vulnerable to harvest. However, these impacts together would be restricted to the relatively few areas occupied by packs during these recovery stages and would probably not reduce statewide harvests of elk and deer by more than 1-3%. If these outcomes discouraged a similar proportion of hunters from hunting, then big game-related hunting expenditures in the state, including the revenues generated by WDFW, could decrease by a comparable amount (about \$100,000 to 300,000 annually). Whether or not the loss of a small percent of the state's elk and deer would affect hunter participation and by how much is unknown. Some outfitters catering to hunters would perhaps be negatively affected, but because this industry is small in Washington, the overall financial impact

Comment [o46]: So why not use this as a cap?

1 would be small. If some non-resident hunters decided not to hunt in Washington, this effect would
 2 be negligible because non-resident elk and deer hunters comprise a small fraction of total hunters in
 3 the state (Figure 24). Losses of hunting hounds to wolves are not expected to exceed one or two
 4 animals per year, as noted in Idaho and Montana (S. Nadeau, pers. comm.; C. Sime, pers. comm.),
 5 where much larger wolf populations exist.

Comment [o47]: How much of this negligible amount is due to Washington's license system that does not cater to out of state hunters? Is the high cost to get into an elk drawing or a high priority deer area

7 Larger wolf populations would be expected to have greater impacts on game and hunting
 8 opportunity, but such impacts become increasingly difficult to predict or measure. To
 9 accommodate larger elk and deer losses from wolves, reductions in antlerless take and perhaps other
 10 restrictions such as shortened hunting seasons or reduced availability of special permits may be
 11 needed in some areas where wolves become common. Given the stable or increasing numbers of
 12 hunters, tag sales, numbers of animals killed, levels of hunter success, and amount of revenue
 13 generated in association with elk and deer hunting in Washington during the past decade (Figures
 14 15, 17, 25), there appears to be some capacity for the state to absorb the game losses caused by
 15 wolves.

17 In the future, there could be revenue generated for WDFW if wolves recover to the point that they
 18 are delisted and eventually become a hunted species. Revenue could be generated through special
 19 permit application sales, auctions, and raffles. It is unknown how much revenue would be generated
 20 from these sources. Such sales might be similar to those obtained for bighorn sheep, moose, and
 21 mountain goats during most of the past decade (Figure 26), an estimated \$50,000 to \$150,000 per
 22 year, or could be substantially lower at \$10,000 to \$50,000 (D. Ware, pers. comm.).

24 The presence of wolves may provide an additional benefit for some hunters by enhancing their
 25 overall hunting experience. The possibility of seeing or hearing wolves, finding wolf tracks or a wolf
 26 kill, or hunting among wolves could give considerable enjoyment to these hunters.

28 **D. Wildlife Tourism**

Comment [vic stok48]: Who does these studies? Are they unbiased?

30 Ecotourism, or travel to natural areas for environmentally responsible outdoor experiences, is one of
 31 the fastest growing segments of the overall world tourism industry. Wildlife viewing is a large part
 32 of this business and is hugely popular in the United States.

34 According to the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation,
 35 more than 71 million Americans 16 years old and older (31% of the U.S residents in this age
 36 bracket) participated in wildlife watching activities (i.e., observing, feeding, photographing, etc.;
 37 includes fish viewing) in 2006 (USFWS and USCB 2007). Of these, almost 23 million people took
 38 trips more than one mile from their homes specifically to see wildlife. Participation in wildlife
 39 viewing increased 8% nationally from 2001 to 2006, in contrast to fishing and hunting, which fell
 40 12% and 4%, respectively. Wildlife watchers spent nearly \$46 billion in 2006, or about \$650 per
 41 participant, with trip-related expenditures increasing 38% between 2001 and 2006. Seventy percent
 42 (16.2 million people) of the wildlife watchers traveling away from home observed, fed, or
 43 photographed land mammals, with 56% (12.8 million people) specifically interested in large
 44 mammals such as deer, bears, and coyotes. Eighty-three percent of wildlife watchers traveling away
 45 from home did so in their home state; 33% visited other states.

1 In Washington during 2006, an estimated 2.33 million people 16 years old and older participated in
 2 some form of wildlife watching, which ranked the state 11th in the nation for participation (USFWS
 3 and USCB 2007, 2008). About 2.00 million participants were state residents (40% of the state's total
 4 population in this age group), with the remainder being non-residents. An estimated 628,000
 5 residents and 331,000 non-residents in this age group traveled more than one mile away from home
 6 to view wildlife in Washington during the year. Residents spent an estimated 8.0 million days (88%
 7 of the total; average of 12.7 days per person) and non-residents spent an estimated 1.1 million days
 8 (12%; average of 3.4 days per person) watching wildlife away from home in the state during the year.
 9 Washington residents spent an additional 1.48 million days watching wildlife in other states in 2006.
 10 Overall, wildlife watchers outnumbered hunters and anglers combined by nearly three times in
 11 Washington.

12
 13 Annual spending in Washington by resident and non-resident wildlife watchers on travel, food,
 14 lodging, equipment, and other goods and services totaled an estimated \$1.5 billion in 2006, ranking
 15 the state seventh in the nation behind California, Florida, Texas, Michigan, Georgia, and New York
 16 (USFWS and USCB 2007, 2008). About \$595 million was spent during the year on equipment, \$442
 17 million on trip-related costs, and \$466 million on other costs (Table 19). Annual spending by
 18 wildlife watchers in the state rose 53% from 2001 to 2006 (USFWS and USCB 2003, 2007, 2008).
 19 Participants spent an average of \$645 per person in 2006 (Table 19). Overall, wildlife watchers
 20 outspent hunters and anglers combined by 5% (\$1.43 billion vs. \$1.36 billion) in Washington
 21 (USFWS and USCB 2008). Wildlife viewing generated an estimated 22,439 jobs in Washington in
 22 2001 (USFWS 2003). However, revenue to WDFW for wildlife conservation and management
 23 generated by wildlife watchers is minimal.

Comment [owner49]: please document the actual amount of revenue that the WDFW received last year from watchable wildlife, and compare that to that actual amount of revenue the WDFW receives from ungulate tag sales, and hunting licenses

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 26 **Table 19. Estimated total expenditures and average expenditures per participant for all types of wildlife-**
 27 **watching activities in Washington in 2006, including both those around the home and away from home**
 28 **(from USFWS and USCB 2007, 2008). Estimates are for state residents and non-residents combined.**
 29

Category of expenditure	Total amount	Average amount per participant ^a
Food and lodging	\$227,721,000	\$98
Transportation	157,045,000	67
Other trip costs (boating costs, guide/outfitter fees, public and private land use fees, equipment rental, other)	56,886,000	24
Total trip related	441,652,000	189
Wildlife-watching equipment (wildlife feed, cameras, binoculars, hiking equipment, other)	262,335,000	113
Auxiliary equipment (camping equipment, other)	29,797,000	13
Special equipment (off-road vehicles, campers, boats, other)	302,574,000	130
Total equipment	594,706,000	255
Other items (land leasing and ownership, plantings around homes that benefit wildlife, membership dues, contributions, literature, other)	465,953,000	200
Total expenditures	\$1,502,311,000	\$645

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 31 ^a Based on an estimated total of 2,331,000 wildlife-watching participants in Washington.

Wolf-Related Ecotourism in North America

Comment [vic stok50]: What are the expenses for government to maintain watchable wildlife?

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Commercial wolf watching has grown in significance in North America over the past several decades, especially in the lower 48 states, and has resulted in regional economic benefits. Yellowstone National Park has become the premier wolf viewing location on the continent, with a thriving and rapidly growing wolf-watching business since the species was reintroduced in 1995 and 1996. Visitor surveys in 2005 showed that the opportunity to see or hear wolves increased annual rates of park visitation by almost 4% and spending on lodging, food, and other services by an estimated \$35.5 million among people coming from outside Wyoming, Montana, and Idaho (Duffield et al. 2006, 2008). Wolves have joined grizzly bears as the marquee species most sought after at Yellowstone, with about 44% of visitors hoping to see wolves (Duffield et al. 2008). Many wolf-watchers at the park are repeat visitors. Even visitors who fail to see wolves are often satisfied with their experiences through hearing wolves, seeing their tracks and scat, or simply knowing that wolves were nearby (Montag et al. 2005). Duffield et al. (2008) estimated that more than 300,000 visitors saw wolves at the park in 2005 alone.

National Park Service officials had originally expected Yellowstone’s wolves to be far more secretive and less visible, as at Isle Royale (Michigan) and Denali (Alaska) National Parks, and therefore did not anticipate these levels of recreational and economic impacts. However, the park’s wolves quickly became accustomed to roads, traffic, and people, and readily occupied more open terrain. The local tourism industry and business community seized the opportunity by offering guided trips to find wolves. Guides explain wolf behavior and biology, and increase the likelihood of visitors seeing wolves. More than 50 organizations now offer wolf trips (Kirkwood 2006) and at least one tour company advertises a 97% success rate in seeing animals. Wolves are more easily observed from fall through spring and therefore help attract visitors to the region during the months of lowest visitation. Most greater Yellowstone area wolf watching remains within the national park itself. Outfitters and guides in outlying areas, where wolves are also thriving on both public and private lands, haven’t been as successful in organizing as many wolf-watching trips.

Comment [owner51]: It is important to state that WA State does not have a Yellowstone Park anywhere in or near WA State

In other parts of North America, wolf-related tourism has expanded in different ways:

- The International Wolf Center in Ely, Minnesota, brings about \$3 million per year to the area and creates as many as 66 jobs in tourism-related businesses and other industries (Schaller 1996). The center, which specializes in wolf education and tourism, opened in 1993 on the edge of the Boundary Waters Canoe Area Wilderness in the heart of the largest wolf population in the lower 48 states. A 2004 survey showed that a third of all tourists to northeastern Minnesota visited the center, resulting in a major economic benefit for the surrounding two-county area. Visitation totaled 42,000 people in 2005.
- After red wolves were reintroduced to northeastern North Carolina in 1987 and grew to an estimated population of 100 by 2005, a study found interest in developing a fledgling wolf tourism business (Lash and Black 2005). Weekly wolf howling tours at the Alligator River National Wildlife Refuge drew about 900 visitors from across the country in 2005. A planned Red Wolf Visitor and Education Center, partnered with existing ecotourism activities (e.g, hiking, fishing, other wildlife viewing) in the Outer Banks region is estimated to potentially attract over 25,000 households annually, boost tourism by up to 19%, and

1 Okanogan County supports large wintering deer herds in open habitats on both public and private
 2 lands, and could attract wolves at that time of the year. Both of these locations are already popular
 3 tourist destinations, so it may be difficult to quantify the economic benefits derived solely from wolf
 4 viewing.

Comment [vic stok52]: More reason to buy private land?

5
 6 Wolf-based tourism also has some potential in other areas of the state (e.g., some national forest
 7 lands) where wolves are not frequently seen, but are regularly present and relatively safe from
 8 harassment. Modest numbers of visitors without high expectations might still be attracted to such
 9 areas in hopes of possibly seeing or hearing a wolf or finding wolf sign. Wolf tourism in such
 10 locations could be developed in various innovative ways, such as through the use of remote cameras
 11 and websites, tracking and howling trips, or even development of a wolf visitor center similar to that
 12 in Minnesota, where deeply wooded terrain also makes wolves difficult to see.

13
 14 Offsetting these projected benefits to tourism, wolf presence may possibly scare some visitors away
 15 from visiting national forests and other wildland areas through fears over personal safety. However,
 16 this problem has not been reported in other localities with wolves in the lower 48 states.
 17 Additionally, any substantial wolf-related declines in the viewability of elk, deer, and other ungulates,
 18 caused either by changes in behavior or population declines, could possibly lower the viewing
 19 opportunities for these species in some localized areas. The extent of lost revenues from this impact
 20 is difficult to project.

21 **E. Forest Products Industry**

22 Overview of the Forest Products Industry in Washington

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 26 The total value of Washington's forest products industry (including lumber, wood products, paper,
 27 and wood-related manufacturing production) was \$15.9 billion in 2006 (WFPA 2007), which
 28 represented an estimated 5.4% of the state's economic output. Washington is the second largest
 29 producer of softwood lumber in the nation, accounting for 13% of total U.S. production.

30
 31 More than half (52%, 22.1 million acres) of Washington is forested (WFPA 2007). Sixty-four
 32 percent (14.3 million acres) of the state's forestlands are managed by federal, state, tribal, county,
 33 and municipal concerns, with the U.S. Forest Service being by far the largest holder (58%, 8.2
 34 million acres) among these. The rest (36%, 7.9 million acres) are privately owned, of which 59%
 35 (4.6 million acres) are considered industrial forestlands. In total, 73% (16.2 million acres) of the
 36 state's forests are used commercially. From 2000 to 2005, 71% of the timber harvested in
 37 Washington came from private forestland, whereas just 2% originated from federal land (WFPA
 38 2007). About 7 billion board feet of lumber were harvested annually in the late 1980s, but this figure
 39 has declined to about 4 billion board feet since the mid-1990s due to federal and state policy
 40 changes. Based on timber tax revenues, the 15 largest timber-producing counties in the state in 2006
 41 were (in order) Lewis, Grays Harbor, Pacific, Cowlitz, Clallam, Pierce, Stevens, Mason, Jefferson,
 42 Thurston, Klickitat, Skagit, King, Snohomish, and Clark counties (WSDOR 2007). Thirteen of
 43 these counties are located in western Washington.

✓

Comments concerning the WDFW Draft EIS for the Wolf Conservation and Management Plan.

I, Sam Kayser, on behalf of the Kittitas County Cattlemen's Association support the Alternative 1A "The Responsible Approach" which was proposed by the Washington Cattlemen's Association. I do not support any alternatives set forth in the WDFW Draft Environmental Impact Statement (DEIS).

Sam Kayser

Sam Kayser

President

Kittitas County Cattlemen's Association

12260 Fairview Road

Ellensburg, WA 98926

From: [Washington Cattlemen](#)
To: [SEPADesk \(DFW\);](#)
[Commission \(DFW\);](#)
Subject: Comments on the wolf plan
Date: Friday, January 08, 2010 9:36:49 AM
Attachments: [Rob Acheson.doc](#)

Attached are more comments on the WDFW Wolf Plan. Lacy

Washington Cattlemen's Association
PO Box 96
Ellensburg, WA 98926
509.925.9871
<http://www.washingtoncattlemen.org>
email:wacattle@kvalley.com

From: [Washington Cattlemen](#)
To: ["Washington Cattlemen"; SEPADesk \(DFW\); Commission \(DFW\);](#)
Subject: RE: Comments on the WDFW Wolf Conservation and Management Plan - Actually Attached this time.
Date: Thursday, January 07, 2010 3:36:29 PM
Attachments: [Sam Kayser.doc](#)
[Kittitas County Cattlemen.doc](#)
[Robb Forman.doc](#)

Sorry! The comments are actually attached this time. – Lacy

[Washington Cattlemen's Association](#)
[PO Box 96](#)
[Ellensburg, WA 98926](#)
[509.925.9871](#)
<http://www.washingtoncattlemen.org>
[email:wacattle@kvalley.com](mailto:wacattle@kvalley.com)

-----Original Message-----

From: Washington Cattlemen [<mailto:wacattle@kvalley.com>]
Sent: Thursday, January 07, 2010 3:34 PM
To: 'SEPAdesk@dfw.wa.gov'; 'commission@dfw.wa.gov'
Subject: Comments on the WDFW Wolf Conservation and Management Plan

To Whom It May Concern:

I have attached three comments from the WCA members. If you have any questions or concerns, please feel free to contact me and the below address, thanks.

Have a nice day,

Lacy Lampkins
[Washington Cattlemen's Association](#)
[PO Box 96](#)
[Ellensburg, WA 98926](#)
[509.925.9871](#)
<http://www.washingtoncattlemen.org>
[email:wacattle@kvalley.com](mailto:wacattle@kvalley.com)

YAKIMA COUNTY FARM BUREAU

**P.O. Box 429
Wapato, WA. 98951
(509) 248-5640**

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HABITAT PROGRAM

November 12, 2009

Washington State Dept. of Fish and Wildlife
SEPA Desk
600 Capital Way N.
Olympia, WA. 98501-1091

Re: Wolf Plan

Sirs,

The Yakima County Farm Bureau represents approximately 2,900 members. We are a grass roots agricultural based organization and as such are concerned about any potential adverse effects of this proposal towards agriculture.

Having reviewed the voluminous Wolf Plan and alternative 2 that has been selected by the Department as the preferred alternative we have the following comments concerning this plan.

We would like to point out that we believe wolves are already here in the State of Washington and most likely in larger number then the department is willing to formally acknowledge.

It is very apparent that the strategies proposed will most definitely have a financial, emotional and most likely a physical adverse effect on our members. Wolves were eradicated in both the Washington Territory and its predecessor the Oregon Territory as well as the State of Washington for specific reasons. Among which were the threats they posed to physical well being of the citizens and to livestock that these citizens possessed. Our forefathers were not stupid when it came to these threats; in fact they were quite possibly more aware of these threats than the current present day citizens of the State of Washington that may dwell in the urbanized areas of state. But rest assured these threats will again present themselves as the proposed alternative goes forward. We would further point out that the population of the State of Washington is greater then the population of the states of Idaho, Montana and Wyoming combined and almost as great when the population of Utah is added to mix.

JH
11/13

We would further point out the United States under the endangered species law does not specify by state what has to occur. It does do so by species. We would therefore propose that the wolf population needs to be taken in whole for the entire Pacific Northwest (ie the Washington, Oregon, Idaho, Montana and Wyoming) when contemplating whether the wolf population has reached a delisting status.

In addition, there is nothing in the wolf plan and suggested alternative that deals with the potential wolf-dog hybrid issue. One may not ascertain from looking at a wolf whether it is of hybrid parentage. This can only be accomplished by DNA testing. Therefore whatever plan is adopted must also deal with this real issue.

It now appears that the Department would like those in agricultural areas and the sportsmen of the state to bear the direct impact and burden of the decisions put forth in the preferred alternative. This would seem to be a violation of the Washington State Constitution that requires that all of the citizens of the state be treated equally. To place an adverse impact on only certain of our citizens can only be construed as a violation.

We now draw the Departments attention to the **Minority Report** that is contained on pages 202 and 203 of the Wolf Plan, which we find has not received any mention by the department in all of their news releases and presentations at public hearings around the State. This minority report is the closest to making this onerous plan more palatable. We would point out that the numbers set forth in the Minority Report may in themselves be too large and should be revised downwards. We would also suggest that Breeding Pairs number include those wolves that may be crossing the physical borders between the states of Oregon and Idaho as well as the international border with Canada. Wolves know no man made border and as such can still have an impact upon the citizens of the state even though the state may not consider them a resident animal do solely upon potential den sites.

This brings us to the department's reimbursement scheme as presented in the alternative. We firmly believe that the scheme proposed is grossly unworkable. One has only to look at other reimbursement programs that the department administers to see the potential disaster in the making. We firmly believe that with the current economic climate and projected shortfalls with the state government revenue streams that there will be no monies available even with a concerted effort by all parties that the required funding is made available. Even in an advantageous economic climate it would be highly unlikely that adequate funding would be made available. Nor would we find that the funding would be administered in a fashion that would be beneficial to those having had economic impacts from wolves. One has only to look at the problems associated with elk damage or geese on agriculture to see how the department's administration of their existing funds is woefully inadequate.

Here again it would be up to the department to make the determination whether a claim is valid based upon finding a depredated animal with timely inspection by the department. Since the department is not required to respond to wildlife problem in a timely manner, we do not hold any value that they would respond to wolf kill in time to make a quick determination even if the animal is found immediately. We believe that these determinations would most likely be made only after the discovery of the depredated animal by the owner of the animal. While this might

work for those who have a few numbers within a confined area it would not work for those who run on rangeland situations where the animals are not under constant supervision of an individual animal owner or their representative. If one looks at what has occurred in the States of Idaho, Oregon and Montana, it becomes apparent that if any other scavenger animal has had chance to feed on a carcass then such depredations are determined to be an unqualified claim.

We also find it interesting that there is no accompanying small business impact analysis with this plan. The economic impact of an operation having to hire additional personnel to keep track of animals over vast areas would be prohibitive. Additionally the plan does not take into account the economic impacts of losses on small producers who may be more greatly impacted as medium and large producers due to animal losses. The alternative plan further does not consider the problems associated with or the economic impacts of wolves on confined feeding operations or confined dairy operations where animal stress has a direct impact on the profitability but may not leave a depredated animal. Currently there are problems occurring with these operations and domestic dogs, one could only imagine what it would be like to try to deal with a wolf problem in the same circumstances.

Finally the Wolf Plan and the preferred alternative do not contain any action process by which the creation of a wolf management or hunting season/bag limit is even suggested. The wolf may become an additional source of funding for the department. It would allow those sportsmen who would want to participate to become involved. But we find nothing contained in the plan that explores an economic analysis of this potential source of funding.

With all of these items in mind we would suggest that the department return to the Wolf Plan Action Group and come up with a solution that would most likely answer our questions and concerns.

Thank you for this opportunity to respond to the department's Wolf Plan and preferred alternative.

Sincerely your,

A handwritten signature in cursive script that reads "Gene Jenkins". The signature is written in black ink and is positioned above the typed name.

Gene Jenkins - President



**OKANOGAN COUNTY
FARM BUREAU**

January 6, 2010

RECEIVED

JAN 13 2010

HABITAT PROGRAM

Washington Department of Fish and Wildlife
SEPA Desk
600 Capitol Way N.
Olympia, WA 98501-1091

http://wdfw.wa.gov/wildlife/management/gray_wolf/.

To Whom It May Concern:

I write to you on behalf of the Okanogan County Farm Bureau and its nearly 900 member families.

The WDFW held a meeting at the Okanogan County Agriplex on November the 9, 2009. I attended the meeting on behalf of our members and chose not to comment at that time because I wanted to listen to your statements and hear the concerns of the citizens and Farm Bureau families in attendance prior to submitting these formal comments.

It is our opinion that the State Department of Fish and Wildlife has not fully studied the impacts of the gray wolf being reintroduced into Okanogan County. The department has not done a fully qualified economic impact study nor adequately determined the negative impacts specifically to Okanogan County. The potential economic loss to farmers in Okanogan County is sizeable.

Please provide the specific economic impact study for Okanogan County compiled by the WDFW that verifies the county will have no economic loss to our farmers and ranchers nor will we have any loss of ranch lands managed by the DNR and WDFW that are currently under lease by ranchers.

This question is raised as it appears that the WDFW is pushing option two from the draft plan. We are concerned about the disproportionate cost laid on the landowners and livestock owners. Livestock owners especially have to deal with the loss of the animal, additional costs spent proving that a wolf killed the animal, and time spent fighting for compensation from a fund that could run out of money based on state budgets. Option two requires farmers and ranchers to be reimbursed if it can be confirmed that a wolf killed the rancher's cow, calf or both. The problem with that option is the following example:

Preliminary results of an investigation of a cow carcass found in Okanogan County, Washington, near the home range of the state's first confirmed wolf pack in 70 years, concludes that the carcass was too old and scavenged to determine the cause of death.

An agent from the U.S. Department of Agriculture Wildlife Services, along with a biologist from the

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Washington Department of Fish and Wildlife investigated the carcass May 22, 2009. When the agents finally arrived to investigate the carcass, it was at least 7 days old.

Your own department acknowledges they are unable to determine if it was a wolf kill on March 22 because the carcass was too old. Therefore, this rancher will not be refunded for his or her loss under option 2. Will every investigation by your department lead to the same conclusion that the carcass is too old and savaged to be determined?

Second under option two, it states that your department must fully fund this initiative. In the face of a \$3 billion dollar deficit for the State of Washington, your department should suffer cuts as well as cuts to public services. What assurances do we have that you will even have the money to pay the ranchers for their loss? We also must remind you that if the obligations of option two are not met, then you must start the process over in its entirety.

At the Agriplex meeting County Commissioner Bud Hover shared the concern that state and federal agencies had not consulted with Okanogan County about the wolf recovery plan. Okanogan County has a local ordinance that requires your department to participate in coordination efforts. To this date, this effort has not occurred and we advise you that you must follow the ordinance that requires coordination. I use the quote from Commissioner Hover at the meeting for emphasis:

“Okanogan County deserves more than just commenting,” said Hover. “We should have been in on the ground floor.”

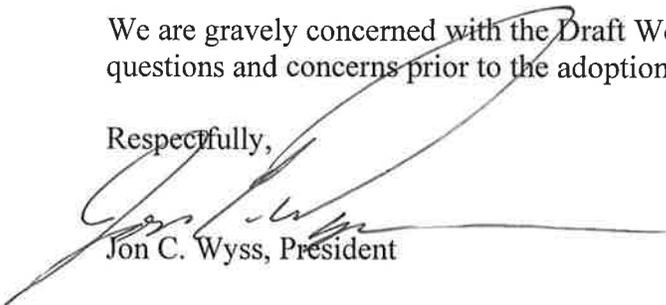
Therefore we demand that you work with our commissioners in a coordination effort consistent with our local ordinances and that when you participate in this coordinated effort that the executive board of the Okanogan County Farm Bureau be invited to those meetings.

Our organization has grave concerns about how the wolves ended up in the Methow Valley. Okanogan County has had a history with the department where an agent planted hair from an endangered species in the area. We are not convinced nor has the department given proof that these wolves were not transplanted into the area. It is imperative that your department provides our organization with independent and unbiased DNA testing results.

We are also concerned that the wolves will have a detrimental impact on game animals in Okanogan County like deer, elk, moose, and big horn sheep. Cougars are already decimating these game animals and your department has done nothing. Therefore, we have no confidence that the department will handle wolves in a manner that will protect family farmers and ranchers from devastating losses. It is very important that hunting wolves be allowed as a management tool.

We are gravely concerned with the Draft Wolf Management plan and the WDFW must answer our questions and concerns prior to the adoption of any wolf management plan.

Respectfully,



Jon C. Wyss, President

10
from
MF Year
public meeting

Washington Department of Fish and Wildlife

Wolf Conservation and Management Plan

Nov. 2, 2009

RE: Comments on Environmental Impact Statement,

Agriculture and the wolf population do not and can not share the same habitat together. WDFW must designate areas where wolves can be managed. Management must include moving the wolf population when necessary and using hunting as a wolf control tool after delisting. Distinct lines must be drawn to protect agriculture livestock from the wolf population.

This DEIS does not adhere to RCW 77.04.012. WDFW must develop another alternative using smaller breeding pairs to achieve down listing. A responsible approach with common sense must be used to minimize adverse impacts. We are concerned if funds will be guaranteed for compensation to livestock owners under proposed draft.

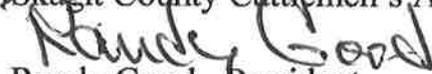
The Skagit County Cattlemen's does not support Alternatives 1,2,3 or 4. because it would encourage wolf overpopulation. Could soon have over 500 pairs of wolves killing over 10,000 elk per year, more than the hunters are allowed. With each wolf killing approx. 20 elk per year, you would soon eliminate the elk population leaving livestock that much more vulnerable. The Skagit County Cattlemen's (SCCA) agree with the minority position held by 6 members of the Wolf Working Group, that the number of breeding pairs proposed in the present draft are too high. These proposed high numbers in the draft will cause disastrous effect's to our wildlife, human and domestic animal populations.

The SCCA recommend a alternative using common sense approach to develop a wolf conservation and management plan. We recommend a smaller breeding pair number of 3 breeding pairs to downlist to threatened and sensitive and 5 pairs to delist and be managed as a big game species. Washington State does not have the habitat to support any larger numbers without having negative impacts.

Wolves have a high reproductive capacity and are able to adapt to any habitat situation. As David Mech PhD a wolf authority stated Sept 25, 2009 in his declaration to the U S District Court for the District of Montana “ We are not dealing with an animal that is on the edge of extinction or endangered world wide ...”.

Wolves outside of a managed area and after delisting must be managed as a game animal using hunters for control as needed and livestock owners allowed to protect their livelihood as needed plus receiving guaranteed compensation for any losses from the State of Washington.

Skagit County Cattlemen's Association


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