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Cc: [Alt, Nicole](#); [Hughes, John P](#)
Subject: tribal wolf plans
Date: Tuesday, May 31, 2022 4:26:00 PM
Attachments: [Wind River Reservation Wolf Plan 2nd Edition 2008-04-21.pdf](#)
[Wind River Res Wolf Plan 20070413.pdf](#)
[CSKT Wolf Management Plan.2020.pdf](#)
[BlackfootTribeWolfManagementPlan_2008.pdf](#)
[2017-01_CCT_Wolf_Mgmt_Plan.pdf](#)

Howdy Steve - great to finally meet you in person last week. In following up on some of our conversations from last week, I have attached wolf management plans from Wind River (attached both 2007 and updated plan from 2008), Flathead (just most recent from 2020), Blackfeet, and Confederated Tribes of Colville Res. If you have any questions, feel free to reach out to Nicole, John, or I anytime. Thanks a bunch.

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Wolf Management Plan for the Wind River Reservation – 2nd Edition



**Eastern Shoshone and Northern Arapaho Tribes
Ft. Washakie and Ethete, WY**

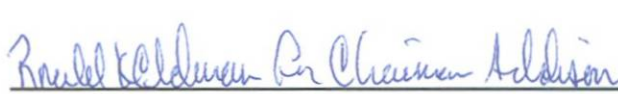
**Shoshone and Arapaho Tribal Fish
and Game Department
Ethete, WY**

**Assisted by the U.S. Fish and Wildlife Service
Conservation Office
Lander, WY**

April 21, 2008



Ivan Posey, Chairman, Eastern Shoshone Tribe
4/21/08
Date



Anthony A. Addison, Sr., Chairman, Northern Arapaho Tribe
4/21/08
Date

Summary

- This plan looks neutrally upon wolves and considers them as a wildlife species for which management is needed due to tensions that will arise between the needs of wolves and the needs of people. Traditional views of the Eastern Shoshone and Northern Arapaho Tribes (Tribes) recognize wolves as kin, as helpers, as strong, and as deserving of respect and placed here by the Creator for a purpose.
- Once approved by the US Fish and Wildlife Service (FWS), this plan will guide the Tribes in managing wolves pre-delisting using the Amended 10J Rule of 2005 of the Department of Interior. Wolves “in the act” of attacking livestock and dogs could be lethally removed without prior written approval by the FWS. Take must be reported and evidence of the attack must be present. On a case-by-case basis, options to handle depredating wolves include but are not limited to: no action, non-lethal methods, radio-collaring and releasing, and immediate removal by lethal means.
- Once delisted, wolves will be managed solely by the Tribes as a game animal for which hunters and trappers would need to purchase a tag and report harvest to the Tribal Fish and Game (TFG) and the FWS's Lander Conservation Office (LCO). Lethal removal would still be allowed without a tag when a wolf is “in the act” of attacking livestock or dogs.
- Tribes will manage wolves independently and are not subject to the number of packs required to be maintained for recovery in areas of Wyoming outside of Yellowstone National Park (YNP).
- At this time, the Tribes do not designate a specific number of individuals or packs for which it will manage.
- Wolves will likely confine themselves to remote areas in the Owl Creeks and Wind River mountains, however, they may distribute across the Wind River Reservation (WRR).
- This plan applies to all lands within the 1868 exterior boundary of the WRR, as modified by the Lander and Thermopolis agreements.

Acknowledgements

We thank those that helped create this plan and provided information: Shoshone and Arapaho Joint Business Council, Rawlin Friday, Bob St. Clair, Ben Warren, Burton Hutchinson, Merle Haas, Ardeline Spotted Elk, Abraham Spotted Elk, Nancy Dice, Leonard Amos, Leonard Moss, Manfred Guina, Reba Teran, George Leonard, Bunny Shoyo, Richard Thunder, David Wolfraim, Richard Baldes, Star Weed, Eddie Amboh, Joe Henan, Mike Jimenez, and Ed Bangs.

Introduction

The gray wolf (*Canis lupus*) stirs debate like few other species of wildlife. Traditional Tribal views look upon wolves as kin, as helpers, as strong, as deserving of respect and placed here by the Creator for a purpose. Some contemporary views see wolves as competitors, livestock killers and in other negative ways. This plan looks neutrally upon wolves and considers them as a wildlife species for which management is needed due to tensions that will arise between the needs of wolves and the needs of people. Wolves have the potential to affect resources important to Tribal people such as big game and livestock. People have the potential to affect wolves by changing wolf habitat through development and harvesting big game. Our approach is to balance the needs of both people and wolves.

Wolves were designated as endangered under the Endangered Species Act (ESA) in 1974. Wolves were then redesignated as a nonessential experimental population in Idaho, Montana and Wyoming in 1994. This was done in order to initiate wolf reintroductions beginning in 1995 into central Idaho and Yellowstone National Park (YNP). Currently, the US Fish and Wildlife Service (FWS) is the lead agency for managing wolves on the WRR. Wolves that depredate livestock can be removed only by personnel from federal agencies that include FWS or APHIS Wildlife Services, or affected livestock owners with written permission from FWS. In addition, livestock owners can kill a wolf that is actively biting a cow, horse, sheep or mule on private land (Federal Register 2005).

Prior to managing wolves independently, states and tribes must develop management plans that are approved by the FWS. Tribes are self-governing, sovereign entities by which the federal government relates to on a government-to-government basis and have the capacity to develop their own wolf management plans independent of state jurisdiction (Federal Register 2005). Now that this plan has been approved by FWS, the Eastern Shoshone and Arapaho Tribes (Tribes) may sign a Cooperative Agreement (CA) with the FWS. The CA would allow the Shoshone and Arapaho Tribal Fish and Game Department (TFG) to act as “designated agents” of the FWS and conduct wolf management activities while the wolf is still listed as an endangered species. This plan follows the guidelines set forth in the Amended 10J Rule of 2005 by the Department of the Interior which relaxes restrictions on allowable wolf take related to livestock depredations. More details and further discussion can be found in the “Wolf Management Pre-delisting” section below.

Once the wolf is delisted, the Tribes can then manage wolves as they deem appropriate, without limitations imposed by the ESA or oversight by the FWS. Tribes are not subject to the number of packs required to be maintained for recovery in areas of Wyoming outside of YNP. This plan designates wolves as a game animal for which hunting and trapping seasons will be established by TFG under the direction of the Eastern Shoshone and Northern Arapaho Joint Business Council (JBC) and will apply to all lands within 1868 exterior boundary of the WRR, as modified by the Lander and Thermopolis agreements. More details and further discussion can be found in the “Wolf Management Post-delisting” section below.

The Lander Conservation Office (LCO) of the FWS has had a long and productive relationship assisting the Tribes in managing their fish and wildlife resources on the WRR since 1941. The JBC and TFG were assisted by the LCO in developing this plan.

Tribal Elder Views

Interviews of Shoshone and Arapaho Elders were conducted from August 2005 to February 2007. Visits were made to the Ft. Washakie, Ethete and Arapaho senior centers, Rocky Hall, individuals' homes, the Tribal College, and the Shoshone Cultural Center.

Traditional views recognize wolves as kin, as strong, as deserving of respect and placed here by the Creator for a purpose. The Shoshone word for wolf means “big coyote.” Wolves lived a long time, were very smart and observant, and listened well. When wolves appeared in a vision, one was to follow what the wolf showed you. The wolf was secretive and special and used to talk with people through telepathy. Wolves were helpers. One traditional story tells of wolves saving Shoshone people during a bad winter by feeding them deer. An Arapaho story tells of a young boy that was engrossed in playing and did not realize that his tribe was breaking camp. He was accidentally left behind, and then wandered in the wrong direction. As night fell he began to cry. A wolf appeared and told him not to be afraid – that he would help him. Three more wolves appeared. They gathered brush and used flint to start a fire. They raised the boy.

Wolves were strong and had the power to move from one place to another very quickly. Shoshones' had a traditional social Pow Wow dance where wolf hides were worn over the head - the dance signified bravery and wisdom. It was honorable to wear the skins of an animal that one was trying to emulate. Hunters would cover themselves in wolf skins and approach antelope in this manner in order to get closer before shooting. Skins were also worn to hunt buffalo and to scout for other Tribal groups. Wolves were sacred and to be left alone, however sometimes people had to kill them. People were to be careful around them. Wolves could teach virtuous things to people. They were an example of how to care for family members because they took good care of the young as well as the old. The packing behavior of wolves showed people that they should not go out hunting alone. Wolves also showed people to use the entire game animal (the meat, bones, hooves, marrow, skin, etc.) – not to waste any of it. Wolves wandered to wherever the food was, like earlier people did. They did not know boundaries. Now wolves are being confined to certain areas like Native Americans have been confined to Reservations.

Some Elders said that wolves should be protected; some said that wolves should be hunted and that ranchers should be able to protect their livestock; some said wolves were no good and dangerous and did not want them. Another mentioned that as long as wolves stayed away from her house, she was OK with them. One man wanted the Business Councils to talk with the elders directly and ask the elders themselves for their input. Many said that wolves have always been on the Reservation and were already here when Canadian wolves were released into YNP in 1995.

Current Status

As of 2007, there was an estimated minimum of 171 wolves in YNP, 188 wolves in Wyoming outside of YNP, 422 wolves in Montana and 732 wolves in Idaho (USFWS *et al.* 2008). In Wyoming outside of YNP, there were 25 packs with 14 breeding pairs. The number of wolves has steadily grown each year and increased annually at an average rate of 24% between 2003 and 2007; however, the increase between 2006 and 2007 dropped substantially to 7%. Seventy-five mortalities of wolves were documented in 2007 as follows: 63 control, 5 human-caused, 2 natural, 3 other, and 4 unknown. The control actions were related to livestock depredations. During the 11 year period from 1995 to 2005, confirmed wolf kills of livestock were as follows: 280 cattle, 569 sheep, 15 goats, llamas and horses, and 33 dogs in the Greater Yellowstone Recovery Area (includes YNP, and areas surrounding the park in Wyoming, Montana and Idaho). During that same period, 211 wolves were lethally removed related to these depredation incidents.

For this plan, packs that occur on the WRR are defined as a group of wolves that have a breeding pair and are contributing reproductively to the wolf population. Occasionally a group of wolves may not have a breeding pair due to a management removal.

Wolves have been observed on the WRR since reintroduction into YNP in 1995. At least 2 packs utilize the WRR and include the East Fork Pack and the Gooseberry/Owl Creek Pack (Jimenez *et al.* 2008). Both formed in 2004. These packs denned and had pups off of the WRR, but have territories that range on to the WRR. To date, there have been no documented breeding pairs on the Reservation since reintroduction.

The territories of both packs encompass portions of the Owl Creek Mountains on the WRR (see Figure 1). The East Fork Pack utilizes the East Fork of the Wind River area off the Reservation and the Crow Creek area in the northwest corner of the WRR. It is estimated at 4 adult wolves and 4 pups. The Gooseberry/Owl Creek Pack utilizes the Owl Creek drainages along the northern border of the WRR. It is estimated at 1 adult wolf and 5 pups. In addition, there has been wolf activity near Crowheart and Cold Springs. In April of 2006, wolf depredation of 2 livestock calves was confirmed. FWS and APHIS Wildlife Services personnel responded to the situation and removal of wolves was attempted, though unsuccessful.

Observations of Elk Between 2002 and 2007 and Areas of Wolf Activity Since 2004, Wind River Reservation.

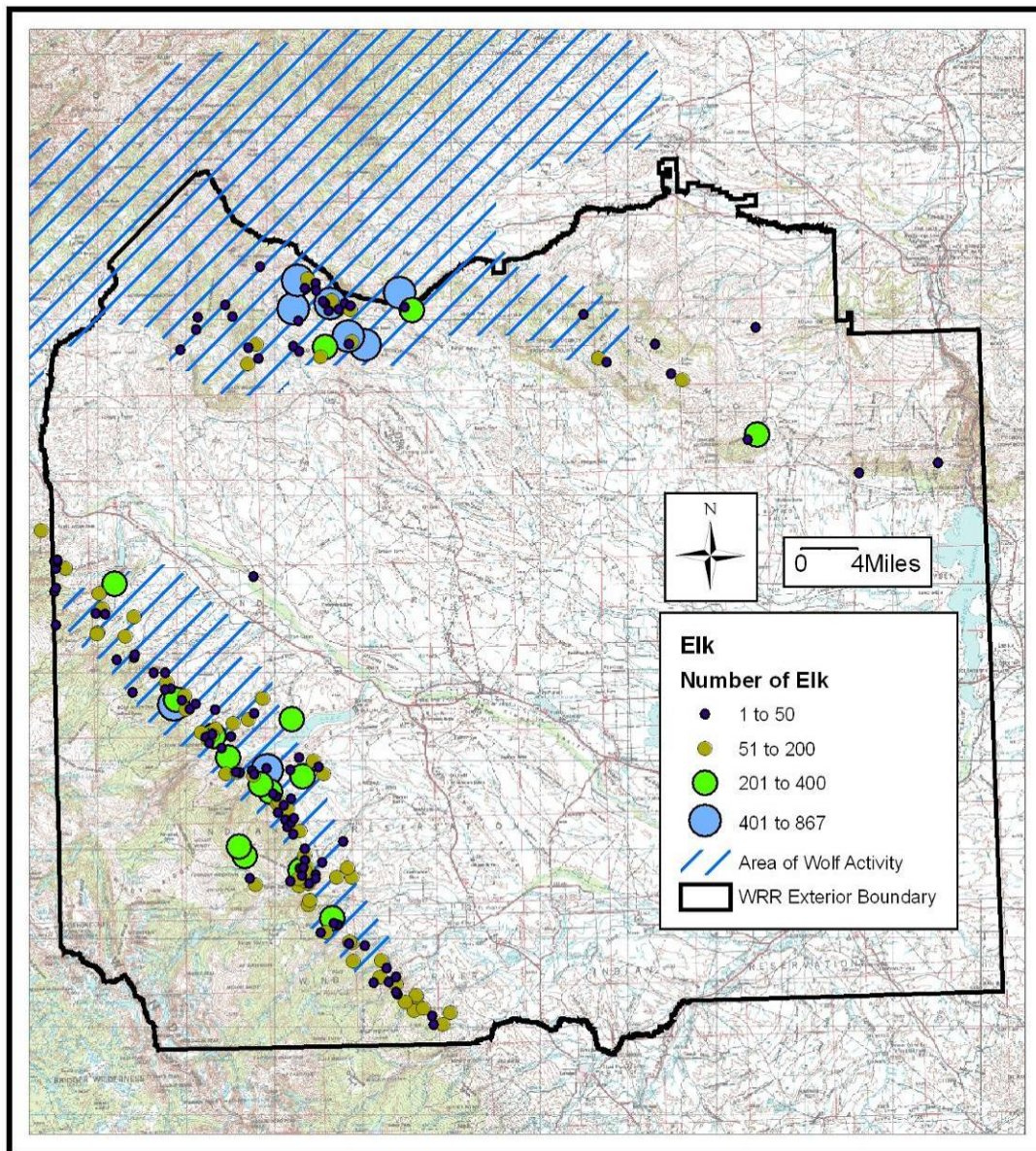


Figure 1. Cross-hatched areas show wolf activity based on radio-telemetred wolf locations (wolves from the East Fork and Owl Creek packs were captured off of the Reservation and radio-collared) and visual sightings from agency personnel and the public.

Interestingly, a report dating from 1907 indicated that wolf dens were located on WRR in the same general areas that wolves occupy today (Bailey 1907). A den was located in each of the following three areas: just west of Blondy Pass (coincides with Gooseberry/Owl Creek Pack territory), southwest of Black Mountain (coincides with East Fork Pack territory), and along Meadow Creek near Bold Mountain (coincides with livestock depredations near Crowheart).

The vast majority of the WRR is remote and sparsely populated and comprised of approximately 2,200,000 acres of habitat types that include desert, grassland, shrubland, montane, alpine, and agriculture lands. Specifically, 451,000 acres are forests, 1,135,000 acres are shrubland, and 124,000 acres are grassland. Of this, there is at least 500,000 acres of wolf habitat with prime habitat occurring in the Wind River and Owl Creek mountains. Elevations range from 4,500 to 12,250 feet. Estimates of wintering ungulates are: 2600 to 3100 antelope, 3200 to 4800 deer, 6,800 to 9,100 elk, 100 to 200 moose, and 350 to 450 bighorn sheep. In 2006, approximately 1,130 Tribal hunters harvested 130 pronghorn antelope, 475 deer, 550 elk, 5 moose, and 14 bighorn sheep.

Cattle are the primary livestock utilizing range on the WRR. There are approximately 135 permittees that ran 23,100 cow/calf pairs utilizing 163,400 Animal Unit Months on Tribal lands in 2001 (Bureau of Indian Affairs 2002). Approximately 140 horses were also ranged. There are no free-ranging domestic sheep or other livestock utilizing the WRR.

Wolf Biology

Wolves are large canids weighing 70-120 pounds that generally group into packs and occupy a territory. During 2007, pack size averaged 7 animals (as of November) outside of YNP, while packs in YNP were larger and averaged 14 animals (Jimenez *et al.* 2008). Pups are typically born in April or May and average 6 to 7 per litter. Occasionally, packs do not have a breeding pair and so pups are not produced. Wolf territories are very large and are typically 150 to 300 miles² in size (USFWS *et al.* 2008).

Wolves typically prey upon wild ungulates including elk, bison, moose, deer, and pronghorn antelope. However, elk are the predominate species that wolves prey upon within Wyoming. Between 2000 and 2007, elk comprised 95% of 330 ungulates found killed by wolves between late December and the end of March near Jackson, Wyoming (Jimenez *et al.* 2008). Of elk carcasses, 46% were calves, 39% were cows, and 15% were bulls. Based on availability, wolves preferred calves and selected against cows. During 2005 and 2006, spring/summer/fall analysis of 74 ungulate carcasses showed that elk comprised more than 85% of wolf kills. Of the elk carcasses, 41% were calves, 43% were cows, and 16% were bulls. Calf ratios dropped slightly after wolves recolonized the Jackson area. Between 1989 and 1999 before wolf presence, elk calf ratios averaged 29 calves per 100 cows. Following recolonization by wolves in 1999 until the present, calf ratios averaged 26 calves per 100 cows.

Research in YNP showed that wolves killed between 0.9 and 1.8 elk per wolf per 30-day period during the winter (USFWS *et al.* 2008). This roughly equates to a consumption of 11 to 22 elk per year per wolf. Elk predation by wolves may or may not reduce the number of elk available to Tribal hunters. Mortality can be additive or compensatory. Additive means that each cause of mortality (like bear and lion predation, accidents, disease, and hunter harvest) is added together. For example, a hypothetical population of 100 elk has 15% of its members die during the course of 1 year from the causes just mentioned. Wolves arrive and cause 10% mortality. If mortality was additive, then overall mortality would be 15% + 10% = 25% mortality. Compensatory means that one cause of mortality replaces another. For example, our hypothetical population of 100 elk again has 15% annual mortality. Wolves arrive and cause 10% mortality. If compensation is at play, then overall mortality is still 15%. The reason that mortality from wolves does not increase the overall mortality in this example is because there is a concurrent and commensurate decrease in the other causes of mortality. It is also possible that wolf-related mortality may not be

completely offset by the lowering of other causes, and so may result in an overall mortality somewhere *between* 15% and 25%.

The Northern Yellowstone Elk Herd provides an extant example of wolf/elk interaction. There is debate whether wolf predation of elk has been additive or compensatory and caused a population reduction of elk. This herd declined at an average rate of 6 to 8% annually from ~17,000 animals in 1995, the year wolves were reintroduced, to ~8,300 elk in 2004 (Evans *et al.* 2006). During the later part of this period, there were roughly 100 wolves utilizing the northern range of Yellowstone. In addition, there was a January-February hunt of wintering cow elk near Gardiner, Montana that removed an annual average of ~1,200 antlerless elk from this population between 1996 and 2003. Permit levels dropped from ~2,880 in 2000 to 1,400 in 2003 in response to decreasing abundance and low calf recruitment (Lemke 2003). Annual survival of radio-collared elk was ~83% between 2000 and 2004 and lower than survival rates of 99% between 1969 and 1975 when fewer elk were harvested by hunters, wolves were not present and other predators were less numerous (Evans *et al.* 2006). Wolf predation and hunter harvest were recognized as the reason for lowered survival and the decrease in the elk population (White and Garrott 2005).

In contrast to this, Vucetich *et al.* (2005) demonstrated that the decline in elk between 1995 and 2004 was the result of drought and hunter harvest and that wolf predation was compensatory. They showed that the decline would have occurred to the same extent (the drop from 17,000 to 8,300 elk between 1995 and 2004) without wolf predation. Garrott *et al.* (2005) reported that one should be cautious in generalizing the effects of wolves on elk populations as those effects vary from situation-to-situation. They compared effects by wolves on elk at 2 elk wintering areas: one in the Madison River headwaters area of YNP and one in the Lower Madison River area of Montana. Wolves were estimated to have killed 20% of the elk in the Madison River headwaters area and predicted to cause a future elk population decline, though a decline had not yet occurred. In contrast, at the Lower Madison River area wolves were estimated to have killed less than 4% of the elk and had little affect on the elk population, even though the kill rate per wolf (that is, the number of elk killed per wolf per month) was more than twice as high. Essentially, they concluded that effects will depend on such factors as wolf reproduction and densities, elk reproduction and densities, winter severity, and the amount of human-caused mortality on elk and wolves. Based on these research reports, whether wolf predation will result in fewer elk available for Tribal harvest is unpredictable and unknown at this time.

Wolf Management Pre-delisting

Currently, the FWS is the lead agency for wolf management within Wyoming, including the WRR. Given that wolves are here and will continue to expand their presence, the Tribes desire a greater level of management flexibility and responsibility. This plan provides for that following the signing of an CA between the FWS and Tribes. While wolves are listed, take by Tribal hunters and trappers is not permitted under ESA. Therefore, opportunities for Tribal management of wolves will center primarily on livestock depredations until such time that the wolf is delisted. In order to manage wolves successfully, Tribal personnel will be trained by FWS or APHIS Wildlife Services personnel in determining wolf kills, capturing techniques and appropriate handling of wolves.

As mentioned previously, this plan attempts to balance the needs of wolves and the needs of people. Wolves will likely spend the bulk of time in remote areas of the Owl Creeks and Wind River mountains where the majority of elk reside (see Figure 1). Cattle are also present in these areas during the spring, summer and fall and may be subject to wolf depredation. Wolves may also distribute widely across the WRR and occasionally occur in lower elevation sagebrush uplands and near agricultural lands. Cattle are present in these areas during winter months and calving season. Consequently, wolves may kill livestock and may need to be lethally removed.

Currently, depredating wolves can be removed only by FWS or APHIS Wildlife Services personnel. Losses of livestock must be confirmed before removal of depredating wolves, though a landowner can kill a wolf that is actively biting a cow, horse, sheep or mule on private land.

However, after approval of this plan and CA signing that authorizes the Tribes as to act as “designated agents”, the Amended 10J Rule of 2005 shown below will provide greater management flexibility in managing wolves. Specifically, it provides the following:

Amended 10J Rule of 2005, Department of the Interior.

Provision	Allowance
Take in self defense.	Any person may take a wolf in self defense or the defense of others.
Protection of human life and safety.	The Tribes may promptly remove (that is, place in captivity or kill) any wolf determined by the Tribes to be a threat to human life or safety.
Take of wolves “in the act” of attacking livestock on Tribal land by enrolled members without prior written authorization.	Any enrolled member on Tribal land may immediately shoot a wolf in the act of attacking livestock or dogs on Tribal land, provided the enrolled member provides evidence of livestock or dogs recently (less than 24 hours) wounded, harassed, molested, or killed by wolves, and a designated agent is able to confirm that the livestock or dogs were wounded, harassed, molested, or killed by wolves. <i>In the act of attacking</i> means the actual biting, wounding, grasping, or killing of livestock or dogs, or chasing, molesting, or harassing by wolves that would indicate to a reasonable person that such biting, wounding, grasping, or killing of livestock or dogs is likely to occur at any moment.
Tribal government take of Wolves of Concern.	“Wolves of Concern” are defined as wolves that attack livestock, dogs, or livestock herding and guarding animals once or any domestic animal twice in a calendar year. Criteria to determine when take will be initiated are: (1) evidence of the attack, (2) reason to believe that additional attacks will occur, (3) no evidence of unusual wolf attractants, and (4) any previously specified animal husbandry practices have been implemented.
Additional take by enrolled members on Tribal land for chronic wolf depredation.	Enrolled members may acquire written authorization from the Tribes to shoot wolves on sight on Tribal land after at least two separate confirmed depredations by wolves on livestock, livestock herding or guarding animals, or dogs, and the Tribes have determined that wolves are routinely present and pose a significant risk to the owner's livestock.
Incidental take.	Any person may take a gray wolf if the take is incidental to an otherwise lawful activity, and is accidental, unavoidable, unintentional, not resulting from negligent conduct lacking reasonable due care, and due care was exercised to avoid taking the wolf.
Additional take provisions for Tribal government employees.	The Tribes acting in the course of official duties, may take a wolf from the wild, if such action is for: (1) scientific purposes; (2) to avoid conflict with human activities; (3) to relocate a wolf within the Non-essential Experimental Population (NEP) areas to improve its survival and recovery prospects; (4) to aid or euthanize sick, injured, or orphaned wolves; (5) to salvage a dead specimen which may be used for scientific study; (6) to aid in law enforcement investigations involving wolves.

Other provisions of the Amended 10J Rule of 2005 not specifically mentioned in this plan would also apply to this plan.

On a case-by-case basis, options to handle depredating wolves include but are not limited to: no action, radio-collaring and releasing, using non-lethal methods, and immediate removal by lethal means. Non-lethal methods such as hazing, rubber bullets, and fladry, would be considered on a case-by-case basis. Compensation for livestock losses is currently being offered through the Defenders of Wildlife (see Contact List). When livestock are confirmed as killed by wolves by the Tribes, FWS, or APHIS Wildlife Services, the livestock owner will receive a copy of the report which the owner must then send to Defenders of Wildlife for reimbursement. Currently, livestock are compensated at 100% for confirmed kills and 50% for probable kills. This program may not

continue post-delisting. The Tribes would cooperate with and utilize assistance offered by the FWS and APHIS Wildlife Services when capturing or lethally removing wolves. Any illegal take would be investigated by the TFG in cooperation with Special Agent Roy Brown of the FWS.

A typical depredation scenario is as follows:

- A livestock owner finds a dead calf in his pasture. He covers the carcass with a tarp to protect the scene. He notifies the TFG.
- TFG contacts APHIS Wildlife Services (Tracy Frye or Casper Office 307-261-5336 if Tracy is not available) and/or FWS (Mike Jimenez) for assistance if needed. TFG visits scene and determines whether calf was killed by wolves. Appropriate paperwork is completed. If determined to be a confirmed or probable kill, a copy is given to the owner for submission to Defenders of Wildlife for compensation.
- TFG would discuss options with owner to determine course of action. Actions could include: no action to see if depredation continues; attempt to trap and radio-collar wolves to assess presence of wolves near livestock and identification of wolves if depredation continues; suggest confining or moving livestock if feasible to deter future depredation; consider using non-lethal methods such as fladry, rubber bullets and the like; or lethally remove wolf by trapping or shooting from the ground or aurally.

Monitoring of wolf activity would be done when deemed necessary and feasible within manpower and funding constraints. Possible methods for wolf monitoring would include radio-collaring, hollering surveys, track surveys, aerial surveys, and public reports. When deemed necessary, wolves would be snared, trapped, darted, and handled humanely according to approved practices used by FWS or Wildlife Services. Pamphlets would be developed for distribution to Tribal members that discusses wolf identification, wolf biology, Tribal management policies, and protocols for livestock depredations. Information on wolves would be incorporated into existing outreach programs (for example, hunter education).

Wolf Management Post-delisting

Once delisted, the wolf would be designated as a game animal for which hunting and trapping seasons would be established. Season timing and length, harvest quota and other specifics will be proposed annually by the TFG and LCO for approval by the JBC. Harvest strategy will depend on the number of wolves present on WRR and the management direction the Tribes wish to take. At this time, the Tribes do not designate a specific number of individuals or packs for which it will manage. Tribes will manage wolves independently and are not subject to the number of packs required to be maintained for recovery in areas of Wyoming outside of YNP.

To facilitate our ability to direct harvest, each Tribal hunter or trapper must possess a tag before any legal take occurs. Hunters and trappers would be required to report harvest to the TFG and the LCO. The LCO would record all known take (harvest, management action, illegal, accidents and any other take). Lethal removal would still be allowed without a tag when a wolf is "in the act" of attacking livestock or dogs, or under the other provisions listed above in the Pre-delisting section (Amended 10J Rule of 2005 table).

Options to handle depredating wolves would be the same as described under the Pre-delisting section. The Tribes would not compensate for livestock killed by wolves. Monitoring, capture and handling, and public outreach efforts will be similar to that described in the Pre-delisting section above.

Contact List

Person	Affiliation	Phone	Fax	Email
APHIS Wildlife Services	Casper Office	307-261-5336		
Bob St. Clair	Director, Shoshone & Arapaho Tribal Fish and Game	307-332-7207	332-2742	Fishandgame@wyoming.com
Dave Skates	US Fish and Wildlife Service, Project Leader	307-332-2159	332-9857	Dave_skates@fws.gov
Ivan Posey	Chairman, E. Shoshone Business Council	307-332-3532		Shoshonetribe@washakie.net
Harvey Spoonhunter	Chairman, N. Arapaho Business Council	307-332-6120		
Mike Jimenez	US Fish and Wildlife Service, Wyoming Wolf Coord.	307-330-5620		Mike_jimenez@fws.gov
Suzanne Stone	Defenders of Wildlife, Northern Rockies Field Rep.	208-424-9385		sstone@defenders.org
Pat Hnilicka	US Fish and Wildlife Service, Fish & Wildlife Biologist	307-332-2159	332-9857	Pat_hnilicka@fws.gov
Ray Nation	Bureau Indian Affairs, Wind River Agency, Asst. Supnt	307-332-7810		
Roy Brown	US Fish and Wildlife Service, Special Agent	307-332-7607		Roy_brown@fws.gov
Tracy Frye	APHIS Wildlife Services	307-850-4015		

Definitions

Breeding Pair: an adult male and adult female wolf that during the previous breeding season produced at least 2 pups that survived until December 31 of the year of their birth.

Depredation: a wolf attack that resulted in the immediate or recent (< 1 week) death of a domestic animal.

Designated agents: those designated by the FWS to assume lead authority for wolf management and to implement the portions of their plans that are consistent with the Amended 10J Rule of 2005. A Cooperative Agreement must be in place before a designation occurs.

Domestic animal: animals that have been selectively bred over many generations to enhance specific traits for their use by humans, including use as pets. This includes livestock and dogs.

FWS: US Fish and Wildlife Service.

Fladry: a string of flags used to contain or exclude wild animals.

In the act of attacking: the actual biting, wounding, grasping, or killing of livestock or dogs, or the chasing, molesting or harassing by wolves that would indicate to a reasonable person that such biting, wounding, grasping, or killing of livestock or dogs is likely to occur at any moment.

JBC: Joint Business Council of the Eastern Shoshone and Northern Arapaho Tribes.

Livestock: cattle, sheep, horses, mules, domestic bison, and herding and guarding animals (llamas, donkeys, and certain breeds of dogs commonly used for herding and guarding livestock).

LCO: FWS Lander Conservation Office.

Pack: a group of wolves that occupy a territory and have a breeding pair.

Private land: all land that is not under Federal Government ownership and administration. Tribal land is considered private land.

Remove: place in captivity, relocate to another location, or kill.

Take: to remove.

TFG: Shoshone and Arapaho Tribal Fish and Game Department.

Tribal land: All lands within the exterior boundaries of the WRR as identified in the 1874 and 1897 Treaties.

Tribes: the Eastern Shoshone and Northern Arapaho Tribes of the Wind River Reservation.

Ungulate: hoofed animal.

Wolf of Concern: a wolf that attacks livestock, dogs, or livestock herding and guarding animals once or any domestic animal twice in a calendar year.

WRR: Wind River Reservation.

YNP: Yellowstone National Park.

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Wolf Management Plan for the Wind River Reservation



**Eastern Shoshone and Northern Arapaho Tribes
Ft. Washakie and Ethete, WY**

**Shoshone and Arapaho Tribal Fish
and Game Department
Ethete, WY**

**Assisted by the U.S. Fish and Wildlife Service
Management Assistance Office
Lander, WY**

April 13, 2007


Ivan Posey, Chairman Eastern Shoshone Tribe
4/18/07
Date


Rick Brannan, Chairman Northern Arapaho Tribe
4/18/07
Date

Summary

- This plan looks neutrally upon wolves and considers them as a wildlife species for which management is needed due to tensions that will arise between the needs of wolves and the needs of people. Traditional views of the Eastern Shoshone and Northern Arapaho Tribes (Tribes) recognize wolves as kin, as helpers, as strong, and as deserving of respect and placed here by the Creator for a purpose.
- Once approved by the US Fish and Wildlife Service (FWS), this plan will guide the Tribes in managing wolves pre-delisting using the Amended 10J Rule of 2005 of the Department of Interior. Wolves "in the act" of attacking livestock and dogs could be lethally removed without prior written approval by the FWS. Take must be reported and evidence of the attack must be present. On a case-by-case basis, options to handle depredating wolves include but are not limited to: no action, non-lethal methods, radio-collaring and releasing, and immediate removal by lethal means.
- Once delisted, wolves will be managed solely by the Tribes as a game animal for which hunters and trappers would need to purchase a tag and report harvest to the Tribal Fish and Game (TFG) and the FWS's Lander Management Assistance Office (LMAO). Lethal removal would still be allowed without a tag when a wolf is "in the act" of attacking livestock or dogs.
- Tribes will manage wolves independently and are not subject to the number of packs required to be maintained for recovery in areas of Wyoming outside of Yellowstone National Park (YNP).
- At this time, the Tribes do not designate a specific number of individuals or packs for which it will manage.
- Wolves will likely confine themselves to remote areas in the Owl Creeks and Wind River mountains, however, they may distribute across the Wind River Reservation (WRR).
- This plan applies to Tribal trust, allotted, and fee-title Indian-owned land within the exterior boundaries of the WRR.

Acknowledgements

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Introduction

The gray wolf (*Canis lupus*) stirs debate like few other species of wildlife. Traditional Tribal views look upon wolves as kin, as helpers, as strong, as deserving of respect and placed here by the Creator for a purpose. Some contemporary views see wolves as competitors, livestock killers and in other negative ways. This plan looks neutrally upon wolves and considers them as a wildlife species for which management is needed due to tensions that will arise between the needs of wolves and the needs of people. Wolves have the potential to affect resources important to Tribal people such as big game and livestock. People have the potential to affect wolves by changing wolf habitat through development and harvesting big game. Our approach is to balance the needs of both people and wolves.

Wolves were designated as endangered under the Endangered Species Act (ESA) in 1974. Wolves were then redesignated as a nonessential experimental population in Idaho, Montana and Wyoming in 1994. This was done in order to initiate wolf reintroductions beginning in 1995 into central Idaho and Yellowstone National Park (YNP). Currently, the US Fish and Wildlife Service (FWS) is the lead agency for managing wolves on the WRR. Wolves that depredate livestock can be removed only by personnel from federal agencies that include FWS or APHIS Wildlife Services, or affected livestock owners with written permission from FWS. In addition, livestock owners can kill a wolf that is actively biting a cow, horse, sheep or mule on private land (Federal Register 2005).

Prior to managing wolves independently, states and tribes must develop management plans that are approved by the FWS. Tribes are self-governing, sovereign entities by which the federal government relates to on a government-to-government basis and have the capacity to develop their own wolf management plans independent of state jurisdiction (Federal Register 2005). Once this plan is approved by FWS, the Eastern Shoshone and Arapaho Tribes (Tribes) may sign a Memorandum of Agreement (MOA) with the FWS. This MOA would allow the Shoshone and Arapaho Tribal Fish and Game Department (TFG) to act as “designated agents” of the FWS and conduct wolf management activities while the wolf is still listed as an endangered species. This plan follows the guidelines set forth in the Amended 10J Rule of 2005 by the Department of the Interior which relaxes restrictions on allowable wolf take related to livestock depredations. More details and further discussion can be found in the “Wolf Management Pre-delisting” section below.

Once the wolf is delisted, the Tribes can then manage wolves as they deem appropriate, without limitations imposed by the ESA or oversight by the FWS. Tribes are not subject to the number of packs required to be maintained for recovery in areas of Wyoming outside of YNP. This plan designates wolves as a game animal for which hunting and trapping seasons will be established by TFG under the direction of the Eastern Shoshone and Northern Arapaho Joint Business Council (JBC). More details and further discussion can be found in the “Wolf Management Post-delisting” section below.

The Lander Management Assistance Office (LMAO) of the FWS has had a long and productive relationship assisting the Tribes in managing their fish and wildlife resources on the WRR since 1941. The JBC and TFG were assisted by the LMAO in developing this plan.

Tribal Elder Views

Interviews of Shoshone and Arapaho Elders were conducted from August 2005 to February 2007. Visits were made to the Ft. Washakie, Ethete and Arapaho senior centers, Rocky Hall, individuals' homes, the Tribal College, and the Shoshone Cultural Center.

Traditional views recognize wolves as kin, as strong, as deserving of respect and placed here by the Creator for a purpose. The Shoshone word for wolf means "big coyote." Wolves lived a long time, were very smart and observant, and listened well. When wolves appeared in a vision, one was to follow what the wolf showed you. The wolf was secretive and special and used to talk with people through telepathy. Wolves were helpers. One traditional story tells of wolves saving Shoshone people during a bad winter by feeding them deer. An Arapaho story tells of a young boy that was engrossed in playing and did not realize that his tribe was breaking camp. He was accidentally left behind, and then wandered in the wrong direction. As night fell he began to cry. A wolf appeared and told him not to be afraid – that he would help him. Three more wolves appeared. They gathered brush and used flint to start a fire. They raised the boy.

Wolves were strong and had the power to move from one place to another very quickly. Shoshones' had a traditional social Pow Wow dance where wolf hides were worn over the head - the dance signified bravery and wisdom. It was honorable to wear the skins of an animal that one was trying to emulate. Hunters would cover themselves in wolf skins and approach antelope in this manner in order to get closer before shooting. Skins were also worn to hunt buffalo and to scout for other Tribal groups. Wolves were sacred and to be left alone, however sometimes people had to kill them. People were to be careful around them. Wolves could teach virtuous things to people. They were an example of how to care for family members because they took good care of the young as well as the old. The packing behavior of wolves showed people that they should not go out hunting alone. Wolves also showed people to use the entire game animal (the meat, bones, hooves, marrow, skin, etc.) – not to waste any of it. Wolves wandered to wherever the food was, like earlier people did. They did not know boundaries. Now wolves are being confined to certain areas like Native Americans have been confined to Reservations.

Some Elders said that wolves should be protected; some said that wolves should be hunted and that ranchers should be able to protect their livestock; some said wolves were no good and dangerous and did not want them. Another mentioned that as long as wolves stayed away from her house, she was OK with them. One man wanted the Business Councils to talk with the elders directly and ask the elders themselves for their input. Many said that wolves have always been on the Reservation and were already here when Canadian wolves were released into YNP in 1995.

Current Status

As of November, 2006, there was an estimated minimum of 140 wolves in YNP, 184 wolves in Wyoming outside of YNP, 300 wolves in Montana and 650 wolves in Idaho. These data were acquired from the Interagency Wolf Management Meeting held in Missoula Montana in early December, 2006.

In Wyoming outside of YNP, there are 22 packs with 15 breeding pairs. The number of wolves has steadily grown each year and increased by 27% between 2005 and 2006 (Mike Jimenez, personal communication, 2006). Fifty-five mortalities of wolves were documented in 2006 as follows: 44 control, 5 human-caused, 2 natural, and 4 unknown. The control actions were related to livestock depredations. During the 11 year period from 1995 to 2005, confirmed wolf kills of livestock were as follows: 280 cattle, 569 sheep, 15 goats, llamas and horses, and 33 dogs in the Greater Yellowstone Recovery Area (includes YNP, and areas surrounding the park in Wyoming, Montana and Idaho). During that same period, 211 wolves were lethally removed related to these depredation incidents.

For this plan, packs that occur on the WRR are defined as a group of wolves that have a breeding pair and are contributing reproductively to the wolf population. Occasionally a group of wolves may not have a breeding pair due to a management removal.

Wolves have been observed on the WRR since reintroduction into YNP in 1995. At least 2 packs utilize the WRR and include the East Fork Pack and the Owl Creek Pack. Both formed in 2004.

These packs denned and had pups off of the WRR, but have territories that range on to the WRR. To date, there have been no documented breeding pairs on the Reservation since reintroduction.

The territories of both packs encompass portions of the Owl Creek Mountains on the WRR (see Figure 1). The East Fork Pack utilizes the East Fork of the Wind River area off the Reservation and the Crow Creek area in the northwest corner of the WRR. It is estimated at 8 adult wolves and has one radio-collared adult female (#519f). It's uncertain whether this pack had pups in 2006. The Owl Creek Pack utilizes the Owl Creek drainages along the northern border of the WRR. It is estimated at 2 adult wolves and 3 pups and has one radio-collared adult female (#566f). In addition, there has been wolf activity near Crowheart and Cold Springs. In April of 2006, wolf depredation of 2 livestock calves was confirmed. FWS and APHIS Wildlife Services personnel responded to the situation and removal of wolves was attempted, though unsuccessful.

Observations of Elk Between 2002 and 2007 and Areas of Wolf Activity Since 2004, Wind River Reservation.

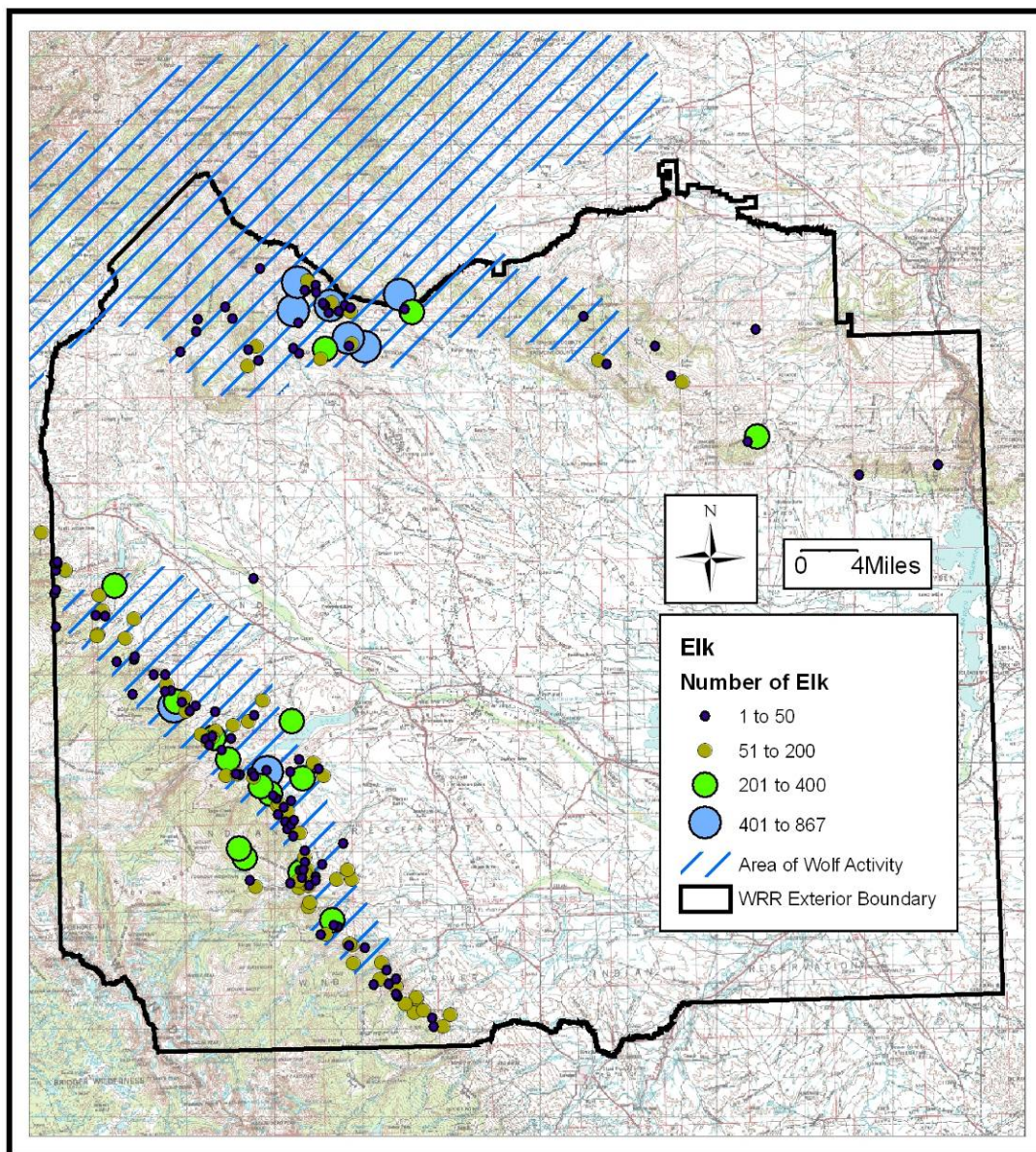


Figure 1. Cross-hatched areas show wolf activity based on radio-telemetred wolf locations (wolves from the East Fork and Owl Creek packs were captured off of the Reservation and radio-collared) and visual sightings from agency personnel and the public.

Interestingly, a report dating from 1907 indicated that wolf dens were located on WRR in the same general areas that wolves occupy today (Bailey 1907). A den was located in each of the following three areas: just west of Blondy Pass (coincides with Owl Creek Pack territory), southwest of Black Mountain (coincides with East Fork Pack territory), and along Meadow Creek near Bold Mountain (coincides with livestock depredations near Crowheart).

The vast majority of the WRR is remote and sparsely populated and comprised of approximately 1,900,000 acres (excluding the Riverton Reclamation Withdrawal lands) of habitat types that include desert, grassland, shrubland, agriculture lands, montane, and alpine. Specifically, 451,000 acres are forests, 1,135,000 acres are shrubland, and 124,000 acres are grassland. Of this, there is at least 500,000 acres of wolf habitat with prime habitat occurring in the Wind River and Owl Creek mountains. Elevations range from 4,500 to 12,250 feet. Estimates of wintering ungulates are: 2600 to 3100 antelope, 3200 to 4800 deer, 5900 to 7100 elk, 100 to 200 moose, and 350 to 450 bighorn sheep. In 2005, approximately 1,120 Tribal hunters harvested 150 pronghorn antelope, 385 deer, 550 elk, 7 moose, and 12 bighorn sheep.

Cattle are the primary livestock utilizing range on the WRR. There are approximately 135 permittees that ran 23,100 cow/calf pairs utilizing 163,400 Animal Unit Months on Tribal lands in 2001 (Bureau of Indian Affairs 2002). Approximately 140 horses were also ranged. There are no free-ranging domestic sheep or other livestock utilizing the WRR.

Wolf Biology

Wolves are large canids weighing 70-120 pounds that generally group into packs and occupy a territory. During 2006, pack size averaged 7 animals (as of November) outside of YNP, while packs in YNP were larger and averaged 10 animals (Interagency Wolf Meeting 2006). Pups are typically born in April or May and average 6 to 7 per litter. Occasionally, packs do not have a breeding pair and so pups are not produced. Wolf territories are very large and are typically 150 to 300 miles² in size (USFWS *et al.* 2006).

Wolves typically prey upon wild ungulates including elk, bison, moose, deer, and pronghorn antelope. However, elk are the predominate species that wolves prey upon within Wyoming. Between 2000 and 2006, elk comprised 95% of 281 ungulates found killed by wolves between late December and the end of March near Jackson, Wyoming (Jimenez 2006). Of elk carcasses, 47% were calves, 38% were cows, and 15% were bulls. Based on availability, wolves preferred calves and selected against cows. During 2005 and 2006, spring/summer/fall analysis of 74 ungulate carcasses showed that elk comprised more than 85% of wolf kills. Of the elk carcasses, 41% were calves, 43% were cows, and 16% were bulls. Calf ratios dropped slightly after wolves recolonized the Jackson area. Between 1989 and 1999 before wolf presence, elk calf ratios averaged 29 calves per 100 cows. Following recolonization by wolves in 1999 until the present, calf ratios averaged 26 calves per 100 cows.

Research in YNP showed that wolves killed between 0.9 and 1.8 elk per wolf per 30-day period during the winter (USFWS *et al.* 2006). This roughly equates to a consumption of 11 to 22 elk per year per wolf. Elk predation by wolves may or may not reduce the number of elk available to Tribal hunters. Mortality can be additive or compensatory. Additive means that each cause of mortality (like bear and lion predation, accidents, disease, and hunter harvest) is added together. For example, a hypothetical population of 100 elk has 15% of its members die during the course of 1 year from the causes just mentioned. Wolves arrive and cause 10% mortality. If mortality was additive, then overall mortality would be $15\% + 10\% = 25\%$ mortality. Compensatory means that one cause of mortality replaces another. For example, our hypothetical population of 100 elk again has 15% annual mortality. Wolves arrive and cause 10% mortality. If compensation is at play, then overall mortality is still 15%. The reason that mortality from wolves does not increase the overall mortality in this example is because there is a concurrent and commensurate decrease in the other causes of mortality. It is also possible that wolf related mortality may not be

completely offset by the lowering of other causes, and so may result in an overall mortality somewhere *between* 15% and 25%.

The Northern Yellowstone Elk Herd provides an extant example of wolf/elk interaction. There is debate whether wolf predation of elk has been additive or compensatory and caused a population reduction of elk. This herd has declined at an average rate of 6 to 8% annually from ~17,000 animals in 1995, the year wolves were reintroduced, to ~8,300 elk in 2004 (Evans *et al.* 2006). There are roughly 100 wolves utilizing the northern range of Yellowstone. In addition, there is a January-February hunt of wintering cow elk near Gardiner, Montana that has removed an annual average of ~1,200 antlerless elk from this population between 1996 and 2003. Permit levels dropped from ~2,880 in 2000 to 1,400 in 2003 in response to decreasing abundance and low calf recruitment (Lemke 2003). Annual survival of radio-collared elk was ~83% between 2000 and 2004 and lower than survival rates of 99% between 1969 and 1975 when fewer elk were harvested by hunters, wolves were not present and other predators were less numerous (Evans *et al.* 2006). Wolf predation and hunter harvest were recognized as the reason for lowered survival and the decrease in the elk population (White and Garrott 2005).

In contrast to this, Vucetich *et al.* (2005) demonstrated that the decline in elk between 1995 and 2004 was the result of drought and hunter harvest and that wolf predation was compensatory. They showed that the decline would have occurred to the same extent (the drop from 17,000 to 8,300 elk between 1995 and 2004) without wolf predation. Garrott *et al.* (2005) reported that one should be cautious in generalizing the effects of wolves on elk populations as those effects vary from situation-to-situation. They compared effects by wolves on elk at 2 elk wintering areas: one in the Madison River headwaters area of YNP and one in the Lower Madison River area of Montana. Wolves were estimated to have killed 20% of the elk in the Madison River headwaters area and predicted to cause a future elk population decline, though a decline had not yet occurred. In contrast, at the Lower Madison River area wolves were estimated to have killed less than 4% of the elk and had little affect on the elk population, even though the kill rate per wolf (that is, the number of elk killed per wolf per month) was more than twice as high. Essentially, they concluded that effects will depend on such factors as wolf reproduction and densities, elk reproduction and densities, winter severity, and the amount of human caused mortality on elk and wolves. Based on these research reports, whether wolf predation will result in fewer elk available for Tribal harvest is unpredictable and unknown at this time.

Wolf Management Pre-delisting

Currently, the FWS is the lead agency for wolf management within Wyoming, including the WRR. Given that wolves are here and will continue to expand their presence, the Tribes desire a greater level of management flexibility and responsibility. This plan will provide for that following approval by FWS and signing of an MOA between the FWS and Tribes. While wolves are listed, take by Tribal hunters and trappers is not permitted under ESA. Therefore, opportunities for Tribal management of wolves will center primarily on livestock depredations until such time that the wolf is delisted. In order to manage wolves successfully, Tribal personnel will be trained by FWS or APHIS Wildlife Services personnel in determining wolf kills, capturing techniques and appropriate handling of wolves.

As mentioned previously, this plan attempts to balance the needs of wolves and the needs of people. Wolves will likely spend the bulk of time in remote areas of the Owl Creeks and Wind River mountains where the majority of elk reside (see Figure 1). Cattle are also present in these areas during the spring, summer and fall and may be subject to wolf depredation. Wolves may also distribute widely across the WRR and occasionally occur in lower elevation sagebrush uplands and near agricultural lands. Cattle are present in these areas during winter months and calving season. Consequently, wolves may kill livestock and may need to be lethally removed.

Currently, depredating wolves can be removed only by FWS or APHIS Wildlife Services personnel. Losses of livestock must be confirmed before removal of depredating wolves, though a landowner can kill a wolf that is actively biting a cow, horse, sheep or mule on private land. However, after approval of this plan and MOA signing that authorizes the Tribes as to act as "designated agents", the Amended 10J Rule of 2005 shown below will provide greater management flexibility in managing wolves. Specifically, it provides the following:

Amended 10J Rule of 2005, Department of the Interior.

Provision	Allowance
Take in self defense.	Any person may take a wolf in self defense or the defense of others.
Protection of human life and safety.	The Tribes may promptly remove (that is, place in captivity or kill) any wolf determined by the Tribes to be a threat to human life or safety.
Take of wolves "in the act" of attacking livestock on Tribal land by enrolled members without prior written authorization.	Any enrolled member on Tribal land may immediately shoot a wolf in the act of attacking livestock or dogs on Tribal land, provided the enrolled member provides evidence of livestock or dogs recently (less than 24 hours) wounded, harassed, molested, or killed by wolves, and a designated agent is able to confirm that the livestock or dogs were wounded, harassed, molested, or killed by wolves. <i>In the act of attacking</i> means the actual biting, wounding, grasping, or killing of livestock or dogs, or chasing, molesting, or harassing by wolves that would indicate to a reasonable person that such biting, wounding, grasping, or killing of livestock or dogs is likely to occur at any moment.
Tribal government take of Wolves of Concern.	"Wolves of Concern" are defined as wolves that attack livestock, dogs, or livestock herding and guarding animals once or any domestic animal twice in a calendar year. Criteria to determine when take will be initiated are: (1) evidence of the attack, (2) reason to believe that additional attacks will occur, (3) no evidence of unusual wolf attractants, and (4) any previously specified animal husbandry practices have been implemented.
Additional take by enrolled members on Tribal land for chronic wolf depredation.	Enrolled members may acquire written authorization from the Tribes to shoot wolves on sight on Tribal land after at least two separate confirmed depredations by wolves on livestock, livestock herding or guarding animals, or dogs, and the Tribes have determined that wolves are routinely present and pose a significant risk to the owner's livestock.
Incidental take.	Any person may take a gray wolf if the take is incidental to an otherwise lawful activity, and is accidental, unavoidable, unintentional, not resulting from negligent conduct lacking reasonable due care, and due care was exercised to avoid taking the wolf.
Additional take provisions for Tribal government employees.	The Tribes acting in the course of official duties, may take a wolf from the wild, if such action is for: (1) scientific purposes; (2) to avoid conflict with human activities; (3) to relocate a wolf within the Non-essential Experimental Population (NEP) areas to improve its survival and recovery prospects; (4) to aid or euthanize sick, injured, or orphaned wolves; (5) to salvage a dead specimen which may be used for scientific study; (6) to aid in law enforcement investigations involving wolves.

Other provisions of the Amended 10J Rule of 2005 not specifically mentioned in this plan would also apply to this plan.

On a case-by-case basis, options to handle depredating wolves include but are not limited to: no action, radio-collaring and releasing, using non-lethal methods, and immediate removal by lethal means. Non-lethal methods such as hazing, rubber bullets, and fladry, would be considered on a case-by-case basis. Compensation for livestock losses is currently being offered through the

Defenders of Wildlife (see Contact List). When livestock are confirmed as killed by wolves by the Tribes, FWS, or APHIS Wildlife Services, the livestock owner will receive a copy of the report which the owner must then send to Defenders of Wildlife for reimbursement. Currently, livestock are compensated at 100% for confirmed kills and 50% for probable kills. This program may not continue post-delisting. The Tribes would cooperate with and utilize assistance offered by the FWS and APHIS Wildlife Services when capturing or lethally removing wolves. Any illegal take would be investigated by the TFG in cooperation with Special Agent Roy Brown of the FWS.

A typical depredation scenario is as follows:

- A livestock owner finds a dead calf in his pasture. He covers the carcass with a tarp to protect the scene. He notifies the TFG.
- TFG contacts APHIS Wildlife Services (Tracy Frye or Casper Office 307-261-5336 if Tracy is not available) and/or FWS (Mike Jimenez) for assistance if needed. TFG visits scene and determines whether calf was killed by wolves. Appropriate paperwork is completed. If determined to be a confirmed or probable kill, a copy is given to the owner for submission to Defenders of Wildlife for compensation.
- TFG would discuss options with owner to determine course of action. Actions could include: no action to see if depredation continues; attempt to trap and radio-collar wolves to assess presence of wolves near livestock and identification of wolves if depredation continues; suggest confining or moving livestock if feasible to deter future depredation; consider using non-lethal methods such as fladry, rubber bullets and the like; or lethally remove wolf by trapping or shooting from the ground or aerially.

Monitoring of wolf activity would be done when deemed necessary and feasible within manpower and funding constraints. Possible methods for wolf monitoring would include radio-collaring, hollering surveys, track surveys, aerial surveys, and public reports. When deemed necessary, wolves would be snared, trapped, darted, and handled humanely according to approved practices used by FWS or Wildlife Services. Pamphlets would be developed for distribution to Tribal members that discusses wolf identification, wolf biology, Tribal management policies, and protocols for livestock depredations. Information on wolves would be incorporated into existing outreach programs (for example, hunter education).

Wolf Management Post-delisting

Once delisted, the wolf would be designated as a game animal for which hunting and trapping seasons would be established. Season timing and length, harvest quota and other specifics will be proposed annually by the TFG and LMAO for approval by the JBC. Harvest strategy will depend on the number of wolves present on WRR and the management direction the Tribes wish to take. At this time, the Tribes do not designate a specific number of individuals or packs for which it will manage. Tribes will manage wolves independently and are not subject to the number of packs required to be maintained for recovery in areas of Wyoming outside of YNP.

To facilitate our ability to direct harvest, each Tribal hunter or trapper must possess a tag before any legal take occurs. Hunters and trappers would be required to report harvest to the TFG and the LMAO. The LMAO would record all known take (harvest, management action, illegal, accidents and any other take). Lethal removal would still be allowed without a tag when a wolf is "in the act" of attacking livestock or dogs, or under the other provisions listed above in the Pre-delisting section (Amended 10J Rule of 2005 table).

Options to handle depredating wolves would be the same as described under the Pre-delisting section. The Tribes would not compensate for livestock killed by wolves. Monitoring, capture and handling, and public outreach efforts will be similar to that described in the Pre-delisting section above.

Contact List

Person	Affiliation	Phone	Fax	Email
APHIS Wildlife Services	Casper Office	307-261-5336		
Ben Warren	Warden, Shoshone & Arapaho Tribal Fish and Game	307-332-7207	332-2742	Fishandgame@wyoming.com
Bob St. Clair	Warden, Shoshone & Arapaho Tribal Fish and Game	307-332-7207	332-2742	Fishandgame@wyoming.com
Dave Skates	US Fish and Wildlife Service, Project Leader	307-332-2159	332-9857	Dave_skates@fws.gov
Ivan Posey	Chairman, Shoshone Business Council	307-332-3532		Shoshonetribewashakie.net
Mike Jimenez	US Fish and Wildlife Service, Wyoming Wolf Coord.	307-330-5620		Mike_jimenez@fws.gov
Suzanne Stone	Defenders of Wildlife, Northern Rockies Field Rep.	208-424-9385		sstone@defenders.org
Pat Hnilicka	US Fish and Wildlife Service, Wildlife Biologist	307-332-2159	332-9857	Pat_hnilicka@fws.gov
Ray Nation	Bureau Indian Affairs, Wind River Agency, Asst. Supnt	307-332-7810		
Rick Brannan	Chairman, Arapaho Business Council	307-332-6120		
Roy Brown	US Fish and Wildlife Service, Special Agent	307-332-7607		Roy_brown@fws.gov
Tracy Frye	APHIS Wildlife Services	307-850-4015		

Definitions

Breeding Pair: an adult male and adult female wolf that during the previous breeding season produced at least 2 pups that survived until December 31 of the year of their birth.

Depredation: a wolf attack that resulted in the immediate or recent (< 1 week) death of a domestic animal.

Designated agents: those designated by the FWS to assume lead authority for wolf management and to implement the portions of their plans that are consistent with the Amended 10J Rule of 2005. An Memorandum of Agreement must be in place before a designation occurs.

Domestic animal: animals that have been selectively bred over many generations to enhance specific traits for their use by humans, including use as pets. This includes livestock and dogs.

FWS: US Fish and Wildlife Service.

Fladry: a string of flags used to contain or exclude wild animals.

In the act of attacking: the actual biting, wounding, grasping, or killing of livestock or dogs, or the chasing, molesting or harassing by wolves that would indicate to a reasonable person that such biting, wounding, grasping, or killing of livestock or dogs is likely to occur at any moment.

JBC: Joint Business Council of the Eastern Shoshone and Northern Arapaho Tribes.

Livestock: cattle, sheep, horses, mules, domestic bison, and herding and guarding animals (llamas, donkeys, and certain breeds of dogs commonly used for herding and guarding livestock).

LMAO: FWS Lander Management Assistance Office.

Pack: a group of wolves that occupy a territory and have a breeding pair.

Private land: all land that is not under Federal Government ownership and administration. Tribal land is considered private land.

Remove: place in captivity, relocate to another location, or kill.

Take: to remove.

TFG: Shoshone and Arapaho Tribal Fish and Game Department.

Tribal land: Tribal trust, allotted, and fee-title Indian-owned land within the exterior boundaries of the WRR.

Tribes: the Eastern Shoshone and Northern Arapaho Tribes of the Wind River Reservation.

Ungulate: hoofed animal.

Wolf of Concern: a wolf that attacks livestock, dogs, or livestock herding and guarding animals once or any domestic animal twice in a calendar year.

WRR: Wind River Reservation.

YNP: Yellowstone National Park.

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NORTHERN GRAY WOLF MANAGEMENT PLAN FOR THE FLATHEAD INDIAN RESERVATION



Image Courtesy of the U. S. Fish and Wildlife Service

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Introduction

The Salish, Kootenai & Pend d'Oreille people have always stressed the importance of a balanced ecosystem, and according to the Salish & Pend d'Oreille Tribal Elders, the wolf is considered to be a vital part of the ecosystem. They believe that the wolf takes sickness away from the game herds, therefore helping the herds to maintain overall herd health. (Salish & Pend d'Oreille Culture Committee, unpubl. data). Other people have expressed admiration for the wolf's skill as a hunter. Other people who reside on the Flathead Indian Reservation are concerned about adverse impacts that wolves may have on game populations, domestic animals and livestock and human safety issues

The recovery of the Gray Wolf (*Canis lupus*) to the Northern Rocky Mountain Region (NRM), which includes Montana, Idaho and Wyoming, was rapid. Needing little help, the natural emigration of wolves from Canada into Idaho and Montana was first documented in the 1970s (Pletscher et al. 1997). Reintroduction efforts of 1995 at Yellowstone National Park (YNP) and northeastern Idaho allowed this top predator to strengthen its foothold in the NRM (Bangs et al. 1998). No other reintroduction efforts anywhere in the Northern Rocky Mountains occurred.

At the end of 2008, there was an estimated minimum of 1,695 wolves with 95 breeding pairs in Montana, Idaho and Wyoming, with 497 wolves, consisting of 39 breeding pairs in Montana alone (Sime et al. 2009). By the end of 2014 in Montana, a minimum of 627 wolves including 28 breeding pairs were documented in Montana. In northwest Montana, a minimum of 412 wolves in 104 packs, with 16 breeding pairs were documented (Bradley et al. 2014). Approximately 30 wolves occurred on the Flathead Indian Reservation at the end of 2013 (Confederated Salish and Kootenai Tribes Wildlife Management Program, unpublished. data, 2014).

The welcome mat has not always been out for wolves in Montana and other Rocky Mountain states. Wolf packs were thought to have been eliminated from Montana by the 1930's, primarily due to the statewide bounty offered for each wolf hide and state-and federal-sanctioned wolf elimination programs. By the 1970's, only a few rare sightings were reported, with an occasional wolf kill reported. This eventually led to the 1974 listing of the northern gray wolf as "endangered" under the federal Endangered Species Act (ESA) and ongoing management and recovery efforts directed by the U. S. Fish and Wildlife Service (USFWS).

In 1980, efforts began with the Rocky Mountain Wolf Recovery Team to fully recover the species and eventually remove it from the Endangered Species List. Recovery goals were developed with a minimum of 30 breeding pairs established (U. S. Fish and Wildlife Service 1987). These recovery goals were first achieved in 2002 (Sime et al. 2007).

The rate of recovery of gray wolves exceeded many people's expectations, but there was little doubt that at some point wolves would no longer need the continued protections of the ESA. With that realization, wildlife management agencies have been assembling appropriate management plans to guide the future of the species. These efforts originally involved monitoring and conflict resolution, but with the increase in wolf populations and the attendant conflicts between wolves and stockgrowers, serious concerns about the impacts of wolves upon big game populations have also been major issues.

The three states within the NRM, along with tribal governments, completed work on wolf conservation plans to take over the management of wolves from the USFWS, after delisting from the ESA occurred. Montana and Idaho completed wolf management plans which received the approval of the USFWS, as did plans for the Wind River, Blackfoot, Nez Perce and Flathead Indian Reservations. After initial disagreement on Wyoming's wolf management plan, the USFWS eventually approved it; however, litigation in 2014 caused management of Wyoming wolves to revert back to the USFWS.

Delisting (removal of gray wolves from the Endangered Species List) officially first occurred in February, 2008. That decision was subsequently overturned due to questions raised in litigation, and the gray wolf listing was reinstated in July 18, 2008. Subsequent responses to the litigation by the USFWS resulted in a second de-listing effort which was published on April, 2009, with the official de-listing occurring on May 4, 2009.

Several conservation organizations subsequently sued the U. S. Fish and Wildlife Service regarding the second de-listing. In a Federal District Court decision on August 5, 2010, the Court's ruling directed the USFWS to again list the gray wolf as an Endangered Species in northwestern Montana and to re-instate the experimental, non-essential status for wolves in southwestern Montana and Idaho.

During the winter of 2011, the conservation groups that brought the lawsuit to re-list wolves and the U. S. Fish and Wildlife Service reached a settlement requested by 10 of the 14 plaintiffs involved in the litigation. The proposed settlement would have revised the earlier court decision and removed wolves from listing in Montana and Idaho. The Court also rejected that settlement proposal.

In April of 2011, the United States Senate approved language in the Fiscal Year 2011 Budget Bill, which the President signed, that directed the Secretary of the Interior to re-issue the Final Rule (74 Federal Register 15123 et seq.) published on April 2, 2009. That action resulted in the delisting of the northern gray wolf in Montana and Idaho. The Final Rule determined that wolf populations in these two states had recovered biologically. The Final Rule also contained mandatory post-delisting monitoring and public reporting requirements, and safeguards that could result in wolves again being considered for Endangered Species Act re-listing, if necessary.

The result of the legislation is that the management of northern gray wolves is returned to the states of Montana, Idaho, eastern Oregon, eastern Washington and north-central Utah. State wildlife managers in those states work cooperatively with their counterparts on Indian Reservations to manage wolf populations and human/wolf conflicts. Although the wolf management plan for Wyoming was not included, the state and U. S. Fish and Wildlife Service eventually reached agreement, and wolf management was turned over to the state. That agreement was overturned in litigation brought by environmental organizations in 2014, and wolf management was again placed with the U. S. Fish and Wildlife Service for Wyoming.

Ecology of the Northern Gray Wolf

The gray wolf is the largest native canid species. Adults range from 60-130 pounds and measure four and a half feet to six feet in length and twenty-six to thirty-eight inches tall. The gray wolf can vary in color from white, gray, to pure black. Characteristics such as; longer legs, large feet, straight tail, and

broad head and snout, help distinguish it from other closely related canid species. Tracks are another way to correctly identify a wolf from other canids, their front tracks generally measure 3 7/8" to 5 1/2" long by 2 3/8" to 5" wide, with the rear track measuring 3 1/8" to 4 3/4" long by 2 1/4" to 4 1/4" wide (Rezendes 1999).

Another major feature that sets the gray wolf apart from other canids is their strong social connection to one another. Wolves tend to form packs, which can vary greatly in size. In 2008, Montana Fish, Wildlife & Parks (MFWP) found that Montana's wolf pack averaged 6.0 individuals per pack (Sime et al. 2009). Pack members generally consist of a breeding dominant pair, their young of the year and the previous year's offspring. However, unrelated wolves are occasionally allowed to join the pack. Cooperation by all members of the pack is critical for survival. The pack travels together, and pack members help to rear young, defend territory against intruders and hunt and eat as a family group.

Breeding primarily occurs between the alpha male and alpha female, and has been found to be at its peak in mid- to late-February in the Rocky Mountain Region (Boyd et al. 1993). However, breeding by more than one female in a pack has been documented in wolf packs in Yellowstone National Park (YNP) (Smith et al. 2000) and on the Flathead Indian Reservation (FIR) in 2008, resulting in more than one litter of pups (Sime et al. 2009). In 2008, twenty-seven wolves were documented in the Hog Heaven pack on the Flathead Indian Reservation, including 2 breeding females and 15 pups. This is the largest recorded pack in Montana [a pack of 37 wolves was documented in Yellowstone National Park], and it is only the third time that a double litter has been documented in Montana in 23 years. On average, one litter of 5 pups is born in late April.

When juveniles reach sexual maturity, which generally occurs around 22 months (Mech 1970), some choose to disperse from the pack. These individuals are known as "dispersers", and tend to leave the pack at 1 to 3 years of age (Boyd et al. 1993, Sime 2008). In Northwestern Montana, dispersers were found to leave mainly during courtship (January-February), or breeding season (May-June) (Boyd and Pletscher 1999).

Disease, like distemper and parvovirus, and lack of nutrition are major factors affecting pup survival (Mech and Goyal 1993, Johnson et al. 1994). Adult survival in the Rocky Mountain Region is affected mainly by human-caused deaths, due to conflicts with livestock, as well as being killed by other wolves defending their territory (Mech et al. 2003). Other human-caused deaths can be associated to vehicle and train collisions. An analysis of wolf radio telemetry data in the NRM from 1984-2004 indicated on average 26% of the adult-sized wolves die each year. Overall, morality occurs from agency control (10%/yr.), illegal killing (10%/yr.), human-caused accidents (3%/yr.) and natural causes (3%/yr.).

Wolf habitat is difficult to classify, due to the fact that it's totally dependant on prey availability, therefore variations in territory boundaries from year to year are not uncommon. In 1999, the average territory of a wolf pack within Northwest Montana was 185 square miles (USFWS et al. 2000). Territories in the NRM range can be as large as 500 square miles.

The gray wolf is considered to be an opportunistic feeder and known to scavenge winter kill or livestock carcasses. Their primary natural prey species consists of white-tailed deer (*Odocoileus virginianus*), mule deer (*Odocoileus hemionus*), elk (*Cervus elaphus*), moose (*Alces alces*) and beaver

(*Castor canadensis*); however, being opportunistic predators, they will and are capable of taking a wide variety of prey species. Their affect on ungulate populations and how well ungulates will adjust are not completely understood but varies on a host of factors. In 1999, white-tailed deer made up 83% of a wolves diet in northwestern Montana, with elk and moose comprising of 14% and 3%, respectively (Kunkel et al 1999). Recent research on wolf-ungulate interactions in southwestern Montana indicated elk as preferred prey for wolves, with varying degrees of predation impacts observed on the elk populations studied (Hamlin et al. 2008).

Studies with YNP have found that, with the reintroduction of this top predator, the natural ecosystem as a whole seems to be recovering. For example, elk populations are being forced to use different habitats; therefore the aspen (*Populus tremuloides*) and willow (*Salix* spp.) that they have heavily over-utilized are recovering (Jones 1974, DeByle 1985, Boyce 1989). This in turn benefits migratory birds that use these deciduous trees at various times of the year for nesting and foraging. Other wildlife species that are scavengers [coyotes (*Canus latrans*), birds, etc.] are also benefiting from leftover kills made by wolves year-round, rather than depending on winterkill only during the early spring months (Kunkel et al. 1999).

The return of wolves to the landscape of the NRM retains a wide range of visceral feelings for the human residents of the region. The presence of wolves on the landscape is viewed by many Native Americans as the return of a brother and by environmentalists as the return of a missing piece of the ecological puzzle. Other viewpoints contrast sharply. Wolves preying upon livestock have caused considerable and serious concern about its presence by stock growers. In addition, many big game hunters have concerns about both the short and long-term impacts of a recovered and productive wolf population upon big game populations that they hunt and subsist on.

Clearly the return of the wolf and how it will be managed has created the greatest controversy in wildlife management since the extreme reductions of wildlife populations throughout North America during the time of settlement. As a result, wildlife managers find themselves attempting to reconcile the diverse opinions of factions that refuse to compromise their beliefs and principles about gray wolves in an effort to forge a long-term management strategy that provides for the best consideration of all viewpoints.

Current Status of Gray Wolves in the Northern Rocky Mountains of Montana

Within the exterior boundaries of the Montana, a minimum of 566 wolves were documented in 2010, indicating that 108 verified packs and 32 breeding pairs were present in the state (Sime et al. 2011). At the end of 2014 in Montana, a minimum of 627 wolves including 28 breeding pairs were documented in Montana. In northwest Montana, a minimum of 412 wolves in 104 packs, with 16 breeding pairs were documented (Bradley et al. 2014). An additional minimum of 123 wolves in 26 packs, with 7 breeding pairs

Current Status of Gray Wolves on the Flathead Indian Reservation

Records of wolf observation on the Flathead Indian Reservation prior to the 1990s seem to be sporadic and usually undocumented. Most reports involved observations of suspected wolves in the northwestern corner of the Reservation. In 1992, the movements and colonization of wolves in the Ninemile Valley,

just south of the Reservation, were a topic of interest to many. In 1993, the first documented activity in the south end of the Reservation was reported, and shortly thereafter, depredation by wolves upon cattle was reported and verified.

Since that time, there have been several reported observations of wolves, some verified and some not verified. Activity has been heavily concentrated primarily in the western half of the Reservation and along the southern boundary areas. The Hog Heaven area has likely seen the most activity and has been the site of at least three different packs. Other activity has been regular along the western and southern boundaries of the Reservation, in addition to activity in the Salish Mountains.

On the Flathead Indian Reservation as of the summer of 2014, Tribal Wildlife Biologists observed wolf activity (observation reports, scat or tracks) in seven locations on the Reservation. These packs include a minimum of approximately 30 wolves, not including pups born during the summer of 2014 (Confederated Salish and Kootenai Tribes Wildlife Management Program, unpublished. data, 2014).

Given the ability of wolves to range over large landscapes with relative ease, the Reservation can play host to wolves that not only den and spend most of their time on the Reservation, but the area may also be utilized by wolves from adjacent areas. As a result, wolves from other packs in these areas, as well as other non-territorial wolves from elsewhere may occasionally move back and forth across the boundaries of the Reservation. As of late 2013, wolf activity was also documented at 8 areas adjacent to the Reservation, such as in the Thompson River Drainage, the Ninemile area and the Swan Valley. Some of those wolves occasionally move on and off of the Reservation.

Definition of Need

As in other areas of the Northern Rockies, the Flathead Indian Reservation has been the location of several conflicts with livestock and other domestic animals. In each case, Tribal Wildlife Management Program staff, Tribal Fish and Wildlife Conservation Officers and U. S. Department of Agriculture Wildlife Services staff have jointly investigated the conflict sites and taken action to alleviate the conflicts. These actions have included the use of non-lethal techniques, such as hazing, installation of fladry and the use of noise making devices.

When non-lethal techniques fail to deter wolves from taking livestock, authorization has been sought from the Tribal Council and the U. S. Fish and Wildlife Service to kill one or two wolves at the conflict site to attempt to preclude further depredations. When that has failed, authorizations have been requested to kill the entire pack involved. At the same time, active management has been balanced with public information and information for stockgrowers involved to provide examples of how to potentially avoid future depredation conflicts.

Wolf management efforts undertaken by all management agencies have resulted in the development of effective cooperative relationships, with the roles of each clearly defined. Staffing by each has developed an effective group of professionals that can respond well and quickly to management issues within their jurisdictions. These effective working relationships engender improved and effective responses.

The current status of wolves in the northern Rocky Mountains, along with their ability to disperse into adjacent locales and their prolific productivity will place increased stress upon already limited wildlife management budgets, regardless of the entity involved. Wildlife managers will be challenged to determine ways to cover public demands involved with managing wolves while simultaneously attempting to adequately manage other pressing wildlife issues.

Management Goal

The goal of this wolf management plan is to provide for and manage the long-term presence of wolves on the Flathead Indian Reservation while simultaneously minimizing conflicts between wolves and humans and adverse impacts upon big game populations. In attempting to do so, the cultural significance of wolves must be acknowledged, and animals must be respected and treated in a humane manner, even during control actions.

The management of wolves on the Reservation will be coordinated with wolf management activities of other state and federal agencies in such a way as to support the viability of wolves as a native species in northwestern Montana and prevent the need for re-listing of the species under the federal Endangered Species Act. The following objectives are the foundation for wolf management on the Flathead Indian Reservation. Each represents an important issue that will be considered in conducting wolf management activities.

Objectives

- 1) Acknowledge the cultural beliefs and concerns of the Salish, Kootenai and Pend d' Oreille people with regard to wolves and incorporate reverence for those to the extent possible in wolf management.
- 2) Consider the ecology and behavioral aspects of wolves in developing management prescriptions for wolves.
- 3) Inform residents of the Flathead Indian Reservation about wolf ecology and management to the extent possible.
- 4) Work cooperatively with state and federal agencies to monitor local, regional and range-wide wolf populations and manage conflicts efficiently to the extent possible.
- 6) Assess the influence of wolves upon big game and act as appropriate.
- 7) Work cooperatively with livestock growers to assess depredation complaints and to assist in developing solutions to those conflicts, including providing assistance with damage compensation claims to available sources.
- 8) Consider human safety as a potential management concern related to the presence of wolves.

Tribal Wolf Management Policy

On April 16, 2009, the Tribal Council approved a policy indicating support for treatment of gray wolves as a native wildlife species which requires active management. In doing so, the Council realized the cultural and ecological significance of wolves to many of its constituents. The Council also

acknowledged the potential for conflicts between wolves and local populations of big game and other wildlife, as well as the potential for conflicts between wolves and domestic livestock. The Council decision favored a balanced approach to wolf management that attempts to take all of these factors into account. Council action in December of 2014 re-iterated those earlier policy decisions.

This wolf management policy will neither manage toward a maximum nor a minimum number of wolves on the Flathead Indian Reservation. Management direction will attempt to assure the long term presence of a wolf population, minimize the potential of conflict with humans and resolve that conflict when it occurs. Wolf population management will depend heavily upon wolf behavior and amount of conflict with other wildlife, livestock and people. For example, if there are few or no conflicts with a higher population of wolves on the Reservation, no excessive effort to reduce the wolf population will occur. However, if limited numbers of wolves occur on the Reservation and if those wolves repeatedly kill livestock, or if excessive numbers of big game or other wildlife species are documented as killed by wolves, lethal control may be implemented.

Implementation

Regulations and Statutes

The gray wolf is recognized as a native wildlife species by the Confederated Salish and Kootenai Tribes. Under the provisions of this management plan, gray wolves are not subject to taking by hunting or trapping at this time, although the Tribal Council may consider such taking at a later date.

Barring changes in Tribal Council management direction, legal taking could occur for administrative reasons, such as taking of aggressive wolves that threaten human safety or wolves that kill domestic animals and livestock. Livestock growers may also take problem wolves that are attempting to kill or are observed feeding on livestock that the wolves have recently killed under specific guidelines.

While wolves have not been documented as a significant human safety concern, the potential does exist that they might threaten humans under certain circumstances. As a result, wolves that are openly aggressive toward humans can be harassed or killed by Tribal and USDA Wildlife Services personnel under specific guidelines. Those guidelines can be found in Table 1.

Regulations regarding wolves will be included in the annual Fish, Wildlife and Recreation Regulations developed by the Tribal Division of Fish, Wildlife Recreation and Conservation. These regulations are reviewed annually by the Tribal Council and the public, and the Council may approve changes as necessary. These regulations will be enforced by the Tribal Fish and Wildlife Conservation Program, and the staff of this program will coordinate with federal, state and local authorities as necessary to enforce the regulations.

Departmental Responsibilities

The Tribal Wildlife Management Program will be responsible for implementation of the Tribal Gray Wolf Management Plan. The Tribal Wildlife Program Manager will have discretion to make

decisions on day-to-day management of individual wolves, including coordination of interagency monitoring and management activities and big game and livestock depredation management.

Tribal Wildlife Management Program staff will work closely with the Tribal Fish and Wildlife Conservation Program in conducting wolf management activities. Tribal Wildlife Management Program staff will also work cooperatively with USDA Wildlife Services personnel under a Memorandum of Understanding to respond to livestock depredation complaints. The Tribal Wildlife Management Program will coordinate with Montana Fish, Wildlife and Parks as appropriate on wolf population monitoring and management issues that affect wolves which routinely use both state and tribal lands.

Public Information and Outreach

A wide variety of methods will be utilized to keep the public informed of wolf activity and management activities. Print and broadcast media will carry information on wolf management topics. Additional information will be placed on the Tribal Wildlife Management Program page on the Tribal website that could be used as a reference for ongoing management activities, as well as for educational opportunities.

Conflict Management

Investigation of Conflicts

Conflicts between wolves and livestock will likely occur occasionally. When that happens, all calls, complaints and reports of conflicts will be investigated as quickly as possible to determine the nature of the conflict and to ascertain if wolves are involved.

If livestock or domestic animal depredation occurs, animals killed should be covered with a tarp or other cover to preserve the scene for investigation. Foot traffic and other activity in the vicinity which might obscure evidence of depredation should also be limited.

Any investigations of possible wolf depredation of livestock or domestic animals will include examination of dead and injured livestock as necessary to attempt to best determine cause of injury or death. All investigations will use caution not to damage or destroy evidence. Images pertinent to the incident will be included, along with a narrative of the incident. All results will be documented in a case file. The information in the case file will be used to assess the situation and to determine an appropriate course of management action.

In general, non-lethal methods of wolf control will be utilized initially. If repeated depredations occur or the non-lethal methods of control are ineffective, the use of lethal control of depredating wolves will be considered on a case-by case basis. Management responses to wolf/human conflicts are listed in Table 1.

Assistance of USDA Wildlife Services Agents will be requested as deemed necessary by Tribal Wildlife Management Program personnel. The Tribes maintain a Memorandum of Agreement with that agency for cooperative management of livestock depredation issues.

Table 1. Management Responses to Wolf/Human Conflicts

Conflict Type	Responses
Mild habituation to humans or first incidence of food conditioning	<u>1 wolf or multiple wolves:</u> Nonlethal harassment, trapping, collaring, and monitoring. Examine reason for conflict and apply preventative measures.
Major habituation or subsequent evidence of food conditioning	<u>1 wolf:</u> Lethal control <u>Multiple wolves:</u> Trapping, collaring, and monitoring combined with harassment and lethal control of 1 or more of the wolves. Examine reason for conflict and apply preventative measures.
Livestock depredation-first incident.	<u>1 wolf:</u> Lethal control or trapping, collaring, & monitoring <u>Multiple wolves:</u> Trapping, collaring, monitoring. Examine livestock practices and recommend changes or preventative measures, if needed.
Livestock depredation-subsequent incidents.	<u>1 wolf:</u> Lethal control <u>Multiple wolves:</u> Trapping, collaring, monitoring combined with lethal control of 2-3 wolves. Examine livestock practices and use changes or preventative measures if needed. Evaluate effectiveness of actions. More wolves killed after each subsequent depredation until depredations are alleviated, or the entire pack may be killed.

Records of Investigations

Detailed records of any investigations of wolf conflicts or mortalities will be completed and maintained by the Tribal Wildlife Management Program . Copies of these reports will be made available to individuals involved in wolf-human conflicts or to cooperating agencies that are involved with investigations or compensation claims. Data will be shared with other cooperating agencies, such as Montana Fish, Wildlife and Parks, for use in the Annual Montana Interagency Wolf Report and for other appropriate scientific and management purposes as determined by the Tribal Wildlife Management Program.

Compensation for Losses Caused by Wolves

The Confederated Salish and Kootenai Tribes do not assume responsibility for compensation for any losses or damages resulting from wolves, including livestock depredation, livestock harassment, livestock injury, injury to or mortality of pets or other domestic animals or human injuries or mortality caused by wolves.

The Tribal Wildlife Management Program will work directly with stock growers who experience losses due to wolf depredation to assist in facilitating reimbursement with confirmed losses through applicable agreements with government agencies or private organizations that offer such reimbursements. The Program will provide assistance in the form of contacts, copies of verification reports and other evidence that will assist the complainants in accessing reimbursement funding agencies or organizations.

Currently, the only compensation available is the Livestock Loss Reduction and Mitigation Board, which is administered by the Montana Department of Livestock. The Tribal Wildlife Management Program has completed negotiations for a Memorandum of Agreement with the Department of Livestock to allow Reservation residents to file claims for compensation of verified livestock losses attributable to wolf depredation. Tribal Wildlife Management Program staff will work cooperatively with USDA Wildlife Services Agents to verify wolf depredation and assist affected stockgrowers in filing their claims.

Any reimbursement program must be equally available to all affected individuals located within the exterior boundaries of the Flathead Indian Reservation, and any claims for reimbursement must be agreed to by the Confederated Salish and Kootenai Tribes or their representative.

Wolf Capture and Relocation

Wolves involved in conflicts will not be captured and relocated within the boundaries of the Flathead Indian Reservation due to the high probability of further conflicts. The U. S. Fish and Wildlife Service and Montana Fish, Wildlife and Parks also do not currently condone such relocations elsewhere in Montana.

The Tribal Wildlife Management Program has investigated the possibility of entering into agreements with other wildlife management agencies or captive animal facilities (wildlife sanctuaries, zoos, etc.) that might be willing to accept live wolves. Appropriate permitting of the facility would be necessary before any such transfer. The agency or facility receiving the animal would also be responsible for any transportation and other applicable costs. While such transfers may be possible, initial investigation did not prove successful in developing placement opportunities for live wolves due to the capacity of the facilities or to the difficulty in successfully introducing new wolves into established captive groups.

Animal Handling Procedures

Tribal Wildlife Management Program staff will attempt to capture at least one animal within each pack to be fitted with a radio telemetry transmitter. This equipment will allow the staff to monitor the locations of the animals and their packs and to utilize the locations to determine biological information as well as for assistance in locating depredating wolves.

Depending upon the situation and whether or not capture of a wolf for management or research is warranted, the animal may be captured by padded leg-hold traps, snares, darting, or by net-gun. Each such capture is dependant upon the individual situation and existing conditions. Any capture of wolves will be completed in a respectful manner that is humane, and all possible efforts will be made to quickly remove the animal from the capture equipment, followed by prompt, complete and appropriate handling procedures. Animals that are to be released will be released as quickly as possible. If animals are to be held or transported, these actions will be conducted to facilitate humane treatment and rapid transfer.

Legal Taking of Wolves

Pending the outcome of investigations of livestock depredation complaints, wolves may be legally taken by Tribal Wildlife Management Program personnel, Tribal Fish and Wildlife Conservation personnel or Wildlife Services personnel under Tribal Wildlife Management Program direction.

Livestock growers may kill or harass problem wolves involved in actively pursuing, injuring or killing livestock or domestic animals. When possible, stock growers who observe wolves in the area of their livestock or who observe a wolf depredating livestock or domestic animals are required to contact the Tribal Wildlife Management Program within 12 hours of the incident. Tribal Wildlife Management Program and USDA Wildlife Service staff will then investigate the incident to determine the status and discuss management options with the owner of the livestock

Members of the general public who are threatened by aggressive wolves may legally harass and/or kill the wolves involved. In such cases, the Tribal Fish and Game Conservation Program must be notified within 12 hours following the incident. The Tribal Fish and Game Conservation Program and Tribal Wildlife Management Program will investigate the incident to determine the status as legal taking. As part of this investigation, any wolf carcasses or any parts thereof remain the property of the Confederated Salish and Kootenai Tribes.

Hunting and Trapping of Wolves

The Tribal Council approved wolf hunting and trapping regulations in 2013, but did not do so in 2014. At the Tribal Council's discretion, the Tribal Wildlife Management Program will develop wolf hunting and/or trapping proposals for Tribal Council review. If the Council approves wolf hunting or trapping proposals, regulations for wolf hunting and/or trapping will be developed on an annual basis.

Accidental Capture of Wolves

Trappers who accidentally capture a wolf must release it unharmed immediately. If the wolf shows signs of injury or the trapper feels uncomfortable releasing the animal, the Tribal Wildlife

Management Program or the Tribal Fish and Wildlife Conservation Program must be contacted as soon as possible to determine disposition of the animal.

Illegal Taking of Wolves

Any cases of illegal killing of wolves will be investigated by Tribal Fish and Wildlife Conservation Officers, Conservation Officers from Montana Fish, Wildlife and Parks, and the U. S. Fish and Wildlife Service Special Agent in Charge, as appropriate. Any legal action will involved in such cases will occur in the appropriate court.

Harassment of Wolves

Aggressive wolves or wolves that exhibit signs of habituation may be harassed by Tribal and USDA Wildlife Services personnel or affected members of the public. Under certain circumstances, stockgrowers or members of the public by the use of noise-making devices or by shooting firearms in the vicinity of the animals after consultation with the Tribal Wildlife Management Program and USDA Wildlife Services. Other methods of harassment (such as cracker shells, Critter Getters, etc.) may also be available, and information or advice on their use may be obtained from the Tribal Wildlife Management Program.

Disposal of Wolves Taken During Management Actions

Wolves killed during management actions or other wolves that are turned in to the Confederated Salish and Kootenai Tribes' Wildlife Management Program or the Tribal Fish and Wildlife Conservation Program will remain the property of the Confederated Salish and Kootenai Tribes. Appropriate sampling for biological studies and/or law enforcement investigation requirements will be collected for biological studies or legal proceedings. Some hides and skulls may be retained for educational purposes, as needed.

The Tribal Wildlife Management Program will work in cooperation with the Kootenai and Salish and Pend d' Oreille Culture Committees to transfer wolf carcasses or the parts thereof to them for distribution, if they wish. If not, the Program will develop a list of Tribal members who would like to receive the items. Requests will be filled on a first-come, first serve basis, with one available item provided to individual requestors. Individuals may request only one wolf carcass or the parts thereof.

Research and Monitoring of Wolves

To the extent possible under applicable funding and balanced with other wildlife management priorities, the Tribal Wildlife Management Program will attempt to monitor wolves and their activities in those areas of the Reservation where wolves occur. Montana Fish, Wildlife and Parks biologists conduct periodic monitoring flights to determine location of packs, numbers of animals and activities. Any observations recorded on the Reservation are transmitted to the Tribal Wildlife Management Program. Verification of wolf activity on the ground is then conducted by the Tribal Wildlife Management Program, as is any attempts to capture and radio-tag animals. Those on-the-ground activities are also coordinated with the local Wildlife Services Agent.

Research and Monitoring of Big Game

To the extent possible under applicable funding and balanced with other wildlife management priorities, the Tribal Wildlife Management Program will attempt to monitor the impact of wolves upon big game and other wildlife. Monitoring will be undertaken in specific areas of the Reservation in which wolves occur on an as needed basis and prioritized along with other wildlife monitoring. Because funding is limited, the scope of this monitoring effort may be limited to specific prioritized areas of wolf activity.

Periodic Plan Review and Revision

This wolf management plan will initially be reviewed at the end of the fifth year of implementation by the Tribal Wildlife Management Program staff and the Tribal Council. Any required changes or adjustments necessary will then be developed for adoption by the Council. The plan may also be reviewed as necessary by the Tribal Wildlife Management Program, and revisions may be recommended for consideration by the Tribal Council.

The plan can also be reviewed and revised as needed by the Tribal Council as a result of a demonstrated need to do so. If revisions to the existing plan are proposed, any cooperating agencies that have agreements with the Confederated Salish and Kootenai Tribes will be notified and consulted. Likewise, any changes in policy or procedure related to wolf management by other agencies will require notification of the Tribes and consultation prior to enactment.

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Blackfeet Tribe

Wolf Management Plan

Adopted By Blackfeet Tribal Business Council June, 2008

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I. Introduction and Definition of Need

Wolves are native to the Blackfeet Reservation and historic traditional territory of Blackfeet. Wolves co-existed with the Blackfeet people throughout history and are, like many wildlife species, entwined in Blackfeet culture, tradition, and religion.

The wolf population on the Blackfeet Reservation, like in the rest of the U.S., was nearly killed off early in the 20th century. Wolf recovery began in the western U.S. in the 1980s. Wolves naturally migrated into northern Montana from Canada and a federal program reintroduced wolves into Yellowstone and Idaho. Conservation efforts and protection under the Endangered Species Act have allowed populations to increase and spread throughout much of Montana, including the Blackfeet Reservation. The cultural value in addition to the more contemporary aesthetic, scientific, and economic values of wolves make their conservation desirable to the Blackfeet Tribe. The potential for conflict between wolves and people is high, however. Active management and public education is necessary to balance the presence of wolves with the interests and well-being of people including issues of livestock depredation and harassment, pet predation and personal safety.

II. Goal

The goal of this wolf management plan is to provide for the long term presence of wolves on the Blackfeet Reservation by implementing best management practices to minimize human and wolf conflict while incorporating Blackfeet cultural values and beliefs.

III. Objectives

1. Provide to Tribal game wardens and Blackfeet Fish & Wildlife Department (BFWD) personnel specific training on wolf behavior and management, wolf depredation investigation techniques, and capture and handling techniques.
2. Incorporate Blackfeet culture and traditions into the management of wolves on the reservation.
3. Provide information on wolf biology, ecology, and management to residents on the Blackfeet Reservation.
4. Provide direction to investigate and take appropriate action to resolve conflicts between wolves and people.
5. Provide direction and training to report and record all conflicts between wolves and people.
6. Mitigate losses that people incur due to the presence or actions of wolves.

7. Provide for monitoring efforts to evaluate the effectiveness of this plan and to revise the plan when necessary.
8. Provide direction to collect information on the status of the wolf population and on the general health of wolves.

IV. Wolf Management Policy

Wolf management policy on the Blackfeet Reservation conformed to federal regulation while wolves remain listed as threatened or endangered under the Endangered Species Act. Now that wolves are delisted they will be classified as big game animals and the Blackfeet Fish & Wildlife Dept. will manage wolves as they do other species of wildlife on the reservation.

Wolf hunting may be considered a management option the same as with other big game on the reservation. Wolf hunting will be regulated with quotas through the Blackfeet Fish and Wildlife Code.

Blackfeet wolf management policy will be to manage neither toward a maximum nor a minimum number of wolves on the reservation. Management direction will be to assure the long term presence of a wolf population and minimize the potential of conflict with people and resolve that conflict when it occurs. Wolf population management strategies will depend more on wolf behavior and amount of conflict with livestock and people. If there are few or no conflicts with a high known population of wolves on the reservation there will be no excessive effort to reduce the wolf population or retard population growth. Conversely, if there are only a few wolves on the reservation and they repeatedly kill livestock and management guidelines dictate lethal control they may all be removed.

Another possible consideration in wolf population management is the effect wolves have on wild ungulate populations. The Blackfeet Tribe manages elk, moose, and deer on the reservation to provide important hunting opportunities to tribal members and as a source of revenue for the tribe by selling limited trophy hunting opportunities to the public. If evidence shows wolves are having a severe impact on ungulate herds and reducing them to unacceptable levels the wolf harvest quota may be adjusted within reason to reduce the number of wolves accordingly.

Wolf behavior resulting in livestock depredation or harassment, killing of pets, or aggression toward people will be considered undesirable nuisance behavior and management response will be directed toward behavior modification or wolf removal. Nonnuisance behavior that will probably evolve to nuisance behavior or human habituation, such as eating garbage or pet food will be discouraged through aversive conditioning or other management options.

Varying levels of management response to conflicts will be considered depending on the type of conflict, the number of times conflicts have occurred, and the status of the wolf population on the reservation and in northwest Montana. For example, if an investigation determines a pack of wolves is killing livestock, nonlethal management actions may be tried first. Different livestock management practices may be recommended or scare devices used if practical. If lethal control is used one or two wolves may be removed rather than the entire pack. Management actions may be halted then to see if the removals had the desired effect and stopped depredations.

V. Plan Implementation

A. Department Responsibilities

The Blackfeet Fish and Wildlife Department (BFWD) will implement the wolf management plan. The director of the BFWD is responsible for the department's actions. The Tribal Wildlife Biologist will assume responsibilities for training personnel and acquisition and maintenance of permits, drugs, and other immobilizing equipment, traps, and telemetry equipment. Trained BFWD personnel will assume the lead role in management actions that involve wolves.

B. Regulations

Tribal regulations regarding hunting, illegal killing, and harassing wolves are included in the Blackfeet Fish and Wildlife Code. Regulations in the code can be added, deleted, or changed as necessary by the Blackfeet Tribal Business Council through procedures listed in the code. Blackfeet Tribal game wardens enforce regulations in the Blackfeet Fish and Wildlife Code. Tribal game wardens will coordinate with federal, state, or local county authorities as necessary in enforcement of laws.

C. Public Education

BFWD staff will notify area public, private, and post-secondary schools of their availability to present educational programs about wolf biology and management to classes. Educational films and material will also be collected and kept for loan to schools and other interested groups.

Opportunities will be provided for school classes or individuals interested in research or monitoring activities for educational purposes.

D. Investigation of Conflicts

All calls, complaints, and reports of conflicts with wolves will be investigated to determine the nature of the problem and if wolves were involved. Investigations of dead or injured livestock will include examinations sufficient to determine the cause of death whenever possible. All losses attributed to wolves will be documented. Photographs will

be taken to record all evidence that is used to assess the incident and make a decision on management action. Assistance in investigations may be requested from USDA Wildlife Services (WS) agents. If the WS agent is not immediately available the investigation will be initiated by authorized tribal personnel. Investigators will use caution to not destroy evidence before it is appropriately documented. If a WS agent is not available for the initial investigation one may be requested by the landowner for a second opinion.

E. Records of Investigations

Incident investigations will be recorded on standard livestock depredation or nuisance wolf report forms (Appendix A). They will be categorized according to incident type and kept on file in the BFWD office. Copies of the reports will be made available for individuals involved and cooperating agencies that are assisting with investigations or reimbursement claims.

F. Reimbursement for Losses caused by Wolves

The Blackfeet Tribe or BFWD does not assume responsibility for livestock depredations, livestock harassment, killing of pets, or other damages caused by wolves. The BFWD will make efforts to acquire reimbursement for people with confirmed wolf losses through agreements with private organizations and/or other agencies. Copies of investigation reports and other evidence will be made available to organizations or agencies funding reimbursement programs. The BFWD will coordinate with funding agencies or organizations to ensure their information requirements are included in investigation report forms.

Any compensation program must be equally available to all livestock producers anywhere within the exterior boundaries of the Blackfeet Reservation.

G. Guidelines for Wolf Conflict Management

Management response to wolf conflicts will depend on the severity of the conflict and the number of individuals involved. Initial attempts to resolve many conflicts may use nonlethal methods to prevent the conflict from recurring. Conflict prevention methods may include the use of fladry if the areas needing protection are small, recommendations on ranching practices, special fencing, scare devices, or guard dogs. Nonlethal actions taken on wolves may include trapping and radio collaring with subsequent monitoring, harassment, relocation, or aversive conditioning.

Subsequent conflicts or behavior that may threaten people may be dealt with by lethal control on all or some of the wolves involved.

Table 1 Management Responses to Wolf/Human Conflicts

Conflict Type	Responses
Mild habituation to humans or first incidence of food conditioning	<u>1 wolf or multiple wolves:</u> Nonlethal-harassment, trapping, collaring, and monitoring. Examine reason for conflict and apply preventative measures.
Major habituation or subsequent evidence of food conditioning	<u>1 wolf:</u> Lethal control <u>Multiple wolves:</u> Trapping, collaring, and monitoring combined with harassment and lethal control of 1 or more of the wolves. Examine reason for conflict and apply preventative measures.
Livestock depredation-first incident.	<u>1 wolf:</u> Lethal control or trapping, collaring, & monitoring <u>Multiple wolves:</u> Trapping, collaring, monitoring. Examine livestock practices and recommend changes or preventative measures if needed.
Livestock depredation-subsequent incidents.	<u>1 wolf:</u> Lethal control <u>Multiple wolves:</u> Trapping, collaring, monitoring combined with lethal control of 2-3 wolves. Examine livestock practices and recommend changes or preventative measures if needed. Evaluate effectiveness of actions. More wolves killed after each subsequent depredation until depredations are alleviated.

H. Wolf Relocation

As a general rule wolves will not be relocated within the boundaries of the Blackfeet Reservation. The Blackfeet Tribe may enter into an agreement with another agency or a zoo facility that is willing to accept live nuisance wolves if they will be treated in a humane and respectful way.

I. Wolf Trapping and Handling

Leg-hold wolf traps set for management or research purposes will have offset jaws and teeth or other modifications commonly used by WS agents to prevent serious injuries to captured wolves. All traps set for wolves must be checked at least once every day. Wolves will be handled in a respectful way and as humanely as possible.

J. Legal Killing of Wolves

Ranchers or their agents may kill a wolf that is seen actively killing or threatening to kill livestock or herding or guarding animals. The public may kill a wolf that is seen in the act of actively attacking or killing their pet or if the wolf threatens people. If a wolf is killed under any of these provisions the person responsible must report the incident to BFWD within 24 hours and surrender the wolf carcass to the BFWD. Failure to do so will be a violation of the law.

People with a valid wolf permit or tag may kill a wolf during hunting if one is established by the BFWD. Hunters or trappers must also report their wolf kills within 24 hours.

Any person killing a wolf wearing a radio collar must return the collar to BFWD.

K. Accidental Capture of Wolves

Trappers who accidentally capture a wolf must release it unharmed immediately. If the wolf is already injured or they cannot release it they must contact BFWD personnel as soon as possible to handle the wolf.

L. Harassment of Wolves

Anyone may harass or chase a wolf without injuring it if it is near livestock, pets, residences, or people.

M. Illegal Killing of Wolves

It will be illegal for anyone to kill a wolf other than under the provisions listed in section J. Suspected illegal mortalities will be investigated by the Blackfeet Tribal Game Wardens the same as other wildlife on the reservation.

N. Disposition of Dead Wolves

Wolves killed for management reasons or carcasses surrendered to the BFWD are the property of the Blackfeet Tribe. Samples will be collected to study wolf health and genetics. Hides and skulls may be saved for educational purposes. Members of the Blackfeet Tribe who desire a wolf hide or other parts for cultural or religious purposes may submit a letter of request to the Blackfeet Tribal Business Council or their designated authority. Once the proper authority signs the letter of request it may be presented to the BFWD who will fill the request if the parts are available or file the letter until the parts become available.

O. Research and Monitoring

The BFWD will use a variety of monitoring methods to ascertain the status of the wolf population on the reservation. Methods may include maintaining a record of sightings and reports of wolves or tracks, winter track surveys, trail cameras set at baits, and trapping, radio collaring, and monitoring members of a pack.

VI. Plan Review and Revision

This wolf management plan may be revised at any time by consensus of the Blackfeet Tribal Business Council. Any cooperating parties or agencies that have agreements with the Blackfeet Tribe that may be affected by a revision in the plan will be notified of changes. The wolf management plan will be reviewed annually for the first 3 years it is in effect then every 5 years by the Blackfeet Fish & Wildlife Dept. to evaluate its effectiveness and to revise shortcomings.

Appendix A

Blackfeet Reservation Livestock Depredation Investigation

Date Investigated _____ Date Complaint Received _____

Investigator: _____

Livestock Owner _____ Telephone _____

Address: _____ UTM x _____ y _____

_____ NAD _____ UTM Zone _____

Sec. _____ T _____ R _____ Descriptive Location: _____

Land Ownership: (Tribe, Private fee, Allotted) _____

Depredation Site Description: _____

Livestock losses/injuries claimed: _____

Verified: _____

Condition of livestock prior to death: _____

Sex: _____ Age: _____ Value: _____

Estimated time since death: _____ Kill Covered? _____

Signs of struggle or drag marks? _____ Blood on ground? _____

Location of tooth marks: _____ Diastema: _____

Clawmarks: _____

Hemorrhage: _____

Probable reason for death: _____

Tracks present: (species) _____

	Front foot	Rear foot	Other sign: (scats, hair, etc.)
Pad width	_____	_____	_____
Pad length	_____	_____	_____
Claw length	_____	_____	_____

Description of carcass: _____

Feeding pattern: _____ % consumed: _____

Photos taken: _____ Samples collected: _____

Investigation Assessment: _____

Management Action: _____

Management Outcome: _____

Narrative/Sketches: (may continue on back of this paper)

2017

Colville Confederated Tribes Gray Wolf Management Plan



*Prepared by Colville Confederated Tribes
Fish & Wildlife Department*

*Approved by: Colville Business Council
Resolution 2017-58*

January 2017

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Significant portions of this document were contributed by Fish and Wildlife Staff. In addition, we would like to recognize and show our appreciation to the Tribal Membership for their feedback and sharing of history and culture.

We would also like to acknowledge the contributions by Washington State University and the University of Washington. Multiple graduate students and technicians have contributed, through field investigations and monitoring, to a better understanding of our wolves and their future management.

Statement of Needs

On the Colville Reservation, gray wolves have been listed as a “Priority Species of Concern” since 1997 (Colville Confederated Tribes 2006), reiterated in 2006 as a “Priority 1 Species” under our list of “Priority Management Species and Habitats” (Colville Confederated Tribes 2006), and was reconfirmed as a Colville Tribal “Priority Species of Concern” in our current Colville Confederated Tribes Fish and Wildlife Department (referred hereon also as: CCTFWD) Management Plan 2012-2017 (CCTFWD 2012).

Given their Priority Species of Concern status, during implementation of the current F&W management plan, the CCTFWD identified the need to contribute to the recovery of gray wolves (*Canis lupus*) within the Colville Indian Reservation by conducting population assessments and developing a gray wolf management plan.

Goals established by CCTFWD to ensure sound management of natural resources will guide future decisions regarding wolf management. The CCTFWD is also committed to protecting all resources, native and non-native, that have been identified as culturally and spiritually significant to the tribes and their people.

In order to establish management goals and maintain a balance of predators and the subsistence needs of the Tribal Membership, this management plan is needed to guide future management.

Introduction

In 2012, public scoping meetings were held across the Reservation to inform Tribal members on the current status of wolves on Colville Tribal lands, answer questions on the myths and truths of wolves and to provide an opportunity for the public to communicate how they would like to see wolves managed on Tribal lands. Participants were representative of a broad range of perspectives and values with different conservation and management concerns and recommendations. A website-based questionnaire was also made available to the tribal membership to gauge public perception towards wolf management. There were a total of 226 participants who completed the online survey, which only represents roughly 2% of the enrolled Tribal Membership. Although the number of survey participants was not a large enough sample size to adequately represent overall Tribal Member values and attitudes towards wolves, it did provide initial insight toward the differing opinions among Colville Tribal Members and clearly manifested the need to develop the CCT Gray Wolf Management Plan.

The CCT Gray Wolf Management Plan was developed to guide management and conservation of gray wolves and their prey species on the North and South Half of the Colville Reservation. The primary goal of this plan is to outline strategies for conserving viable wolf populations that persist throughout time, while maintaining healthy ungulate populations capable of providing subsistence hunting opportunities to the Tribal Membership and their families.

Cultural Perspective

Historically, wolves were regarded for their power, intelligence, hunting ability, and devotion to other pack members (Ratti et al. 1999 - in Wiles et al. 2011). These and other values have been taught to generations of Native Americans through the telling of stories and legends. Wolves play an important role in creation stories and have significant parts in the spiritual life of some tribes, serving as spiritual guides for tribal members and providing spiritual power to warriors and hunters (Ratti et al. 1999 - in Wiles et al. 2011). Wolves are also featured in vision-quest stories, rituals, and ceremonial practices. For many tribes there is a regard that wolves help humans to prosper both physically and socially. Historically, the San Poil and the Nespelem caught wolves and used their pelts for robes or blankets (Ray 1933 – in Wiles et al. 2011).

These pelts were significant in that people sought to draw power and protection from the wolf. Important articles were sometimes kept in the pelt because the power of the pelt was thought to protect the important articles (R. Desautel, pers. comm.).

Another well-known and highly-respected Colville Tribal Elder, Barbara Aripa, states:

“My dad had four pelts, a black, gray, white and red one, and they were used as spiritual medicine during the winter dances. When I was a child, I used to ride horseback with my dad and sometimes we would see wolves, and they would never attack us. Our people lived in harmony with the wildlife, I don’t believe in shooting them, they were here long before cattle or anything else” (B. Aripa, pers. comm.).

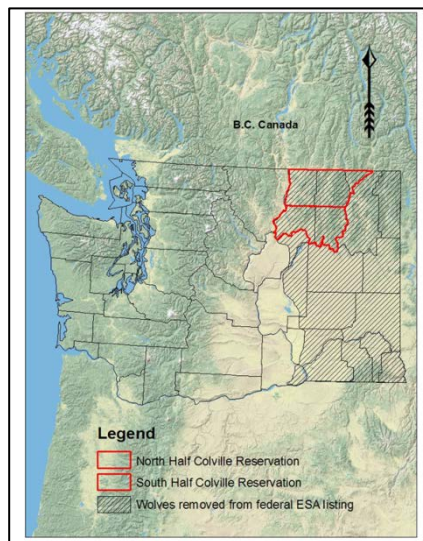
Legal Authority

Tribes are self-governing, sovereign entities by which the federal government relates to on a government-to-government basis and have the capacity to develop their own management plans independent of state jurisdiction (Federal Register 2005; Wolf management Plan for the Wind River Reservation 2007).

There is no requirement for federal approval of the CCTFWD Gray Wolf Management Plan as the U.S. Fish and Wildlife Service (USFWS) has not established federal recovery criteria for wolves in Washington (Wiles et al. 2011). There is no requirement for State approval of the plan without demonstrating a compelling need in the interest of conservation. According to the U.S. Supreme Court decision in *Antoine v. Washington*, the size of the take, the restriction of commercial fishing and hunting, and the like may be regulated by the State in the interest of conservation, provided the regulation meets appropriate standards and does not discriminate against the Indians (Colville Confederated Tribes 1999, 2006). The “appropriate standards” requirement means that the State must demonstrate that its regulation is a reasonable and necessary conservation measure and that its application to the Indians is a necessary conservation measure. The state restrictions “cannot abridge the Indians’ federally protected rights without demonstrating a compelling need” in the interest of conservation.

Comprehensive wolf management planning by all agencies involved will aid in promoting wolf populations in Washington State. However, the tribes have the legal responsibility and authority to protect our ecosystem in the best interest of the Tribal membership. With the approval of a wolf management plan, the CCT expect cooperation and support from state and federal agencies. The CCT are a sovereign nation, co-managing natural resources within the State of Washington on ceded territories and sole authority on Colville Reservation lands. The Colville Confederated Tribes Fish and Wildlife Department, on behalf of the Tribes, will continue to work through government-to-government relationships with Washington State to manage natural resources in a responsible manner and ensure our sovereignty is honored and recognized.

Figure 1. Map of the North and South Half of the Colville Indian Reservation and area of Federal delisting under the Endangered Species Act (ESA).



Current Legal Status of Wolves

Wolves were classified as endangered in Washington under federal law in 1973 (Endangered Species Act) and under state law in 1980 (WAC 232-12-014; Wiles et al. 2011). Currently, wolves in the western two-thirds of Washington are listed as endangered under federal law. In the eastern third of the state, which includes the North and South Half of the Colville Reservation,

they have been removed from federal listing (Fig. 1; Wiles et al. 2011). Wolves are listed as endangered under state law throughout Washington (Wiles et al. 2011).

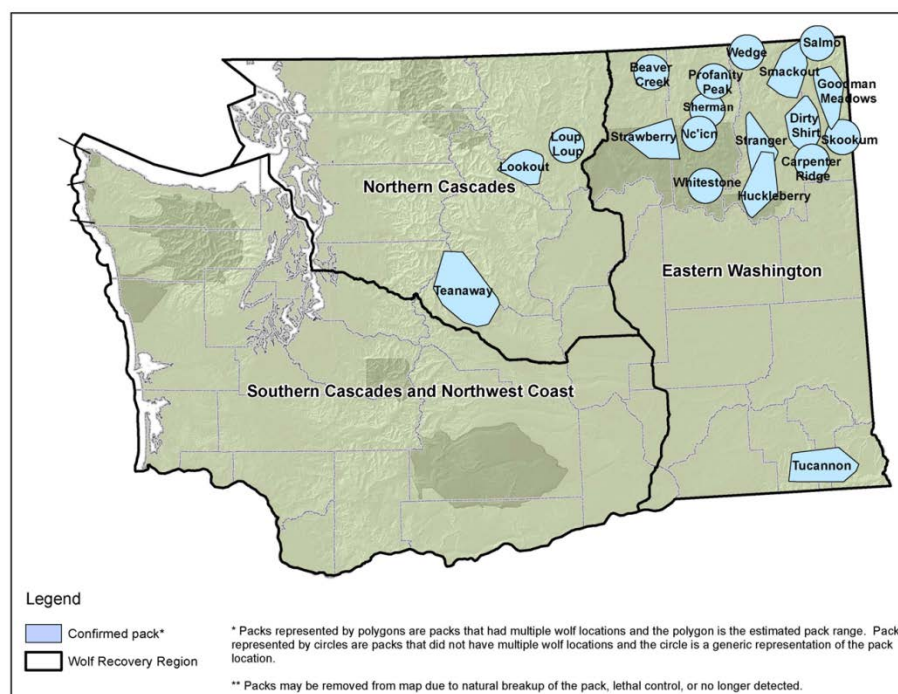
History

Washington

Historically wolves were common throughout Washington State, but declined rapidly between 1850 and 1900 with the expansion of ranching and farming from Euro-American settlers. Wolves were heavily persecuted during the last half of the 1800s and were eliminated from most areas by 1900 (Dalquest 1948). Poisoning, trapping, and shooting were common control techniques, and a bounty of \$15 per wolf was paid by the state in the early 1900s (Harding 1909).

Commercial fur trapping of wolves began as the Hudson's Bay Company became established in the Northwest. Fort Colville recorded 5,911 wolf pelts from 1821 to 1859 (Laufer and Jenkins 1989). Wolves were reported as "thick" at Tshimakain mission; near present-day Ford in Stevens County (Wiles et al. 2011). Despite the fur trade, wolves remained common in many areas of Washington into at least the 1850s (Young and Goldman 1944). Wolves were essentially eliminated as a breeding species from the state by the 1930s (Young and Goldman 1944). Although wolf populations have been absent from Washington for more than 70 years,

Figure 2. Confirmed and suspected wolf packs in Washington.
(WDFW website accessed on Jan. 16, 2017)



small numbers of individuals have periodically dispersed into the state during that time to the present (Wiles et al. 2011).

The first breeding pack to return to Washington was confirmed in 2008. As of March 2015, there were multiple confirmed packs in the state (Fig. 2). Three wolf packs, the Nc'icn, Strawberry, and Whitestone packs, occur primarily on the South Half Colville Reservation. The Wedge and Profanity Peak occur on the North Half Reservation and Canada. Colville Tribal lands (North and South Half) are geographically-central to much of the recent gray wolf activity within the northeast portion of the State. Survey efforts conducted during the summer of 2015 by CCTFWD biologists have identified repeated gray wolf activity in several new locations including both the North Half and South Half Reservation.

Neighboring States and Provinces

Re-colonization of neighboring states to the east, including Montana, Idaho and Wyoming, was first documented in 1979. Wolves reentered the area near Glacier National Park in northwestern Montana from Alberta and continued to disperse from the park and neighboring areas of Canada and recolonized other parts of northwestern Montana over the next decade (USFWS 1987). In 1995 and 1996, wolves were reintroduced into Yellowstone National Park and central Idaho by the U.S. Fish and Wildlife Service (Bangs 1998). In 2002 the expanding wolf populations had met biological recovery levels set by the U.S. Fish and Wildlife Service for the northern Rocky Mountain States. Wolves in this region are currently distributed primarily in western Montana, central and northern Idaho, and northwestern Wyoming (USFWS 2011). Several packs in northern Idaho occur within about 30 miles of Washington, a distance from which wolves are capable of dispersing into Colville Reservation lands.

Wolves originally occurred throughout British Columbia (BC), but were eliminated from most of the southern portion of the province by 1930 and became fairly uncommon in remaining areas (Pisano 1979, Tompa 1983, Boitani 2003). BC populations fell to their lowest levels during the 1920s and 1930s and began to recover after a period of control in the 1950s. Most of British Columbia was again occupied by the early 1990s, with the exception of the southernmost mainland from Vancouver to Nelson (Hayes and Gunson 1995). Reoccupation of the East Kootenay region in the southeastern portion of the province did not occur until about 1980 (G. Mowat, pers. comm.).

Colville Confederated Tribes

Colville Tribal members reported occasional sightings on the Reservation from the 1930s to the 1990s (R. Desautel, pers. comm.). In 2008, while conducting forest carnivore snow track surveys, CCT Fish and Wildlife Department (CCTFWD) Staff documented three separate sets of large canine tracks consistent with that of gray wolf. During this same time period several local hound hunters and trappers began to report observing large canine tracks along the drainages of the San Poil River. Although wolf tracks and sightings had occasionally been reported over

the past several decades, this was the first indication of increased frequency of occurrence on the South Half Reservation.

In 2009, CCT biologists began deploying remote cameras in several of these locations, as well as areas where undocumented sightings had been reported. In addition, Tribal wildlife staff began collecting scat samples to test for and distinguish DNA signatures between gray wolf, wolf-dog hybrid, coyote, or dog. Collected scat samples were submitted to the Laboratory for Conservation and Ecological Genetics at the University of Idaho for analysis. A sample collected on the Colville Reservation in 2010 was confirmed to be gray wolf. DNA obtained from these samples was also later used to determine the likely ancestral origin in order to understand if wolves were naturally emigrating from B.C. Canada or dispersing from Idaho populations.

Nc'icn Pack

During the summer of 2011, remote cameras captured images of 2 unique individual gray wolves near 17 Mile Mountain on the South Half Colville Reservation. Scat sample collection from 2011 through 2012 contributed DNA from six individual wolves. In May of 2012 CCTFWD Staff identified a potential den site during howling surveys, when both adults and pups were detected. CCTFWD staff immediately began trapping and collaring efforts under the mentorship of Carter Niemeyer, retired USFWS wolf specialist.

Figure 3. Nc'icn female after being radio-collared.



In June of 2012, the Colville Tribes successfully trapped and deployed a GPS collar on a sub-adult female (Fig. 3) and a VHF collar on a sub-adult male. During the summer of 2012, a tribal member captured photographs of 3 pups on their personal remote cameras within the Nc'icn Pack territory. October of 2012 was the last contact with the sub-adult male with the VHF collar. His fate is unknown. During winter aerial telemetry surveys conducted from December to February of 2013, CCTFWD biologists remained unable to locate the radio-collared male, yet recorded a minimum observed number of 8 wolves for the Nc'icn pack. The Nc'icn packs territory is located east of the San Poil River with movements spanning both the North and South of the Half Reservation (Fig. 4).

In 2013-2014 the GPS collared female wolf that originally provided the Nc'icn packs home range data began travelling large distances to neighboring pack territories in what appeared to be a search for a mate or dispersal activity. In the late summer and fall of 2014 she began to permanently occupy habitat directly to the west of the Strawberry Packs home range (See Figure 1). She later travelled to the southwest into the Omak Lake Ridge Game Reserve before returning to her former Nc'icn territory. The collared Nc'icn female wolf was notorious for travelling large distances outside of her home range to areas that were later discovered to be occupied by wolves. According to the Nc'icn female's ability to locate new wolf territories, the Omak Lake Ridge and Wanacut Creek areas are good prospects for wolf occupancy. In January

of 2015, the collared Nc'icn female died during winter aerial capture and collaring efforts. (Krausz and Antoine 2015)

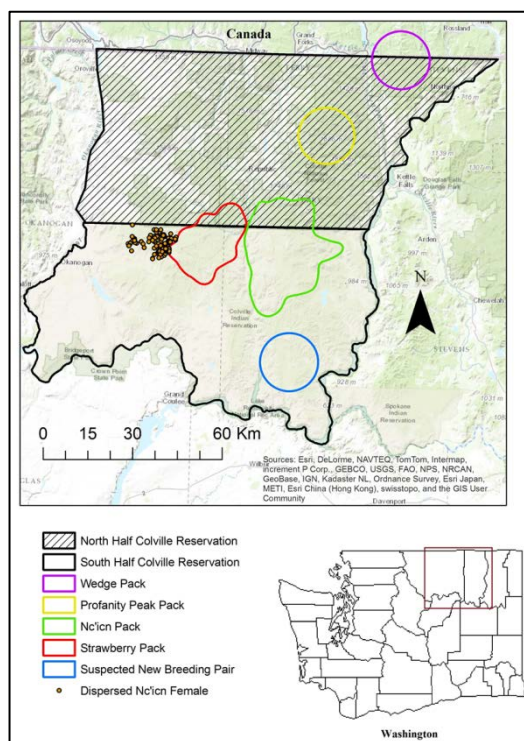
With no current collar data to assist, Nc'icn pack monitoring efforts during the 2015 summer field season were primarily remote camera based, with some limited tracking conducted in May prior to trapping efforts. The observed minimum known number of wolves photographed in 2015 was 4 adults with one pup and one possible sub-adult, totaling 5-6 wolves within the Nc'icn home range. With successful breeding activity documented in 2015, the Nc'icn pack may be a priority for trapping and collaring efforts in the future field seasons (Krausz and Antoine 2015).

Strawberry Pack

In 2010, CCT Forestry personnel reported several wolf sightings in the Stepstone Creek drainage. In September of 2011 a third wolf was identified on a remote camera deployed in the Roaring creek drainage and in January of 2012 a landowner reported capturing pictures of a wolf on a deer kill that was discovered on his property near the mouth of Kinkaid Creek. Scat samples collected near the kill site were sent to Dr. Lisette Waits at the Laboratory for Conservation and Ecological Genetics at the University of Idaho for analysis. Initial results found that this individual appeared to share 17% of its ancestry with dogs (Adams and Waits 2013). In order to determine if this individual was a hybrid Dr. Waits recommended that 10-20 gray wolf samples from British Columbia be analyzed as their database only contained Idaho gray wolf samples. The B.C Ministry of Environment contributed 25 gray wolf samples for analysis. Including the samples from BC changed the ancestry analysis results, which concluded that the individual was a gray wolf that may have emigrated from Canada (Adams and Waits 2013).

In August of 2012, a remote camera deployed by CCTFWD personnel captured a photo of 2 wolves in the Gold Creek drainage, centrally located between the Roaring Creek and Kinkaid Creek camera locations. Tribal wildlife staff began intensively surveying the surrounding area and identified a high frequency of wolf sign near Strawberry Mountain. In September of 2012, Tribal Wildlife personnel successfully trapped and deployed a GPS collar on an adult female (Fig. 5) on the newly confirmed Strawberry wolf group. In February of 2013, we initiated aerial captures in an effort to deploy an additional GPS collar in the Strawberry wolf group. We

Figure 4. Approximate or estimated home ranges for the five confirmed wolf packs within the Reservation and North Half as of December 2015. (Krausz and Antoine 2015)



located the collared adult female using aerial telemetry and identified a total of three adults in this wolf group and successfully net gunned and deployed a second GPS collar on an adult male.

During the spring of 2013, GPS collar data from the collared male and female from the Strawberry wolf group indicated denning activity. Wolf howling surveys conducted by tribal biologists during June of 2013 confirmed the presence of pups. Strawberry wolf pup numbers were estimated to be a minimum of 3. However, pups were not detected after December 31, 2013; meaning Strawberry pack did not have a successful breeding pair in 2013 according to the definition of a breeding pair. Animal locations obtained from deployed GPS collars continue to provide home range data, den and rendezvous site locations, and changes in current distribution and seasonal habitat use patterns for both the Nc'icn and Strawberry packs.

The breeding male's collar failed to continue functioning in 2015. The breeding female was re-collared in 2014 and again in 2015 and remains the only collared wolf in the Strawberry pack. Attempts to re-collar the breeding male and one additional un-collared pack member have been unsuccessful both from the air and using ground trapping. (Krausz and Antoine 2015)

Whitestone Pack

During the summer of 2014, the Colville Tribes' Wildlife Program confirmed the presence of a small pack of individuals in the Whitestone Lookout/Sclope Meadows/Friedlander Meadows area. From most of the documented sign, biologists confirmed 2 individuals through track surveys, howling responses, and remote camera sets. During 2014, a short trapping effort was initiated in areas of concentrated use (as determined by amount of sign), however no individuals were captured. The trapping effort was halted by the opening of the elk hunting season.

A longer trapping effort was initiated during the summer of 2015 with no success. There was sporadic fresh sign that continued to show presence throughout the trapping area concurrently with trapping days, however no wolves were trapped. The effort ended with the onset of the extremely active fire season of 2015 (Northstar Fire).

The entirety of the Whitestone Packs home range is still unknown at this time, as it is the only confirmed pack occurring on the Reservation that has not had a pack member captured and collared. DNA analysis and remote camera photo's suggest this pack has an observed minimum known number of two adult wolves. One of these adults was the former breeding male from the Nc'icn Pack, confirmed through DNA analysis in 2014. Breeding for the Whitestone Pack has not been documented to date. Reports of observed wolves, tracks and scat found within the suspected territory of these wolves is scattered with limited evidence of concentrated areas of use such as rendezvous sites or denning activity. With the limited number of individuals currently in the Whitestone pack, future trapping and collaring efforts will continue to be challenging and likely depend on the availability of wildlife staff. Monitoring efforts will continue through remote cameras, tracking and scat collection, in an effort to detect new

individuals and areas with a greater concentration of animal use, more suitable for trapping efforts. (Krausz and Antoine 2015)

Profanity Peak Pack

During the summer of 2014, the Colville Tribes' Wildlife Program confirmed the presence of a second new pack on the North Half near Profanity Peak. Individuals were confirmed through track surveys, howling responses, and remote camera sets. Multiple individuals were documented through differing howls, and biologists are confident that they heard pups. A limited trapping effort was planned; however the effort was abandoned due to WDFW interest and livestock owner interactions. Future Tribal trapping efforts may focus in this area to allow biologists to learn about their local ecology.

The Washington State Department of Fish and Wildlife (WDFW) was successful in collaring an individual in this pack in 2014.

Wedge Pack

During the winter of 2007-2008, the CCTFWD documented wolf activity in the "wedge" area (Steven's County portion of the North Half). Since then, the pack has been well-documented, until more recently. The Wedge Pack preyed upon livestock and as per WDFW protocol, an attempt was made by WDFW to use lethal control measures to eradicate the pack. This removal was not coordinated with CCTFWD, nor did the WDFW seek the approval of the CCTFWD before conducting the activities.

Since the removal by WDFW, the population demographics and dynamics of the Wedge pack are unknown. Future investigations into the response and reestablishment of the Wedge pack may be planned.

Wolf Ecology

The gray wolf is the largest North American canid with the average adult weighing between 32-55 kilograms. Males are typically larger than females; however diet, genetics, and general health can play a role in overall size. An average adult wolf has a shoulder height of 65 to 80 cm (25 to 31 inches) and a nose to tail length of 1.3 to 1.5 meters (4 to 5 feet). A wolf's pelt is long and coarse and can range in color from almost pure white to black; the most common pelt colors in the northern Rocky Mountains are grizzled gray and black (USFWS 1987). An identifying feature of the wolf is its tail, which is long and bushy and held erect rather than down like that of a coyote. Wolves are also distinguishable from other animals based on the types of vocal sounds wolves use to communicate with each other. These vocalizations include whines, growls and

Figure 5. GPS-collared female gray wolf from the Strawberry Pack.



barks but probably the most common and well known type of vocal communication is the howl (Mech and Boitani 2003).

Wolves have developed many physical and physiological adaptations that allow them to thrive in some of the harshest climates and most rugged terrains in North America. The legs of the wolf are long with large feet that allow them to travel quickly over varied terrain and across deep snow. The wolf's lean and muscular body is built for strength and speed. During pursuit of prey an adult wolf can average 25 miles per hour for several miles and 35 to 40 miles per hour for short bursts (Mech and Boitani 2003). Wolves have excellent hearing and an acute sense of smell, which is up to 100 times greater than humans (Meaney and Beauvais 2004). In the wild, a wolf's average lifespan is between 6 to 10 years of age, however in captivity they can live up to 18 years (Snyder 1991).

Wolves are highly social animals that exhibit hierarchical behaviors within packs and demonstrate a high degree of social cohesion and distribution of labor among the extended family members within their pack (Weiss 2005). A pack consists of an alpha male and female, a beta male and female and sometimes an omega wolf which is usually an older individual that no longer has a major role in the pack but is still tolerated and allowed to stay. Other members of the pack are made up of previous year's offspring and other relatives (Mech and Boitani 2003). Normally the alpha male and female are the primary breeders in a pack but subordinate males and females have been known to breed as well (Mech and Boitani 2003). Although the alpha male and female are usually the only ones that produce pups the entire pack takes part in raising the young. The breeding season begins in late January and after a gestation period of approximately 63 days 4-6 pups are born on average in late April or early May (USFWS 2007). The pups are born in a den, where they will stay for the first 6 to 8 weeks of their life. When the pups are first born they cannot see, hear or maintain warmth and they need constant care from their mother (Mech and Boitani 2003).

Dens in northwest Montana and the Canadian Rockies are typically found in areas located in valley bottoms, with flat to moderate slopes, close to trails, far from human habitation and activity, close to meadows and water (Meaney and Beauvais 2004). Landscape features such as elevation, slope, and proximity of fresh water had the greatest effects on den site selection (Mech and Boitani 2003). The dens can easily extend six to fourteen feet into the ground and it is common for the female to dig the den herself. At the end of the tunnel is an enlarged chamber where the newborn pups are born and kept until they are old enough to emerge (Kowalewski 2009). Once the pups emerge from the den they are moved to a rendezvous site where they are cared for by the pack. Rendezvous sites are characterized by well used wolf trails, beds, bones and scats (Claar et al. 1999). Rendezvous sites are a central location for the pack to gather and bring food to the pups until they are old enough to travel. A pack will use multiple rendezvous sites and will return to them year after year if the area is undisturbed and prey remains abundant.

Once the pups have reached adolescence and are between one to three years old they may disperse from their natal pack and set off on their own. A lone wolf that pairs with another

lone wolf may assume the roles of a breeding pair and may eventually setup and defend a territory of their own. Once a wolf pack has established a territory they are essentially non-migratory but they will move seasonally within their territory in response to snow levels and prey distribution (Meaney and Beauvais 2004). New territories are usually established within 50 to 100 km (31 to 62 miles) of their natal pack but dispersers have been known to move up to 800 km (500 miles). Because wolves are so mobile and can disperse several hundred kilometers re-colonization of historic ranges may occur at a fairly rapid rate (Claar et al. 1999).

Wolves are “habitat generalists” which means they are found across a wide range of climates and habitats and they are usually limited by something other than specific habitat features. When looking at what makes up typical or ideal wolf habitat there are three things to consider (USFWS 1987): 1) a sufficient year round prey base of ungulates, 2) suitable and relatively secluded denning and rendezvous sites, and 3) sufficient space with minimal exposure to humans. If an area is large enough to support gray wolves they will usually establish a territory in an area with a variety of topographic features. Forests, open meadows, rocky ridges, and lakes or rivers all comprise a pack's territory (Snyder 1991). Due to the wide ranging habits of their prey species and the fact that they stay within their territory year round wolf territories tend to be very large and can easily be 150 to 300 miles in size (USFWS 2007).

Wolves are top level predators and are designed for pursuing and taking down large prey including deer, elk, and moose. Wolves will often supplement their diet with other game such as beavers, ground squirrels, rabbits, upland game birds and waterfowl and other small mammals (Snyder 1991). Wolves are also opportunistic and will feed on animal carcasses and other scavenged material. Taking down large prey such as ungulates poses many physical risks for the wolf. In order to reduce these risks wolves employ many intelligent and complex hunting strategies. Individual wolves will work together as a unit when hunting large prey.

Wolves will select individuals of a herd that are sick, old or weaker than that of other members. One study showed that wolves select elk based on their vulnerability as a result of age, sex, and season and therefore kill primarily calves, old cows, and bulls that have been weakened by winter (Stahler et al. 2006). Selection of individual prey takes place through a sifting and sorting process that includes testing a herd for weak individuals by running them for various distances and pursuing those found to be weak or in poorer condition (Weiss 2005).

Studies in the greater Yellowstone area showed that most of the elk killed were calves, females, or individuals with low marrow fat. The seemingly healthy adult elk that were taken by wolves had an average age older than that of the local elk population (Meaney and Beauvais 2004). Necropsied remains of elk taken in Yellowstone reveal that many of the animals killed by wolves had age-related conditions, such as arthritis, disease, injuries or severely depleted fat reserves. By removing these unhealthy, aging, post reproductive-age individuals from the population the remaining herd becomes healthier, younger and more reproductively active (Mech et al. 1991).

As hunters, wolves have a relatively low success rate and many times will fail in their attempt to take down large prey. One study showed that for every twelve moose tracked, only one was caught and killed (Mech and Boitani 2003). An Idaho study showed that the kill rate of elk was one elk every 14 days (Meaney and Beauvais 2004) while another study in Yellowstone showed that wolves killed about 1 elk every 16 to 33 days (USFWS 2007).

Wolves play many critical roles in the overall health of an ecosystem and the balance that they maintain as apex predators benefits the ecosystem as a whole (Ripple et al. 2001). Wolves have been absent from the Washington landscape for so many years that the balance between wolves and their prey has had cascading effects on habitat, other wildlife species, and people of the area. As apex predators, the wolf's return will have impacts on ungulate herds across their range. These impacts will be revealed in a variety of ways such as healthier herds via removal of weak members of a herd and modified behavior due to increased predation risk. All of these changes will have a cascading effect on the environment such as decreased browsing on various plant species which could increase habitat for other species (Ripple and Beschta 2004).

In Yellowstone National Park, following the reintroduction of wolves there was a change in elk foraging behavior that positively impacted the growth of many plants, such as willows, aspens, and cottonwood. These ecological changes have had innumerable effects on the ecosystem as a whole. Benefits include providing nesting and roosting sites for song birds, root strength for soil erosion protection along streambeds, and food and building sources for beavers, with resultant dams that create cool, deep ponds needed by juvenile fish (Weiss 2005).

Wolves also benefit scavengers by providing a greater supply of carrion on the landscape (Mech and Boitani 2003). In Montana at least 12 scavenger species have been observed at wolf kills including grizzly bears, black bears, wolverines, bald and golden eagles, ravens, and magpies (Meaney and Beauvais 2004).

Lastly, wolves may also negatively influence (reduce) numbers of other predators such as coyotes. The reintroduction of wolves to Yellowstone National Park resulted in a 50-percent decline in coyote density and reduced the size of coyote packs. Reduced coyote populations, due to wolf presence, could increase the number of other wildlife species including upland birds, small mammals, and other carnivores such as pine martin and badger (Smith 2006).

Goals and Objectives

Overarching goals and objectives for all Colville Tribal Natural Resources are identified within the CCT Integrated Resources Management Plan (IRMP; Colville Confederated Tribes 1999), which outlines the standards and guidelines for management of natural resources on the Colville Reservation. In addition, the CCTFWD Interim Five Year Management Plan 2012-2017 (CCTFWD 2012) further outlines the goals and objectives specific to fish and wildlife resources on the Reservation. These documents function as the guiding framework for the CCTFWD Gray Wolf Management Plan.

From the Integrated Resource Management Plan (Colville Confederated Tribes 1999)

Desired Future Conditions

Through the “vision” goal setting sessions as part of this development process and public and agency scoping for this analysis, 17 desired future conditions for the Colville Tribes have been identified. This plan provides a process reflecting the Membership’s desire to move the Reservation towards these desired future conditions.

2 of the 17 Desired Future Conditions:

- Suitable habitat conditions for desirable native and non-native species (flora and fauna) exist to maintain Reservation biodiversity that includes the diversity of natural genes, species and ecosystems, as well as the evolutionary process that link them (DFC #6, Klock 2001);
- Viable populations (numbers and distribution of reproductive individuals) of native and desired non-native species of wildlife, and their supporting habitats are maintained, while wildlife is provided in sufficient numbers to meet the cultural, subsistence and recreational needs of Colville Tribal Members (DFC #8, Klock 2001);

Integrated Resource Management Plan – Wildlife

- Management objectives

Contribute to the recovery and management of listed species (Federal or State: Endangered, Threatened, Candidate or Sensitive) populations and/or their habitats by restoring or protecting habitat quality, quantity, and effectiveness for listed species.

- Management directions

In full recognition of the ecological importance of individuals or groups of species with known viability concerns, Tribal management actions will not result in the extirpation of a species from the Reservation.

Wildlife populations on the Reservation will be monitored and modification will be considered if they change rapidly. When a wildlife population exhibits rapid increases or decreases, exceeding or dropping below population goals creating an ecological imbalance with their habitat, appropriate strategies (regulatory, harvest, or other) will be implemented to bring the population balance within their available habitat.

Terrestrial species habitat will be restored or maintained so that terrestrial species can move freely within and between blocks of habitat for the purpose of genetic interchange, emigration, and immigration.

From the CCTFWD Management Plan (CCTFWD 2012)

CCTFWD Strategic Objective #1. Ensure the sound management of fish (anadromous, resident and desired non-native), wildlife (native and desired non-native), and habitat resources (restoration, enhancement, and protection) within the external boundaries of the Colville Reservation and on the North Half and within the Tribes' U&A areas, where applicable.

Wildlife Goal - 1. Provide for subsistence and cultural use of wildlife by Tribal Members while maintaining healthy, self-sustaining game and nongame populations on the Reservation and the North Half.

WLG-1.O2. Establish annual Member hunting seasons, allowing for maximum sustainable harvest of game species.

- WLG-1.O2.t-1. *Recommend annual Tribal Member hunting seasons for the Reservation and the North Half, establishing time, place and bag limit regulations, based upon analysis of game species population status and trend.*

Wildlife Goal - 2. Ensure wildlife populations are maintained within the Tribe's Ceded and U&A Areas, to meet the cultural and subsistence needs of the Membership.

WLG-2.O1. Represent Tribal fish and wildlife interests pertaining to State and Federal resource management activities on the North Half, and within the Tribes' U & A Areas.

- WLG-2.O1.t-3. *Review and comment on Federal and State wildlife management plans and project proposals, including those pertaining to Threatened and Endangered (T&E) Species.*
- WLG-2.O1.t-5. *Set up meeting to discuss and comment on WDFW hunting season proposals for regions 1 and 2 annually.*
- WLG-2.O1.t-6. *Coordinate Tribal T&E species efforts with those of agencies responsible for resource management within the Tribe's ceded and U & A Areas.*

Wildlife Goal - 3. Contribute towards population recovery of Federal Threatened and Endangered (T&E) species, and other priority species that occur within the boundaries of the Colville Reservation. Colville Tribe has the right to accept or reject State Threatened and Endangered species.

WLG-3.O1. Restore native wildlife species throughout their historic range on the Reservation, where habitat exists or can be feasibly restored.

- WLG-3.O1.t-1. *Prioritize and implement population assessment, management and monitoring plans for T&E species on the Colville Reservation.*
 - WLG-3.O1.t-2. *Complete and implement population assessment, management and monitoring plans for other priority wildlife species occurring on the Colville Reservation.*
 - WLG-3.O1.t-3. *Provide opportunity for genetic exchange by maintaining connectivity between core habitat areas utilized by T&E and other priority wildlife species.*
- WLG-3.O2. Maintain, restore, and manage those habitats upon which T&E and priority species depend.
- WLG-3.O2.t-1. *Complete and implement habitat assessment, management and monitoring plans for priority habitats occurring on the Colville Reservation by 2015, which tie to the sensitivity map and prioritized by year.*
 - WLG-3.O2.t-2. *Incorporate findings from current scientific research on T&E species recovery efforts in assessing resource management proposals and in developing recommended mitigation measures.*
 - WLG-3.O2.t-3. *Manage recovery efforts for species with large area requirements (such as forest carnivores) cooperatively with agencies responsible for resource management within the Tribes' ceded and U & A areas.*
 - WLG-3.O2.t-4. *Identify and maintain habitats that provide functional linkages between populations.*

Wolf Conservation and Management

According to the CCTFWD Management Plan and reconfirmed by Tribal Member input (through a web-based survey, informational flyers, and public meetings), the management of gray wolves on the Colville Reservation is important to the Colville Tribal People. Wildlife managers must strike a balance between: 1) maintaining a subsistence culture dependent upon thriving ungulate populations capable of providing sustenance to the Tribal membership, and 2) the recovery of gray wolf populations. Understanding the relationship of gray wolves and ungulate populations and their movement patterns across the landscape will ultimately promote informed management decisions that will benefit both wolf recovery and the maintenance of existing ungulate populations that are vital to the people and culture. For gray wolf recovery to be a success on Colville Tribal lands, it is imperative to continually monitor gray wolf distribution and abundance in order to define annual gray wolf harvest quotas that will achieve the management needs of both wolf conservation and the maintenance of healthy thriving ungulate populations for the Tribal Membership.

Wolf Harvest

Upon approval of this plan, wolf harvest allocations may be set annually for the South Half Reservation depending on estimated wolf population demographics from the previous year's data collection efforts (see Appendices C and D.) Annual minimum estimated wolf numbers can be estimated using data from: 1) winter aerial telemetry surveys of packs with collared individuals, 2) confirmed DNA of individuals gathered from biological samples collected from April of the previous year to March of the following year, 3) Department-established remote camera photos identifying individuals, and 4) credible and confirmed reported field observations.

Long-term studies on population dynamics of gray wolves in North America have shown that annual natural mortality rates within a pack can approach 50% but averages 35% (Fuller 1989, Mech and Boitani 2003). This means that every year there is potential for half of the individuals in a pack to succumb to some source of natural mortality. Human-harvest of gray wolves was originally thought to be wholly compensatory (Haight et al. 2002). However, in the Northern Rocky Mountains, gray wolf populations were shown to decline once human-harvest surpassed a threshold of 24% of minimum estimated wolf population size (Creel and Rotella 2010). Twenty-four percent is the intrinsic growth rate of gray wolves. If human-harvest of gray wolves was wholly compensatory, then gray wolf populations should be able to withstand human-harvest rates of 35-50% and still maintain a stable population. Furthermore, in areas being recolonized by gray wolves, long-term population viability is likely below normal due to low immigration rates compared with areas where gray wolves persist in high densities (Fritts and Carbyn 2006).

Given that the North Half Reservation and South Half Reservation currently lie on the fringe of gray wolf expansion in Washington, low immigration rates should be expected. For example in recolonizing gray wolf populations, it was found that if a breeding animal died it took on average two years for that animal to be replaced (Brainerd et al. 2008, Borg et al. 2014) In areas that gray wolves are recolonizing, a human-harvest quota of 10% of the annual minimum estimated number of gray wolves is used to insure a stable to increasing wolf population. To maintain a viable wolf population on the North Half Reservation and South Half Reservation, a human-harvest quota of less than 24% is necessary once gray wolves fully recolonize the Colville Reservation and surrounding areas. Currently, CCTFWD biologists have determined gray wolves have recolonized the Colville Reservation and surrounding lands. Human-harvest quotas should be set at 20-24%. In the future, if it is the management goal of CCTFWD to decrease gray wolf populations, human-harvest quotas can be set in excess of 24% of the annual minimum estimated number of gray wolves.

When a wolf is harvested on the South Half Reservation, DNA samples will be taken from the harvested wolf in an attempt to identify the individual or pack lineage, based on genetic profiles already collected. Human-harvest of wolves will be allowed according to established Tribal Member Hunting Regulations. Incidental or accidental wolf harvest by hunters or trappers will be included in the annual harvest quota and reduce the overall legal harvest allocation for that year. As time progresses and gray wolf numbers increase, Tribal Member Seasons will be

modified to allow harvest of gray wolves on the North Half following established harvest guidelines. In all instances of wolf harvest on the Colville Reservation, allowable harvest methods may include any firearm, archery, and trapping depending on yearly Tribal Member Hunting Regulations.

Distribution of wolf parts

Wolves killed during management actions or that are turned in to or found dead by the CCTFWD will become the property of the CCT. Appropriate samples for biological studies and/or law enforcement investigation requirements will be collected. Some hides and skulls may be retained for educational purposes, as needed.

The CCTFWD will work in cooperation with the Colville Reservation cultural committee to establish guidelines on how to transfer wolf carcasses or the parts thereof to culturally appropriate persons and/or locations. These items will be available to Colville Tribal Members who desire them for cultural and/or religious purposes. A repository for these items needs to be established and will jointly determine how the items are to be distributed. Tribal members may request the items by directing their request to the CCTFWD Director or their delegate. Records of the distributions will be documented and reported.

Ungulate Conservation and Management

The CCTFWD has an objective to manage lands within the bounds of the South Half Colville Reservation to provide habitat capable of supporting stable to increasing deer, elk, and moose populations. Deer, elk, and moose populations within the South Half Colville Reservation are primarily monitored via winter aerial survey methods and sightability modeling (Buckland et al. 2000). Based on recent winter aerial surveys, mule deer and white-tailed deer populations combined are on a stable to slightly increasing trend. In addition, elk and moose populations are also on a stable to slightly increasing trend in populations of both species.

The CCTFWD seeks to guide management and co-management of gray wolves and their primary prey (deer, elk and moose) on the North and South Half of the Colville Reservation, respectively. The primary goals for management of gray wolves and their ungulate prey are to: 1) outline strategies for maintaining viable wolf populations that persist through time, while 2) maintaining healthy ungulate populations capable of meeting the cultural and subsistence needs of Colville Tribal Members and their families. Understanding impacts of gray wolves on ungulates is important within the framework of the CCT given the subsistence culture of the Colville Tribal Members.

One method to understand potential impacts of gray wolves on ungulates is by estimating annual predation rates by gray wolves on ungulates in a given area. To calculate predation rates of gray wolves on ungulate populations it is necessary to detail: 1) ungulate composition by number of individuals, 2) ungulate composition by biomass based on average body weights of young and adult individuals of each sex, and 3) gray wolf daily food requirements. Currently mule and white-tailed deer combined comprise roughly 85% of the individual ungulates on the

South Half Colville Reservation while elk and moose comprise 9% and 6% of the ungulate population, respectively.

Winter aerial surveys reveal roughly 25% of the estimated deer population on the South Half Colville Reservation are fawns; weighing on average 30 kg at the time of aerial surveys (Thompson et al. 1973). The remaining 75% of the winter deer population are does and bucks. It has been stated that adult mule deer weigh on average 68 kg and adult white-tailed deer weigh on average 60 kg (Wallmo 1981; Halls 1984), and from winter flight data there is roughly a 1:1 ratio of mule deer to white-tailed deer on the South Half Colville Reservation, however this ratio may fluctuate annually. Buck-to-doe ratios are largely unknown for the South Half Colville Reservation due to the large number of bucks that typically drop their antlers prior to winter aerial surveys.

Winter aerial surveys reveal roughly 20% of the estimated elk population are calves, potentially weighing on average 70 kg at the time of aerial surveys (Cook et al. 1996). Cow and bull elk account for 55% and 25% of the estimated elk population, respectively, on the South Half Colville Reservation. An average cow elk weighs 275 kg and an average bull elk weighs 325 kg (Toweill 2002).

Aerial winter surveys reveal roughly 25% of the estimated moose population are calves, potentially weighing on average 70 kg during winter at the time of aerial surveys. Cow and bull moose account for 45% and 30% of the estimated moose population, respectively, on the South Half Colville Reservation. An average cow moose weighs 300 kg and an average bull moose weighs 430 kg (Schwartz et al. 2007).

Thus, not considering bighorn sheep or pronghorn populations, mule and white-tailed deer combined account for 56% of the ungulate biomass on the South Half Colville Reservation while elk and moose account for 26% and 18% of the ungulate biomass, respectively. Taking these figures into account, it is possible to derive a general estimate of number of ungulates required to sustain an average gray wolf pack per year on the South Half Colville Reservation.

Given an average daily basal metabolic rate of 0.175kg/kg of wolf/day for gray wolves in North America (Mech and Boitani 2003), along with an average weight of 40 kg per adult gray wolf and an average of 7 gray wolves per pack (avg. pack size in 2013 in Washington, Oregon, Idaho, and Montana were 4, 8, 6, and 4, respectively), each gray wolf pack on the South Half of the Colville Reservation has the potential to consume an estimated 17,855 kg of prey per year. (It is acknowledged that only rarely are all individuals within a pack adults. Rather it is typical for 2-4 individuals to be yearlings and/or pups, which have lower daily basal metabolic rates which equates to less food consumption (Mech and Boitani 2003).)

Determining the greatest potential for prey consumption by a pack of gray wolves is informative to biologists tasked with managing ungulate species shared by subsistence based Tribal Members, gray wolves, and other predators. Given a suite of ungulate species to prey upon, it is likely that a given gray wolf pack will select for one ungulate species above the rest.

However, such selection is likely to vary from one gray wolf pack to the next and even within a gray wolf pack over time. However, mechanisms driving gray wolf pack prey selection patterns are not well understood and it is likely that gray wolves prey on whatever individuals of whatever species are vulnerable enough for them to kill with the least risk at any given time (Mech and Peterson 2003).

With these uncertainties concerning gray wolf pack prey selection, any attempt at estimating predation rates by gray wolf packs must assume gray wolf packs consume prey according to availability. If gray wolf pack predation rates are in line with available ungulate biomass by species then one gray wolf pack can be expected to consume the equivalent of: 83 mule deer and white-tailed deer fawns combined/year, 116 adult mule deer and white-tailed deer combined/year, 13 elk calves/year, 9 cow elk/year, 4 bull elk/year, 12 moose calves/year, 5 cow moose/year and 2 bull moose/year.

These yearly consumption rates per pack amount to five to six percent of each of the estimated elk, moose, and mule and white-tailed deer populations combined on the South Half Colville Reservation. Though this is unlikely, the wide spatial and temporal variability in gray wolf pack prey selection precludes a more exact estimate of number of ungulates taken per year based on gray wolf prey selection for various ungulate species (Mech and Boitani 2003).

It is likely that ungulate mortality due to gray wolves is neither fully compensatory nor additive with current sources of mortality, but is instead some combination of the two (Mech and Peterson 2003). Thus, it is unlikely that moose mortality rates on the South Half Colville Reservation, for example, will drastically increase due to presence of gray wolves. Overall, previous research indicates that gray wolves typically do not have a significant impact on ungulate populations and gray wolf predation generally does not cause declines in ungulate numbers (Thompson and Peterson 1988; Peterson et al. 1998; DelGiudice et al. 2006, 2009). However, local reductions in ungulate populations due to gray wolf predation have been reported (Hamlin et al. 2009). Though generally, reports detailing ungulate declines due to wolf predation also acknowledge that a multitude of factors are conspiring to reduce the given ungulate population of interest (Cunningham 2009).

With that said, it is possible that gray wolf predation could negatively impact localized ungulate populations on the South Half Colville Reservation. Significant declines in local ungulate populations could pose a decrease in ungulate populations in the area, impacting the subsistence culture of Colville Tribal Members. Therefore it is imperative that winter aerial surveys continue to be conducted to monitor ungulate populations on the South Half Colville Reservation. Any detection of significant declines in ungulate populations would need to be met with: 1) research investigating sources of mortality for the various ungulate species by sex and age, 2) suggested changes to ungulate harvest policies, and 3) a potential increase in predator control efforts. If gray wolves are found to be a significant source of mortality for sex and age classes important for ungulate population growth and maintenance then measures should be considered to preserve the subsistence culture of Colville Tribal Members.

Land Management

Land management on the Colville Reservation is unique in that there are multiple types of land ownership; each with their own laws and codes that govern the management of natural resources. Tribal Trust is land that is owned by the Tribe and is managed for the benefit of the membership as a whole. The CCTFWD is the lead managing entity for wildlife resources on Tribal Trust lands. Tribal Allotments are lands that were allotted to individual Tribal members and their families. These lands are managed by those families that own them but the overall management of wildlife resources still falls under the jurisdiction of the CCTFWD. Fee lands are lands within the bounds of the reservation that are owned by private persons or companies. Fee lands are subject to both tribal and state laws; however the management of wildlife resources is solely under the jurisdiction of the CCTFWD. Proposed land management activities that will be affected by or could potentially affect gray wolves on the reservation will be evaluated by the CCTFWD.

Land management activities on the reservation will be evaluated by a Tribal Biologist to assess their potential effects on gray wolves. It is the goal of our Department to prevent, reduce, or mitigate negative impacts to resident wildlife populations, including gray wolves, by working with other Natural Resource Departments to identify potential threats and recommend/implement alternative management techniques through adaptive management. Forest management, fire control, and grazing are the primary land management activities that have the potential to negatively affect resident wolf packs. Because gray wolves are habitat generalists and inhabit such large territories, most site-specific management activities will not have negative impacts on resident packs.

The effects of ORVs (off-road vehicles) have shown mixed results in their level of disturbance to wolves. At this time there are no proposed changes to ORV use on the reservation, however if at any time the CCTFWD determines there are negative impacts to wolves or wolf survival due to ORV use, amendments to this plan may be initiated.

Wolf-Livestock Conflicts

The domestication of animals that began some 12,000-13,000 years ago brought profound changes in the human view of wolves (Boitani 1995; Mech and Boitani 2003). Over millennia, selective breeding reduced the natural defenses of domesticated animals. Meanwhile, human societies developed more effective means of killing wolves (Mech and Boitani 2003). Depredations on livestock became the primary reason for attempts to exterminate the wolf; first in Europe and later in North America (Young and Goldman 1944). As settlers advanced westward, wolf-livestock conflicts increased. This conflict, along with a host of secondary factors, led to a 300 year effort to exterminate wolves in North America (Young and Goldman 1944). Currently, the potential for depredations on livestock continue to be a major problem in wolf conservation. Wolves prey on domestic animals in every country where the two coexist (Mech and Boitani 2003). In North America, reliable long-term data on livestock losses to wolves are available for Alberta, British Columbia, Minnesota, and Montana, and records are accumulating from Wisconsin, Idaho, and Wyoming. Although they are increasing in some of

those areas, wolf depredations involve less than 1% of available livestock and less than 1% of producers within wolf range experience losses to wolves each year (Mech and Boitani 2003).

One of the greatest concerns with the reestablishment of wolves into northeast Washington State, as well as the Colville Reservation, is the conflicts that could arise with domestic livestock. Permitted livestock grazing has been and will continue to be a range management practice within many areas of the Colville Reservation. Many of the Range Units have a high likelihood for reestablishment by gray wolves. To date, the CCTFWD have not documented livestock damages resulting from the reestablishment of wolves on the Colville Reservation. The Tribes understand that unmanaged wolf packs may eventually result in undesirable interactions with livestock. Management of wild ungulate populations at levels adequate to provide for subsistence harvest by Tribal Membership and to support desired wolf populations will benefit managers attempting to alleviate potential livestock conflicts.

It is the goal of the CCTFWD to resolve conflicts before they become major issues. This requires quick response to all complaints related to wolf activity. At this time, the CCTFWD and the CCT are not providing financial compensation for livestock injured or killed by wolves or any other wildlife species. The CCTFWD will work with livestock owners to solve issues as they arise. The release of livestock into an area where denning is occurring has the potential to result in negative interactions between livestock and wolves. In order to reduce these impacts the CCTFWD will work with the Bureau of Indian Affairs (BIA) Range Program, BIA Leasing Program, and local livestock producers to provide recommendations regarding livestock management in areas where there are known dens. Overall, when livestock are released onto Range Units, they are subject to numerous fates, just like native wildlife, including injury and/or death. Thus, owners are encouraged to manage their livestock accordingly.

CCT Wolf-Livestock Conflict Response

- 1) CCTFWD response, according to draft CCT Response Guidelines, to all reported wolf complaints related to livestock damage will be to attempt to determine if injury/death was caused by gray wolves, other wildlife species, or domestic animals (see Appendix A).
- 2) After following the Response Guidelines and it is determined that injury/death was caused by gray wolves on the property of the livestock owner, the CCTFWD will assess the scope of the issue and develop site-specific strategies to address the issue. The CCTFWD may use multiple strategies to prevent, limit, or remove the threat including the following strategies: providing educational materials, recommending solutions to landowners to address the issues (i.e. relocation of carcass dump sites), use of non-lethal deterrents (i.e. fladry, range riders, guard dogs, hazing), trapping, relocations (where appropriate), lethal removals, or other methods deemed appropriate by the CCTFWD Program Director.

Wolf-Human Interactions

Public safety and interaction with wolves are important topics of concern for Tribal Membership. Since wolves have not been documented within the bounds of the Colville Reservation for many decades, local residents may lack direct experience with wolf behavior, leading toward feelings of uncertainty or feelings of increased risk. The following section will address the public's safety, interaction, and possible future conflicts with wolves.

Human Safety

The history of wolf attacks varies depending on the country and century. In the United States and Canada, early explorers and trappers seldom recorded wolf presence and rarely regarded wolves as dangerous (Mech and Boitani 2003). Looking at wolf populations across the world there are currently an estimated 10,000-20,000 in Europe, 40,000 in Russia, and approximately 60,000 in North America (Linnell 2002). Given these numbers, there are only 4 recorded cases of people being killed in Europe, 4 in Russia, and 2 in North America by non-rabid wolves over the past 50 years (Linnell 2002). The two deaths within North America occurred in 2007 and 2010 in Saskatchewan and Alaska, respectively (USFWS 2011). The number of non-lethal wolf attacks in North America has also been rare, with approximately 15 over the past 100 years, in which the majority of these animals had been habituated to human food and garbage, thus losing a fear of humans (Linnell 2002). In comparison, there are an estimated 4.7 million domestic dog bites per year in the United States, of these 800,000 individuals seek medical attention, 386,000 resulting in emergency treatment, and about 16 die (Center for Disease Prevention 2013). In regard to human-wolf interactions, the likelihood of a confrontation is very rare.

A recent scientific worldwide review of wolf attacks on humans found that the vast majority of wolf attacks on humans were due to the offending animal being infected with rabies (Linnell 2002). Although wolves are not a reservoir for this disease, spill over from other canines and wildlife is still evident and accountable for these attacks (Linnell 2002). Due to the low occurrence of rabies in the United States, attacks by rabid wolves are extremely rare. Since the 1980s when wolves were reintroduced, no such attacks have occurred in Idaho, Montana or Wyoming (McNay 2002). In cases where non-rabid wolves attacked humans, the cause of attack was attributed to: 1) the offending animal having become accustomed to humans by way of food or constant human presence, 2) captive wolves and wolf-dog hybrids exhibiting defensive behaviors after being cornered, and 3) wolves exhibiting territorial behavior towards dogs and the dog owner tried to intervene (Linnell 2002). From 1969 to 2001, there have been 29 documented cases of unprompted wolf attacks. In 6 of these cases, the individual was accompanied by dogs and another 19 were attributed to habituated wolves (McNay 2002).

When a wolf loses their fear of humans and becomes habituated, there is an increased possibility of an attack or injury. Habituation can occur with or without conditioning with food and in locations where wolves consistently encounter people (McNay 2002). In many of the recent North American wolf attacks, the suspected wolf was previously seen stealing various items (clothing, gear) out of camping sites and at times obtaining food items (Groom et al. 2006). These wolves were in and around campsites, exhibiting uncommonly bold behavior,

months before any human attacks occurred. If the public had treated these animals as a wild predator instead of a novel attraction, these serious attacks could have possibly been prevented (Groom et al. 2006). Preventing habituation of the wolves located on the Colville Reservation is a key to ensuring human safety. Cooperation between the public and the CCTFWD is vital to the continued safety of both humans and wolves. Notifying the CCTFWD of any suspicious wolf activity is crucial to early intervention of potential wolf problems and will increase human safety on the reservation. Feeding of wildlife is discouraged.

Interaction with wolves

Within the bounds of the Colville Reservation, individuals that participate in outdoor activities are the most likely people to encounter a wild wolf. These individuals may include hunters and gatherers, hikers, trappers, forest workers, rural residents, and individuals who work outdoors or within the natural resource fields (i.e. CCTFWD staff, Forestry staff, etc.). Any member of the public that spends an increased time outdoors, specifically in timbered areas, should be knowledgeable about wolf behavior and what to do in the unlikely situation where a wolf is encountered.

Within Idaho, Montana and Wyoming between 1987 and 2011, there were 144 documented dog losses due to wolves (USFWS 2011). On the Colville Reservation, hunting with dogs is an important part of the culture and interactions between hunting dogs and wolves can be a serious concern. It has been noted in other states that hunting dogs are more susceptible to wolf attacks due to them normally being at distance from the human handler.

Hunting with and/or maintaining dogs as pets on the Colville Reservation is a popular activity and will continue even with wolves present. To help minimize potential negative interactions between dogs and wolves, owners should take these precautions:

- Members of the public that live within wolf territory should not leave their dogs outside overnight unless housed in a sturdy kennel.
- Dogs should be kept within visual/auditory range of their owners during walks or while hunting.
- Dogs should not be allowed to run loose; rather they should be on a leash, tether, or within a fenced yard.
- Train dogs not to approach wildlife, unless used for hunting.
- Avoid leaving dog food outside at night.

Wolf Hybrids

Wolves within the boundaries of the Colville Reservation have the capability to hybridize with other canid species including domestic and feral dogs. While this is a possibility, hybridization

should be avoided to maintain biological integrity of the animals and maintain safety of the public. Wolf hybrids can be more dangerous due to their larger size, lack of shyness to humans, and natural wild predatory instincts, thus causing an increased unpredictability (Mech and Boitani 2003). In North America from 1981 to 1999, wolf hybrids killed at least 13 children and injured around 43 other individuals (Linnell 2002). Due to this extreme potential for threats to human safety, CCTFWD will move toward banning the breeding of or owning of wolf hybrids and/or pet wolves within the bounds of the Colville Reservation through the modification of Tribal Code.

Disease

Echinococcus granulosus is a tapeworm that requires two mammalian hosts to survive. It is found worldwide in canine species including coyotes, dogs, foxes, and wolves (Foreyt et al. 2009). The intermediate form of this tapeworm is found within the lungs and liver of even-toed, wild or domestic ungulates (Mech 2003). When a canine, the final host, ingests an infected animal (intermediate host), the tapeworm will attach to the intestinal wall of the canine and continue growth into an adult. The adult parasite is then shed in the feces (Mech and Boitani 2003). A recent study in Idaho and Montana found that over half of the wolves tested were positive for this tapeworm (Foreyt et al. 2009).

There is the rare possibility that humans can become the intermediate host; known as hydatid disease. The disease in humans is obtained by drinking water or eating vegetation infected by the tapeworm eggs (Foreyt et al. 2009). Transmission to humans can also occur if infected canine scat is handled, and the parasite is transferred to the handler and then ingested (Center for Disease Prevention 2012). The likelihood of spreading the disease by handling ungulate meat or carcasses is highly unlikely unless it has been contaminated with canine feces and adequate hygiene is not used (Foreyt et al. 2009). Hydatid disease in humans is extremely rare and not a significant concern on the Colville Reservation. However, caution should be taken and good hygiene practices should always be used when handling dead or live wild animals or their secretions. Caution should also be taken with domestic dogs to ensure that pets are not infected. Domestic animals should not be allowed to roll or feed on wolf/canine scat or feed on any portion of an ungulate carcass (Center for Disease Prevention 2012).

Public Education and Outreach

An essential part of gray wolf conservation is a well-informed public; therefore it is a priority of the CCTFWD to provide education opportunities and outreach. This outreach effort has and will continue to provide an avenue for the public to access factual and up to date information pertaining to the Colville Reservation's resident wolf packs to promote a general knowledge and understanding of wolves. (to access this information, visit your local CCTFWD office.)

Prior to the wolf packs being established, the CCTFWD began providing education and outreach opportunities for the public. This occurred through several public meetings across the Colville Reservation where questions were answered and information about wolves was provided. The CCTFWD used these meetings as a way to guide wolf management decisions and gain valuable

information from the public on their beliefs of how wolves should be managed on the Colville Reservation. Outreach has also been conducted at local Pow-Wows and other community events. The CCTFWD also released an informative pamphlet on wolf ecology, identification, and history.

A wolf reporting form was established in 2011 to gather information and assist CCTFWD biologists in responding to inquiries from the public. The wolf reporting form is available upon request from CCTFWD biologists and the CCTFWD main office. The form assists managers in keeping records of potential wolf sightings. The Tribal Membership and general public are encouraged to continue using this form to submit reports of potential wolf sightings.

In late 2012, the CCTFWD conducted an online survey to help guide the management of wolves on the Colville Reservation. Although the response was low (n=226), the CCTFWD attempted to use the responses to aid in the development of the CCT Wolf Management Plan.

As the re-establishment of the wolf continues on the Colville Reservation, public education and outreach needs to continue into the future in order to keep the Tribal Membership informed with meaningful and up-to-date information on present conditions as well as the potential effects that wolves may be having on the ungulate populations and local ecosystems. The CCTFWD will continue to hold public meetings to keep tribal members informed about current wolf activity on the reservation. This outreach approach needs to be adaptive and flexible to reflect the ever changing status of wolf conservation, management strategies, and funding. Education opportunities may take place as one-on-one visits with landowners, wolf education lectures in local schools or public meetings, or by other means as deemed necessary by the CCTFWD.

To ensure that the outreach effort is supported by knowledgeable staff, the CCTFWD will encourage all CCTFWD staff to stay informed on relevant, local wolf issues. CCTFWD staff will continue to participate in trainings and conferences to increase the knowledge and understanding of wolves in order to properly educate the public. Through the pro-active outreach approach, CCTFWD staff members will make the effort to provide education to local schools, community groups, and other interested parties where appropriate. Furthermore, education is a two-way street, and CCTFWD would greatly benefit from Tribal Members relating their cultural and traditional knowledge, experiences, encounters, concerns, and general thoughts on gray wolves to CCTFWD personnel.

Future surveys of the Tribal Membership may be conducted in order to determine the success of educational outreach by CCTFWD, determine current attitudes toward wolves and the level of social tolerance, and also how to proceed with proposed future management actions for wolves. In addition, they may help guide future educational outreach opportunities.

Research

Additional scientific knowledge of gray wolf ecology and the ecological responses to the re-colonization of gray wolves continues to be needed in Washington. Potential trophic cascades are reported in some regions (Ripple et al. 2001), including ungulate and vegetative responses to wolves (Ripple and Beschta 2004). Threats to prey species and livestock have been a growing concern in the area (Hamlin et al. 2009). However, the long-term effects of the return of the gray wolf to our landscape and economy are yet to be understood.

Research in the region should be guided by management questions that would lead to the long-term effective recovery and active management of the gray wolf within its historic range. Although gray wolf re-colonization has always been a highly disputed topic, data should be collected to document the actual response of prey species to the return of an apex predator. Additionally, ecological responses that could potentially lead to the recovery of stressed habitats should be documented. Significant predator-predator interactions could also prove to be important to wildlife management. However, any potential project should be highly-scrutinized before inception due to potential biases or preconceived ideas of what the data should portray. In addition, the benefit to the Tribal Membership should be considered as well as other identified management needs of all proposed research before it is approved or implemented.

Numerous studies could be developed to document these interactions, yet funding for wolf research has proved to be limited and extremely competitive. Federal de-listing of gray wolves on the Colville Reservation and North Half Reservation is anticipated to reduce federal funding opportunities in these areas, but this result is yet to be determined. As an iconic symbol of population recovery, many Non-Governmental Organizations may be willing to fund studies that promote the positive ecological functions associated with gray wolf presence on the landscape.

Considering that any management strategies that might enhance the prey base in the area could potentially enhance the recovery of gray wolves, a funding strategy that seeks grant money for prey species management or habitat enhancement could result in potential wolf recovery. Various funding opportunities are listed below:

- USFWS
 - Tribal Wildlife Grant (TWG)
- Natural Resource Conservation Service (NRCS)
 - Wildlife Habitat Incentives Program (WHIP) Grant
 - Environmental Quality Incentives Program (EQIP) Grant
 - Wetland Reserve Program (WRP)
 - Conservation Reserve Program (CRP)
 - Grassland Reserve Program (GRP)
 - Conservation Stewardship Program (CSP)

- Conservation Innovation Grants (CIG)
- Washington State Dept. of Fish and Wildlife (WDFW)
 - Federal Aid in Wildlife Restoration Act (Pittman-Robertson)
 - Aquatic Lands Enhancement Account (ALEA) Volunteer Cooperative Grant Program
 - Cooperative Endangered Species Conservation Fund (Section 6 ESA)
 - Non-highway and Off-Road Vehicle Activities Program (NOVA)
- Department of the Interior
 - Fish, Wildlife and Plant Conservation Resource Management (15.231)
- The Nature Conservancy
- Safari Club International
- The Mule Deer Foundation
- The Rocky Mountain Elk Foundation
- The Wild Turkey Federation
- Pheasants Forever
- Audubon Society

Reporting and Evaluation

The continued collection, evaluation, and reporting of population recovery data are key elements toward developing and utilizing the best management strategies in gray wolf recovery in Washington. With various tribal, state-wide, regional, and national gray wolf recovery goals in existence, an assertive effort needs to be made to compile the most accurate and accessible data sets. Data collected by CCTFWD will be maintained in a format that can effectively support recovery goals for each entity individually and can continue to provide large-scale recovery information.

The CCTFWD promote regional data coordination and actively participate in standardized data reporting. The Colville Tribes will continue to report all collected and verified data in an attempt to supply adequate information to the region to accurately compile the Northern Rocky Mountain Wolf Recovery Program Interagency Annual Report each year. Annual survey data will be evaluated by the Tribes, and the results reported to the USFWS may include:

- Population Demographic Data,
 - Number of confirmed packs and/or breeding pairs,
 - Number of known individuals per pack/group,
 - Number of collared individuals per pack/group,
 - Number of observed pups,
 - Number of pups recruited to population,
 - Number of known dispersals,

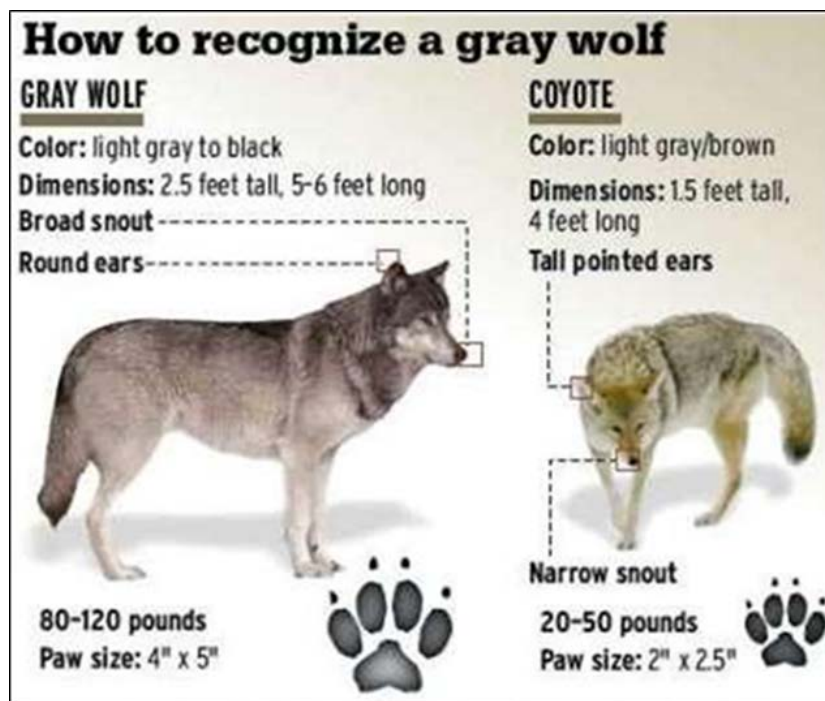
- Number of missing, collared individuals,
- Number of documented wolf mortalities,
 - Number of legally harvested individuals,
 - Number of harvests linked to population control efforts,
 - Number of illegally harvested individuals,
 - Number of natural occurring deaths of gray wolves,
 - Number of deaths observed for unknown reasons,
- Home Range maps and description of size,
- Number and species of confirmed livestock depredations by gray wolf,
- Total amount of Federal funding spent on wolf recovery by the Colville Tribes,

Data will be submitted annually to the USFWS as requested. Data are voluntarily submitted by the Colville Tribes to support collaborative efforts and regional management goals, however data deemed confidential or that which is not appropriate for agency and/or public use might not be considered for submittal unless approved by the Colville Business Council or delegate. Caveats may be requested by the Tribes when submitting data and shall be strictly followed. Nothing in this document requires the Colville Tribes to report any data to any other entity.

Planned Management Actions

1. Monitor gray wolf populations within the Colville Reservation, North-half, and Aboriginal Territories.
 - a. Maintain a remote-camera grid to support population data collection.
 - b. Continue to collect biological samples to aid in population surveys.
 - c. Establish a minimum number of GPS-collared animals to provide data for managers.
 - d. Participate/coordinate active studies of wolf ecology.
2. Monitor ungulate response to gray wolf recolonization.
 - a. Monitor/collect kill site data to determine diet of gray wolves.
 - b. Continue aerial big-game surveys to monitor ungulate populations.
3. Educate the Tribal Membership and/or General Public about gray wolves.
 - a. Identification.
 - b. Ecology/Study results.
 - c. General ecological facts.
 - d. Conflict reduction strategies.
 - e. Risks.
4. Establish an annual harvest allocation based on population goals.(See Appendices C & D)
 - a. Use harvest rates of 20-24% in areas that are considered recovered.
 - b. Use harvest rates of 10% in areas that are recovering.

- c. Utilize established Wildlife Management Zones, as needed, in harvest allocation and/or management.
 - d. Maintain mandatory reporting of all wolf harvest.
5. Investigate, document, and/or provide support to reduce damages to resources or property.
 - a. Respond to complaints.
 - b. Respond to reports of safety concerns.
 - c. Educate and cooperate with livestock operators to minimize damages.
6. Report on annual wolf management.
7. Coordinate and assist in establishing a clear Colville Tribal wildlife parts distribution protocol.
8. Continue to coordinate with appropriate agencies, groups, or public about regional wolf management concerns.
9. Review/modify current Tribal Codes to actively manage gray wolves.
 - a. Wolf/dog hybrids.
 - b. Harvest regulations/methods.
 - c. Federal and Tribal transport requirements.
 - d. Damage claims.



Source: United States Fish and Wildlife Service

Definitions

Annual Minimum Wolf Population Estimate – The number of individual wolves documented from March of a given year to April of the following year using various survey techniques including DNA analysis of scat, remote camera photographs, and visual observation of wolves from land or air.

Compensation – monetary payment to offset or replace the economic loss for a death or injury to livestock or other animals due to wolf activity.

Depredation – any death or injury of livestock, as defined in this plan, caused by a predator.

Dispersal – generally refers to the natural movement of an animal from one area to another.

Extirpated – a wildlife species that no longer occurs in the wild in a certain geographic region, but exists elsewhere.

Fladry – a method of non-lethal wolf deterrent that involves attaching numerous strips of flagging material along a fence or other device for the purpose of keeping wolves out of an area occupied by livestock.

GPS Collar – A collar placed on wildlife that uses the Global Positioning System (GPS) to record the geographical location of a given animal wearing a collar via satellite communication and then remotely transmits that geographical location to a network server for data retrieval purposes.

Hybrid – the offspring of a mating between a wolf and a dog, a wolf and a hybrid, a dog and a hybrid, or two hybrids.

Livestock – cattle, pigs, horses, mules, sheep, llamas, goats, guarding animals, and herding dogs.

Pack of wolves – a group of wolves, usually consisting of a male, female, and their offspring from one or more generations. For purposes of monitoring, a pack is defined as a group of two or more wolves traveling together in winter.

Rendezvous site – a specific resting and gathering area occupied by wolf packs during summer and early fall after the natal den has been abandoned. A wolf pack will usually move from the natal den site to the first rendezvous site when the pups are 6-10 weeks of age (late May-early July). The first rendezvous site is usually within 1-6 miles of the natal den site. A succession of rendezvous sites are used by the pack until the pups are mature enough to travel with the adults (usually September or early October).

Successful breeding pair – an adult male and an adult female wolf with at least two pups surviving to December 31 of a given year.

Ungulate – any wild species of hoofed mammal, including deer, elk, moose, pronghorn, bighorn sheep, mountain goat, and caribou.

VHF Collar – A collar placed on wildlife that emits a Very High Frequency (VHF) radio signal at a pre-specified frequency that can be detected using a hand-held receiver connected to a directional antenna.

Viable population – a wildlife population that is able to maintain its size, distribution, and genetic variation over time without significant intervention requiring human conservation actions.

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Appendix A. Response Guidelines for Reported Gray Wolf Activity

Insert Final Wolf Response Guidelines – once approved

Appendix B. Tips to remember in Wolf Country

Wolves are a wild predator and should be treated and respected as such. A few tips and recommendations to avoid habituating wolves include, but are certainly not limited to:

- 1) do not approach, entice, or allow wolves to come near you, your camp, or your home;
- 2) leave suspected wolf kills, dens, and rendezvous sites alone - report these to the CCTFWD;
- 3) do not feed wolves or other wildlife, or leave food (including pet food) outside in areas where wolves are suspected to be;
- 4) discourage wolves from becoming comfortable near human-inhabited areas;
- 5) keep garbage secured.

Following these simple guidelines will help if a wolf is encountered in the wild:

- 1) make yourself appear larger/taller by waving arms;
- 2) when in a group, act in unison;
- 3) act aggressively towards the animal (make noise, throw objects);
- 4) calmly but slowly back away and maintain eye contact;
- 5) if the wolf does not back down, continue to make yourself large, keep eye contact and back away;
- 6) do not in any circumstance turn your back on the wolf and run away
- 7) report any wolf encounters/concerns to the CCTFWD.

Individuals that take their dogs within wolf occupied areas while recreating should:

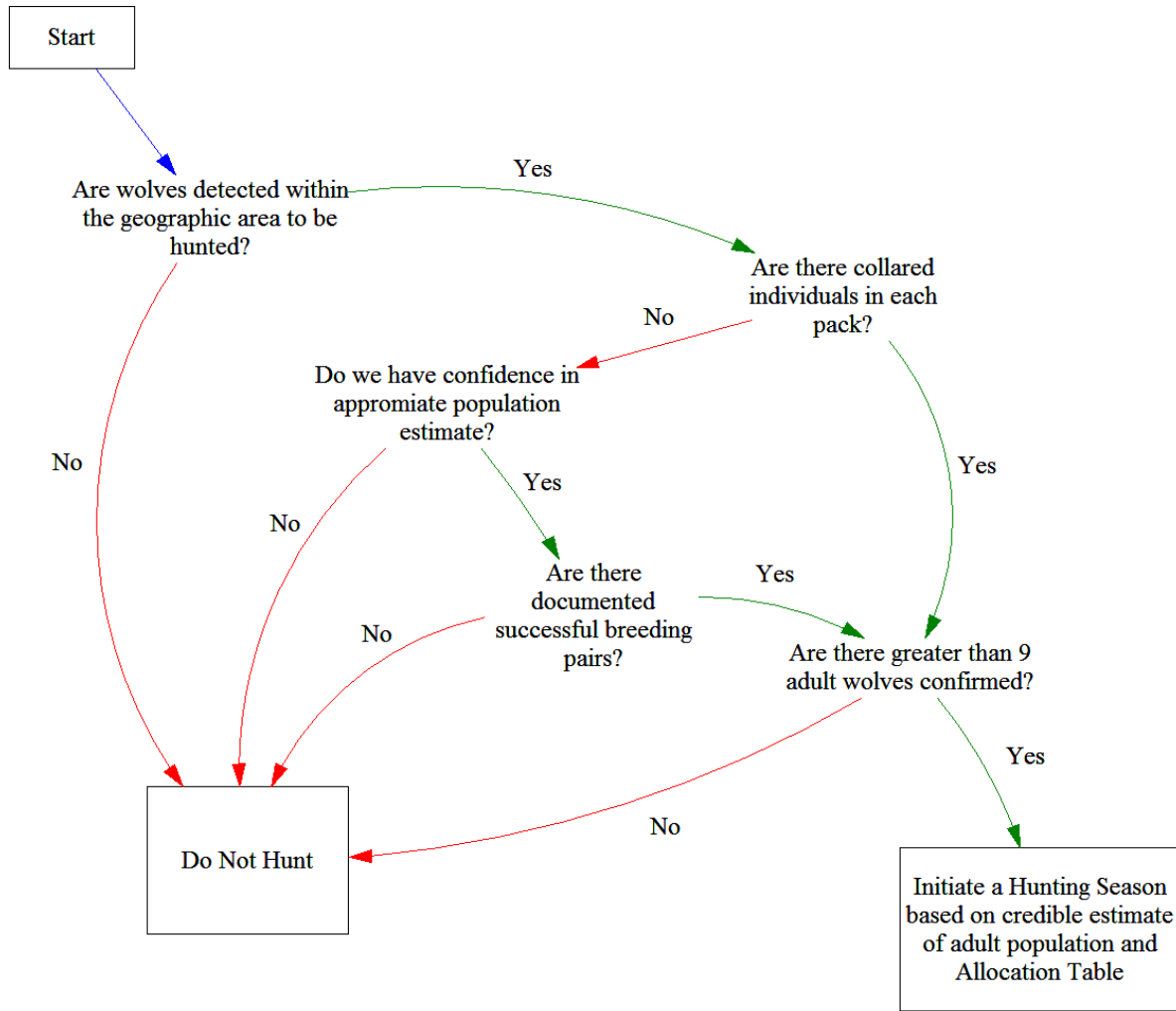
- 1) be able to identify wolf sign;
- 2) bring a leash to restrain dogs in the case a wolf or wolf sign is encountered;
- 3) immediately bring the dog to heel or put on a leash if a wolf is encountered;
- 4) stand in between the dog and the wolf;
- 5) do not in any circumstances attempt to break up a physical fight between the wolf and dog.

Hunters need to be informed and aware of wolf territories and follow guidelines to ensure the safety of themselves and their hunting dogs. Hunters, as well as any individual in the outdoors, need to have an increased awareness of their surroundings when within wolf occupied areas. This can and will help maintain human and pet safety. Guidelines include but are not limited to:

- 1) avoid releasing dogs in areas with fresh wolf sign;
- 2) only release dogs on fresh sign of the target species to avoid long chases;
- 3) regularly make sure all dogs are accounted for;
- 4) leash the dogs once the hunt is over; and
- 5) place a bell or tracking collar on dogs and yell or make noise when releasing dogs and when following the dogs.

Appendix C. Wolf Harvest Decision Tree

The diagram is designed to be a simple, but practical, method in determining if an annual allocation of harvest should be approved and utilized. This diagram, along with the Wolf Harvest Allocation Table (Appendix D), should guide annual harvest allocation management and decision making.



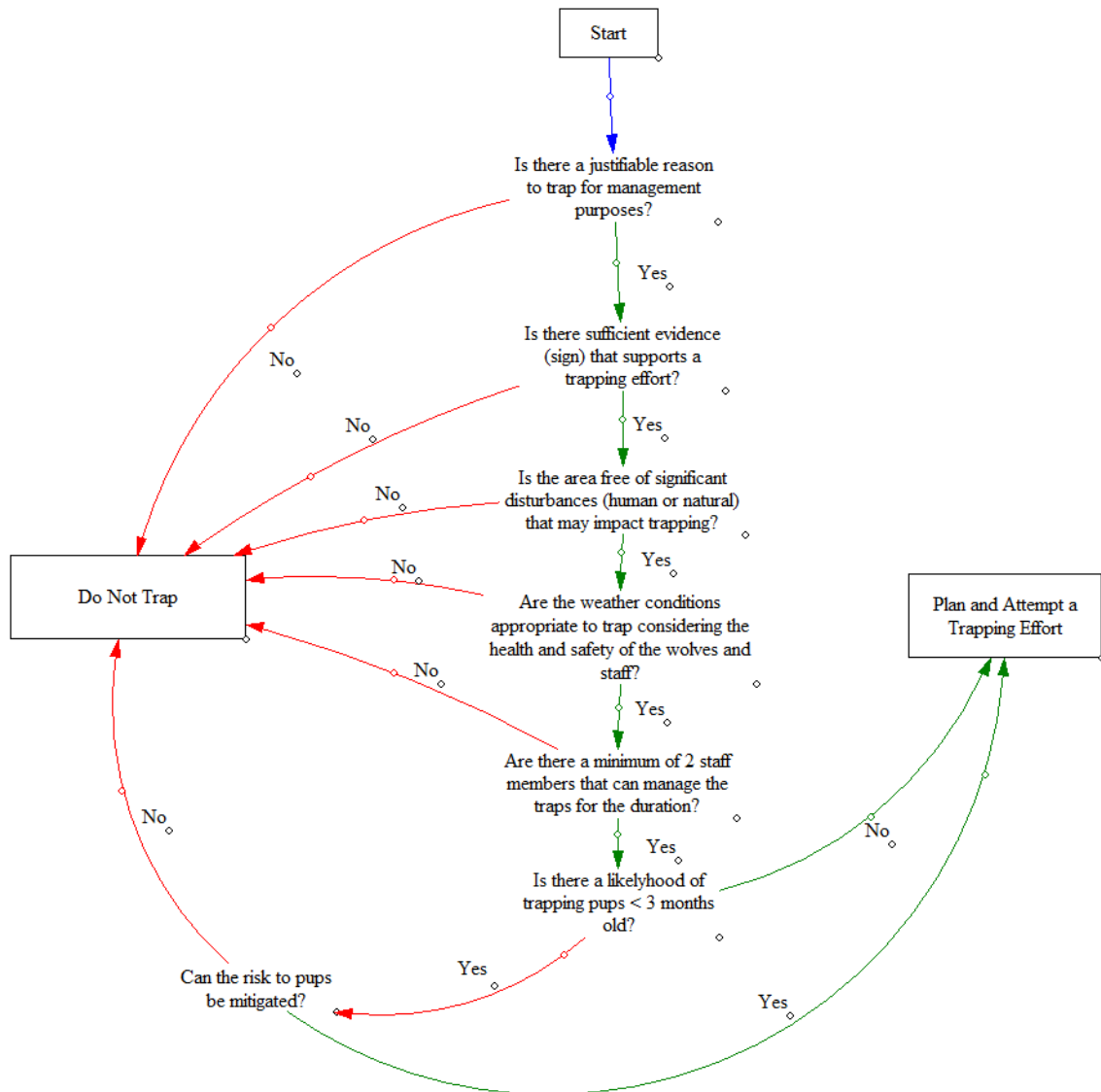
Appendix D. Wolf Harvest Allocation Table

This table is used to determine annual harvest allocation after a wolf harvest strategy is identified as appropriate through the Wolf Harvest Decision Tree. Annual allocation will remain under the 24% maximum in order to maintain a stable population. The defined geographic hunting area considered under the current regulations include only the South Half of the Colville Indian Reservation.

Number of confirmed wolves in the geographic hunting area	Hunt (Open/Closed)	Allowcated annual harvest goal	Percent allocation (X ≤ 24%)
0	Closed	0	0.0
1	Closed	0	0.0
2	Closed	0	0.0
3	Closed	0	0.0
4	Closed	0	0.0
5	Closed	0	0.0
6	Closed	0	0.0
7	Closed	0	0.0
8	Closed	0	0.0
9	Closed	0	0.0
10	Open	1	10.0
11	Open	2	18.2
12	Open	2	16.7
13	Open	3	23.1
14	Open	3	21.4
15	Open	3	20.0
16	Open	3	18.8
17	Open	4	23.5
18	Open	4	22.2
19	Open	4	21.1
20	Open	4	20.0
21	Open	5	23.8
22	Open	5	22.7
23	Open	5	21.7
24	Open	5	20.8
25	Open	6	24.0
26	Open	6	23.1
27	Open	6	22.2
28	Open	6	21.4
29	Open	6	20.7
30	Open	7	23.3
31	Open	7	22.6
32	Open	7	21.9
33	Open	7	21.2
34	Open	7	20.6
35	Open	8	22.9
36	Open	8	22.2
37	Open	8	21.6
38	Open	8	21.1
39	Open	8	20.5
40	Open	9	22.5
40+	Open	Unlimited	

Appendix E. Wolf Management Trapping Decision Tree

This diagrams the decision process that the CCTFWD utilize when considering initiating a departmental wolf trapping effort for management purposes. Management goals, staff availability, and safety of animals and humans are considered before initiating any trapping efforts.



Appendix F. Map of current Wildlife Management Zones.

Insert Map