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OF

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INTERIM
WOLF CONTROL PLAN

Northern Rocky Mountains
of
Montana and Wyoming

I. Introduction

The gray wolf (Canis lupus) is classified federally as an endangered species in the conterminous United States (except for Minnesota where the species is listed as threatened). The Endangered Species Act of 1973, as amended (see Section II. - Definitions), requires Federal agencies to carry out conservation (recovery) programs for listed species and to insure that agency actions are not likely to jeopardize the continued existence of listed species or adversely modify or destroy their critical habitat. The Act also directs the development and implementation of recovery plans for listed species.

The revised Northern Rocky Mountain Wolf Recovery Plan (U.S. Fish and Wildlife Service 1987; also see Section II. - Definitions), dated August 3, 1987, identifies three wolf recovery areas (Figure 1). These areas include central Idaho, northwest Montana, and the Greater Yellowstone area. Based on reported sightings, a few wolves range through central Idaho (Kaminski and Hansen 1984), and 20-25 wolves occur in northwest Montana (Ream 1985). However, wolves are considered missing from Yellowstone National Park and vicinity (Weaver 1978).

Gray wolves prey primarily upon wild ungulates such as elk, deer, and moose. However, wolves can and sometimes do attack domestic livestock. The incidence and magnitude of wolf depredations upon livestock in western Canada and northern Minnesota are, however, remarkably low (Bjorge and Gunson 1982, Fritts 1982, Gunson 1982, Tompa 1982; see Weaver 1983 for review). Even though 1,000 to 1,200 wolves inhabit northern Minnesota (Bailey 1978), recorded livestock losses in relation to cattle availability to wolves are low. An annual average of 13 farms out of approximately 12,230 farms had livestock losses from 1976 through 1980 (Fritts 1982). Cattle losses were highest in 1979 with 0.45 cows lost to wolves per 1,000 cows present. Sheep losses were 1.18 per 1,000 sheep in the highest sheep loss year (1980).

The three proposed recovery areas for the Northern Rocky Mountain wolf are composed primarily of Federal lands, mainly National Park and designated wilderness lands, with relatively few livestock allotments and abundant wild prey. Coordinated management of livestock, wolves, and wild ungulate populations in wolf recovery areas can reduce the probability of wolf-livestock conflicts.

Because livestock allotments and private lands are common outside wolf recovery areas, the Northern Rocky Mountain Wolf Recovery Plan calls for a zone system for wolf management and a responsible wolf control plan. Under the zone system, areas in and around each of the three proposed recovery areas will be stratified into specific management zones identifying the importance of various habitats to wolves. Specific management directives will be outlined for each zone to guide decisions affecting the wolf. These would include conditions and criteria for wolf control actions as well as coordination of other land and resource uses with wolf management objectives.



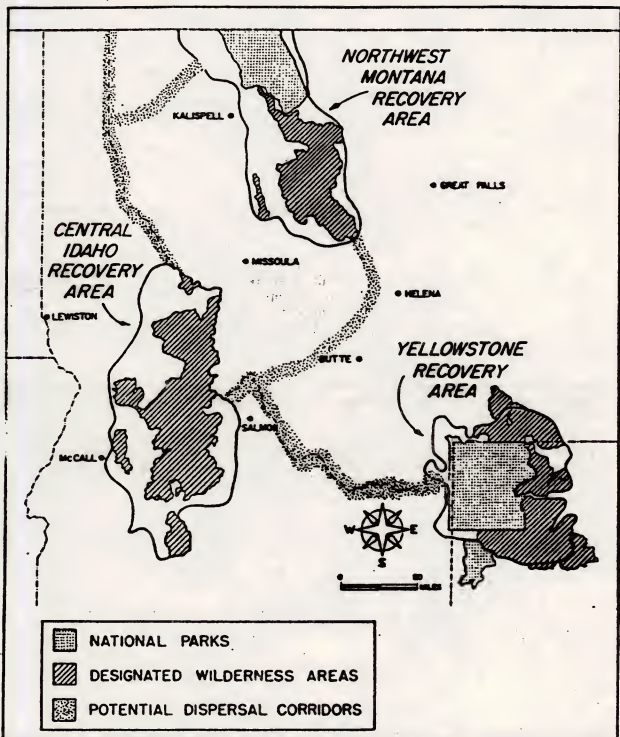


FIGURE 1. RECOVERY AREAS



Zone I would represent the core recovery area containing sufficient habitat to sustain a viable wolf population. Wolf recovery would be promoted in Zone I due to its importance to the wolf and the low potential for conflict with other land uses. Zone II would serve as a buffer zone between Zone I and III. Zone III would represent all land area outside the recovery area where wolf recovery would not be promoted due to the high potential for conflict with existing land uses. When management zones (I, II, III) are designated, this Control Plan will be amended to incorporate any subsequent changes in management objectives or direction in the different zones. Until such area specific management zones and objectives are established, documented cases of wolf depredation on legally present livestock will trigger management and control actions in Montana and Wyoming following the protocol outlined herein. A separate control plan will be required if an "experimental population" is ever established in Yellowstone National Park and vicinity.

II. Definitions

The following definitions will apply for the purposes of this Control Plan.

Control: (a) capturing problem wolves on Federal or private lands and relocating problem wolves to remote areas on Federal lands, or (b) placing problem wolves in captivity, or (c) killing problem wolves.

Control Agency: A Federal or State agency or Indian Tribe permitted by the Service under Section 10 of the Endangered Species Act to conduct wolf control actions.

Depredation: Killing or serious maiming of lawfully present domestic livestock on federally/State managed lands or private lands by one or more wolves, accompanied by the threat that additional livestock will be killed or maimed by wolves.

Endangered Species Act of 1973, 16 U.S.C. 1531 et. seq.: Congressional act which provides for the identification and protection of endangered and threatened fish, wildlife, and plants.

Lawfully Present Livestock: Livestock occurring on private lands or on legal allotments (not trespassing) on Federal lands.

Northern Rocky Mountain Wolf Recovery Plan: A document prepared by a team of individuals with expertise regarding the biological and habitat requirements of the wolf, outlining the tasks/actions necessary to recover the species within parts of its former range in the Rocky Mountain region. Original plan completed in 1980. Revised Recovery Plan approved August 3, 1987.

Pack: A group of wolves, usually consisting of a male, female, and their offspring.



Problem Wolves: Wolves that have depredated on lawfully present domestic livestock or other members of a group or pack of wolves including adults, yearlings, and young-of-the-year that were directly involved in the depredations; or fed upon the livestock remains that were a result of the depredation; or were fed by and/or are dependent upon adults involved with the depredations (because before these young animals mature to where they can survive on their own, they will run with the pack and learn the pack's depredation habits).

Federal Land: Federally/State managed lands.

Recovery Area: The three geographic areas identified in Figure 1 where wolf recovery is considered feasible based upon criteria outlined in the Recovery Plan, which include (1) presence of an adequate natural prey base on a year-round basis; (2) a minimum contiguous area of 3,000 square miles; (3) no more than 10 percent private land, excepting railroad grant lands; (4) if possible, absence of livestock grazing or little possibility for conflict; and (5) sufficient isolation to protect 10 breeding pairs.

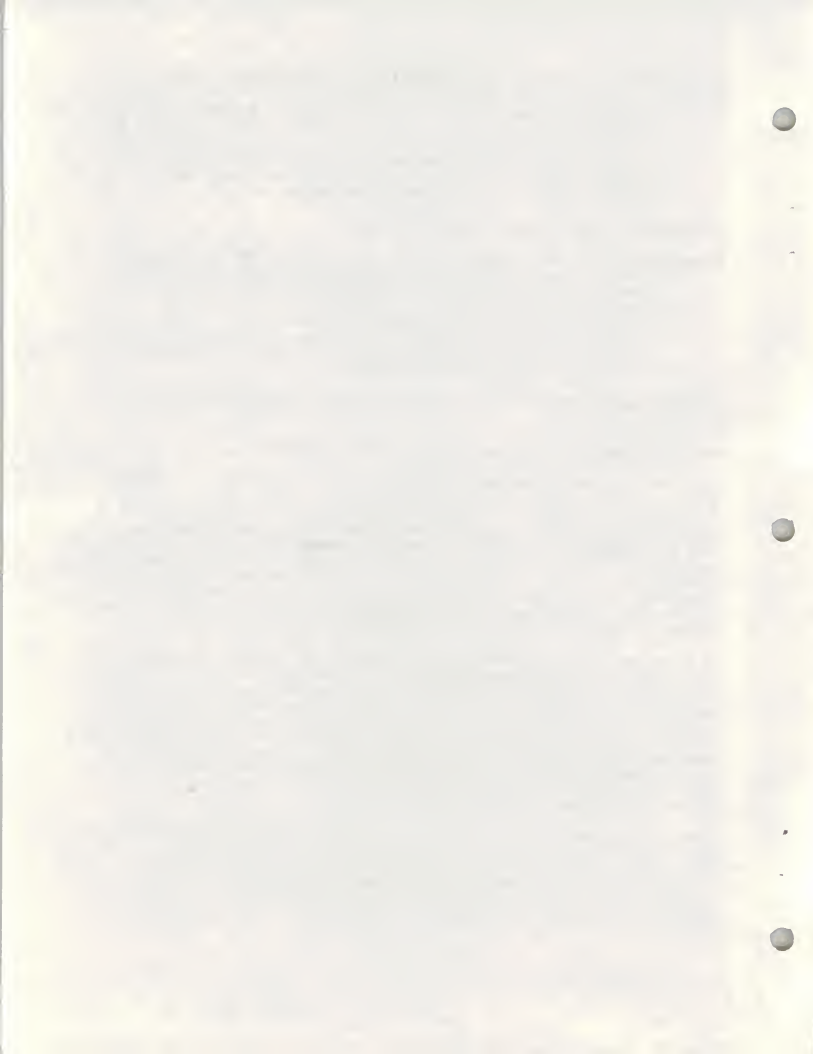
Removal: Capture and placement in captivity or killing of problem wolves.

III. Wolf Control to Enhance the Survival of the Species

The (listed) status of the wolf in the Rocky Mountains requires it be managed so as to allow for an increase in its numbers and eventual removal from the endangered species list. Natural recolonization of wolves is now occurring in Montana and with this recolonization comes the potential for depredations which must be responded to in a timely, professional manner. The incidence of wolf depredations is expected to be low, especially in the early stages of wolf recovery due, in part, to the relatively low number of wolves present during this phase. However, some livestock operators will sustain livestock losses due to wolves and implementation of a practical, responsive management program including control is essential to the recovery effort.

It is the Service's intention to manage wolves in the northern Rocky Mountains in a manner that allows nonpredating wolves to be the "building blocks" of the population. Nonpredating wolves should cause little or no conflict with man, thus it is these animals that the Service intends to build its recovery program around. Animals that habitually depredate on livestock are not desirable for use as seed stock in establishing or bolstering wolf populations. Therefore, wolves that direct their hunting behavior toward livestock will be removed from the population. The Northern Rocky Mountain Wolf Recovery Plan (U.S. Fish and Wildlife Service 1987) indicates that, if necessary, lethal control methods should be used to stop depredations.

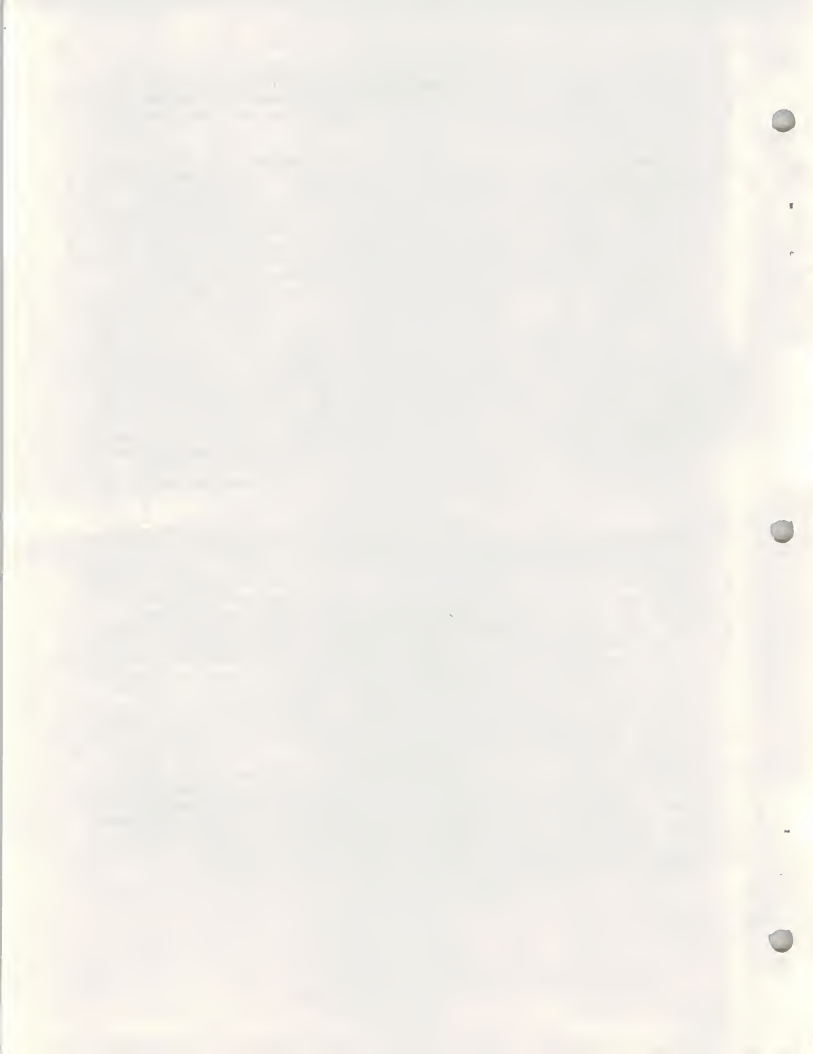
Section 10 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) includes provision allowing the Secretary of Interior to permit acts otherwise prohibited by Section 9 (including the taking of an endangered species) for scientific purposes or to enhance propagation or survival of the species. A 1985 decision by the 8th Circuit Court of Appeals in a case regarding wolf control in Minnesota stated that this provision gives the



Secretary discretion to permit removal of depredating animals or culling of diseased animals from a population. Section 10 permits will be required for any wolf control actions and according to the requirements of the Act, such actions or programs must be for scientific purposes or to enhance propagation or survival of the species.

Implementation of a control program will serve to enhance the overall survival of the wolf by demonstrating that responsible Federal agencies will act quickly to resolve depredation problems. Timely response to depredations will alleviate the perception of Government inaction that often results in increased landowner frustration, which, in turn, may lead to the indiscriminate killing of wolves. Removal of problem animals does more than stop the depredation. It relieves the pressures or antagonisms directed towards the total population by the landowner(s) incurring the losses or other members of the public. Consequently, the local (wolf) population is in less danger from potential nonselective illegal attempts at damage control. In addition, control actions will focus on control of problem wolves and, in doing so, will resolve wolf-human conflicts through removal of a minimum number of wolves. Based on the low rates of livestock depredation in areas where there are established wolf populations and the availability of ungulate biomass in proposed wolf recovery areas, the number of wolves killed under this wolf control strategy is not likely to impede recovery efforts. The Fish and Wildlife Service (Service) biological opinion on the draft Control Plan, dated August 5, 1988, concluded that the proposed action is not likely to jeopardize the continued existence of the wolf. By enhancing the survival chances of those nonoffending wolves and removing those wolves that do kill livestock, the control program will actually contribute to the ultimate recovery of the wolf in the Northern Rocky Mountains.

Unlike grizzly bears, which have an extremely low reproductive rate and therefore are highly susceptible to overutilization, wolves have a relatively high reproductive rate. Thus, established wolf populations can sustain rather high mortality rates without experiencing negative net recruitment. Research indicates that rates of increase in wolf populations are primarily determined by the per-capita biomass of their ungulate food supply, and that wolf densities in stationary populations are thereby adjusted to total ungulate biomass. Human-induced wolf mortality affects the rate of population increase by reducing wolf densities and thus elevating per-capita food resources (Keith 1982). Considerable data exist on the population dynamics of exploited wolf populations. Ballard and Stephenson (1982), reporting on wolf control in Alaska (1976-1978), indicated that 86 percent of the fall 1975 wolf population was removed, and within one denning season following termination of control actions, the population had increased to 81 percent of the estimated precontrol population. They pointed out that the response of a wolf population to control/harvest will vary, depending on the level of harvest and whether adequate numbers exist outside the control area to allow for immigration. Carbyn (1980) determined that increases in pack size from late winter of one year to early winter of the next year can approach 70 percent in some areas. Mech (1986) reported that, generally, the wolf population studied in the Superior National Forest in Minnesota (1967-1985) increased up to 86 percent from spring to winter each year as a result of reproduction.



In reviewing the literature on population dynamics of wolves, Keith (1982) compared reported exploitation rates with resulting numerical trends from 13 different wolf populations. He reported that compensatory increases in wolf reproduction and/or survival can apparently offset lower rates of exploitation, but if exploitation rates are too high, wolves may not be able to fully compensate. His review of data from studies conducted on hunted wolf populations indicate that compensatory increases in wolf reproduction and/or pup survival permit an estimated sustained harvest of about 30 percent of established fall wolf populations (Keith 1992). In view of this information, it is anticipated that increases in wolf reproduction and/or pup survival would be sufficient to compensate for any anticipated mortality resulting from control actions. The guidelines for controlling problem wolves, as outlined in Table 1, are structured to keep adequate "seed" animals in the population by taking into consideration the age of the animal, whether the animal is an "alpha" member of the pack, and the number of wolf packs in the recovery area.

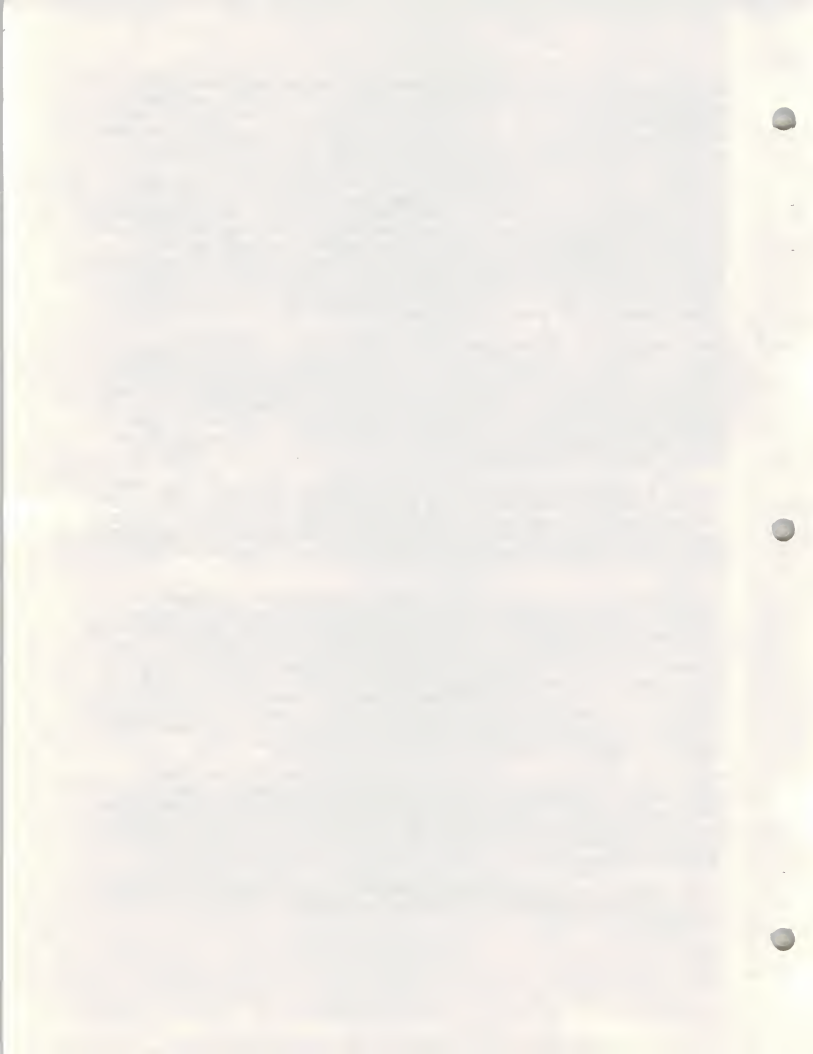
Ungulate biomass is not expected to be a limiting factor in the rate of increase in wolves in recovery areas, particularly during the early phases of recovery. Rather, the rates of increase in wolf numbers will more likely be controlled by human-induced mortality. Management of wolves under the control guidelines outlined herein will attempt to minimize wolf mortality, particularly female mortality, during the early phase of recovery, yet deal firmly with any depredation problem. As recovery progresses, removal of the problem animals from the population will be favored rather than relocation.

Control actions must be conducted in a responsible, professional manner and at a level that will involve taking only a minimum number of wolves, thus allowing for an increase in numbers and eventual removal of the wolf from the endangered species list. Thus, specific guidelines are required for determining problem wolf status, capturing, translocating, and releasing or disposing of problem wolves.

In areas outside of or adjacent to recovery areas, the lack of adequate ungulate prey base and the presence of livestock will aggravate the potential for livestock depredations. Failure to adequately respond to problem wolves or to situations in which wolves are frequenting areas where livestock depredations are highly likely will result in increased opposition to wolf populations in the proposed recovery areas, will increase the likelihood of indiscriminate, illegal killing of wolves, and will substantially increase the overall risk of wolf mortality. Thus, it is the Service's belief and policy that outside of proposed recovery areas problem wolves or those frequenting livestock areas must be relocated or removed immediately.

If verified wolf depredation occurs on lawfully present livestock, control actions will be undertaken to capture and relocate the problem animal(s) or, if this is not possible, the animal(s) may be lethally controlled. To facilitate prompt and selective control actions when necessary, a Control Plan should provide clear direction for determining "problem" status of wolves and for controlling problem animals. Hence, the purposes of this document are to:

- (1) provide uniform interagency guidelines for determining and controlling (control and disposition) problem wolves, and



- (2) guide managers in making prompt and responsible decisions on wolf control by integrating wolf recovery objectives with other land uses and values.

Control actions will include capturing problem wolves on Federal or private lands and relocating them to remote areas on Federal lands, placing problem wolves in captivity, or killing problem wolves. Control actions will be selective for wolves determined to be the problem animals. The goal of such control is to resolve wolf-livestock conflicts by taking a minimum number of wolves as necessary to resolve the conflict while progressing toward wolf recovery. Until management zones are established, the criteria outlined herein shall apply for determining problem wolf status and the disposition of such animals. Control will be conducted by qualified Federal, State, or Tribal authorities who have been authorized under a special permit issued by the Regional Director, Region 6 of the Fish and Wildlife Service, to conduct wolf control actions in accordance with the guidelines contained herein.

IV. Guidelines for Determining Problem Wolf Status

Before any wolf control action is initiated, an investigation must be conducted to confirm that wolves were indeed responsible for the livestock depredation and a determination of "problem" status made pursuant to these guidelines.

1. Investigative Procedures

Trained specialists from control agencies (see Section II - definitions) are responsible for responding rapidly to wolf-livestock conflicts. Suspected or reported wolf depredations will be investigated by control agency personnel immediately but no later than 48 hours after a report is received. Control agency investigators will determine whether or not wolves were responsible for the depredation based on evidence at the depredation site and will complete the Wolf Complaint Investigation Form (Appendix A).

The Fish and Wildlife Service and any other involved control agency will jointly determine the problem status of the wolves prior to initiation of any control action (Figure 2). If depredations occur on Indian Reservations, the Service, Bureau of Indian Affairs (BIA), involved Tribe, and Animal Damage Control (ADC) of the Animal and Plant Health Inspection Service (APHIS) will participate in the problem status determination prior to initiation of a control action (Figure 2). Results of the depredation investigation and application of problem wolf criteria will be used in determining whether or not a control action should be initiated. The Fish and Wildlife Service is the agency that will make the determination if a wolf is to be captured alive or killed.

2. Criteria for Determining Status of Problem Wolves

The following conditions and criteria will apply in determining the problem status of wolves:

- (1) Wounded livestock or some remains of a livestock carcass must be present with clear evidence (Roy and Dorrance 1976, Fritts 1982) that wolves were responsible for the damage and there must be reason to believe that

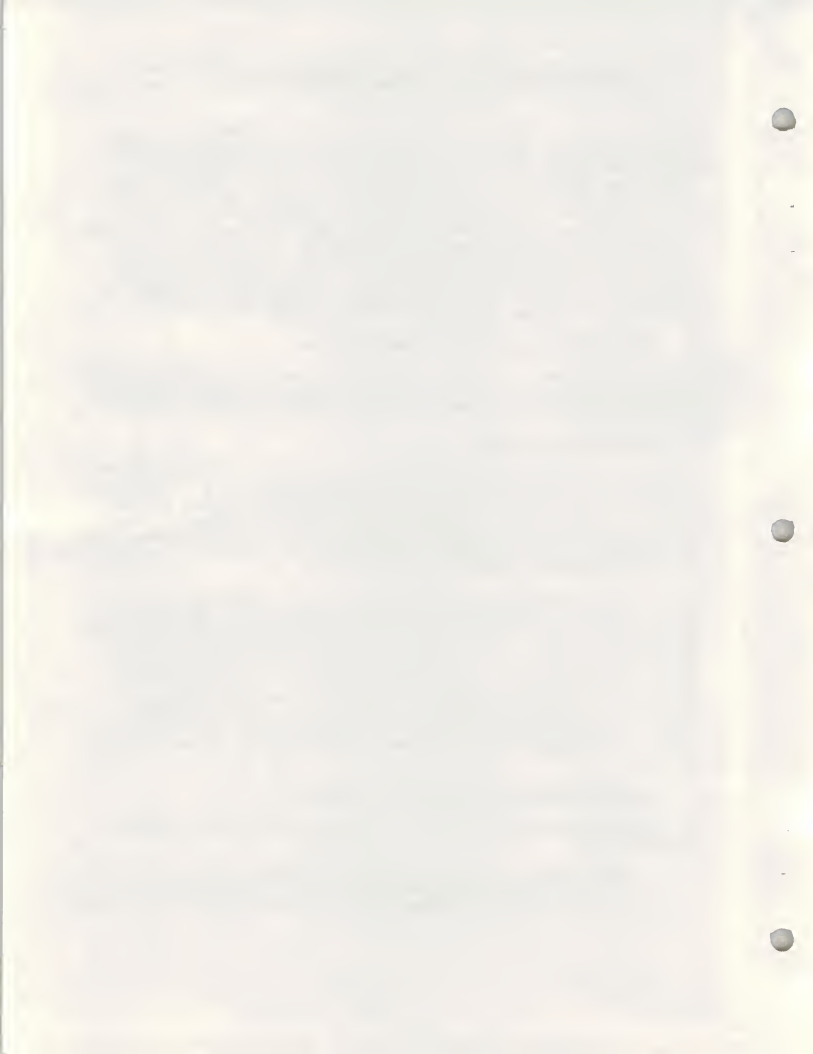
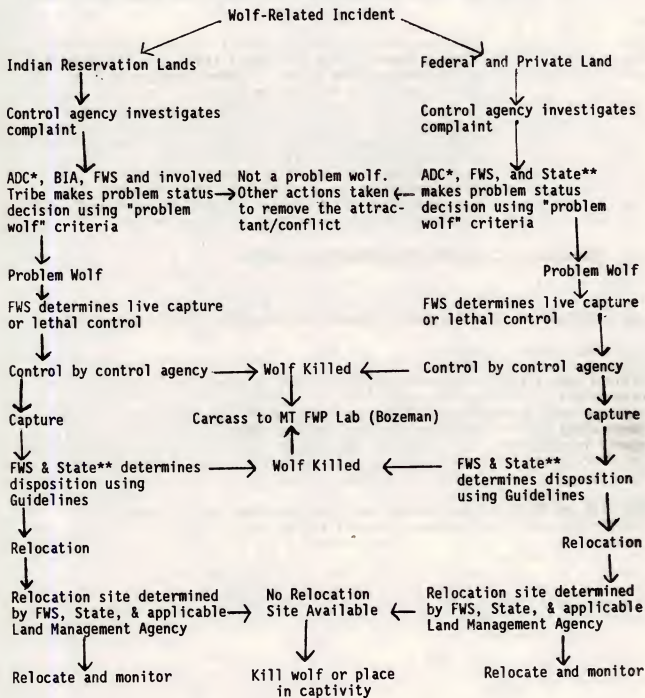


Figure 2. Procedures for Determining Wolf Problem Status and Control Actions



* ADC=Animal Damage Control; BIA=Bureau of Indian Affairs; FWS=Fish and Wildlife Service

**Montana Department of Fish, Wildlife and Parks has declined to be involved in wolf recovery at the present time.



additional losses would occur if the problem wolf or wolves were not controlled. Such evidence is essential since wolves may simply feed on carrion they have found while not being responsible for the kill.

- (2) Artificial or intentional feeding of wolves must not have occurred. Livestock carcasses not properly disposed of in an area where depredations have occurred will be considered attractants. On Federal lands, removal or resolution of such attractants must accompany any control action. Livestock carrion or carcasses on Federal land, not being used as bait in an authorized control action, must be removed, buried, burned, or otherwise disposed of such that the carcass(es) will not attract wolves. For the Rocky Mountain Front area, carcass disposal should be closely coordinated with the Montana Department of Fish, Wildlife, and Parks' program for carcass redistribution set up to minimize or avoid grizzly bear/human conflicts.
- (3) On Federal lands, animal husbandry practices previously identified in existing approved allotment management plans and annual operating plans for allotments must have been followed.
- (4) Wolves may not necessarily be determined problem wolves if depredations on lawfully present livestock occur on Federal lands and in areas, or at times, that are critically important to wolves. Areas or habitat components of critical importance to wolves include areas within 1 mile of known or highly suspected wolf dens or rendezvous sites from March 15 to July 1, ungulate calving/fawning areas from May 1 to July 1, and ungulate winter ranges from December 1 to April 15. Under such conditions, control of wolves will occur only if all other options for resolution of the conflict have been exhausted. This criterion applies only to Federal lands within each recovery area, as identified in the Recovery Plan, during the early phases of wolf recovery (five or less wolf packs-Table 1).
- (5) Wolves that occur outside identified recovery areas (Figure 1) will be controlled if livestock depredation occurs and may be controlled if they are frequenting a livestock area and represent a threat to livestock as determined by Service and personnel of any other involved control agency. Such determination will be made on a case-by-case basis.

If information is insufficient to clearly establish the above conditions and the problem wolf criteria listed above are not met, wolves will not be determined a problem and no control action will be initiated.

V. Guidelines for Conducting Wolf Control Actions

Control actions will be initiated under and in accordance with the following conditions and guidelines:

- (1) Wolves involved in depredations on lawfully present livestock within proposed recovery areas and determined to be a problem under criteria outlined in Section IV will be controlled according to guidelines in Table 1. (See number (6) below for control outside proposed recovery areas.)



- (2) If a wolf is determined not to be a problem after application of specific conditions and criteria in Section IV, no control action will be initiated. Managers will resolve the conflict by eliminating the attractants or by other management actions.
- (3) Suspected or reported wolf depredations will be investigated by control agency personnel immediately, but no later than 48 hours after the report is received. A list of agency contacts for wolf conflicts in northwest Montana is provided in Appendix B. The appropriate report/investigation forms (Appendix A) will be completed for each incident investigated. The Service, Animal Damage Control, and involved State wildlife agencies will participate in the determination of problem status and disposition of any problem animal(s) prior to initiation of a control action (Figure 2). For depredations that occur on Indian Reservations, the Service, Bureau of Indian Affairs, involved Tribe, and Animal Damage Control will jointly determine the problem status of the wolf prior to initiation of a control action (Figure 2).
- (4) Trapping, relocating, or killing of wolves will be conducted by (a) authorized personnel of the Service, Tribes, and cooperating State and Federal agencies, or (b) designated agents of the Service.
- (5) Control within proposed recovery areas will be selective for problem wolves rather than for local populations. Capture efforts will be limited to within 1 mile of the depredation site or to identified activity centers where the probability of capturing the problem animal(s) is maximized (unless the problem animal can be determined) and to a 10-day trapping period. If depredation recurs in the area within 3 months, control may be conducted for up to 21 days.
- (6) Wolves involved in livestock depredations outside of the proposed recovery areas will be removed promptly. Single dispersing animals are the most likely to occur and will be removed (either relocated or killed) as soon as possible. Family groups that are involved in depredations will be removed (either relocated or killed) as well. The probability of family groups occurring outside of recovery areas is less likely, but the consequent depredations may be more severe because of the adult's need to kill more frequently to support young-of-the-year. The unit should be captured and relocated as a group if possible. If capture is shown to be infeasible, all animals will be killed. However, every effort will be made to place young-of-the-year in captive facilities if possible.
- (7) If efforts to live-capture problem wolves are unsuccessful and depredations continue, lethal control (shooting, M44's) may be used in accordance with control agency policy/guidelines and in consultation with the Service. When possible, the Montana/Wyoming State Supervisor, Fish and Wildlife Service, will provide written approval before lethal control is undertaken. If circumstances in the field require an immediate decision, verbal authorization to initiate lethal control may be provided by Service field personnel but will subsequently be followed by written authorization by the Montana/Wyoming State Supervisor.



Wolves killed in control actions will be transported to the State Wildlife Agency laboratory in Bozeman, Montana, for examination. These animals or their parts remain the property of the Fish and Wildlife Service. The Assistant Regional Director, Law Enforcement (U.S. Fish and Wildlife Service, P.O. Box 25486, Denver Federal Center, Denver, Colorado 80225, telephone 303/236-7540 or FTS 776-7540), will make the final determination on disposition of any wolf carcass or wolf parts taken during authorized activities.

- (8) After capture of problem wolves, a decision on their disposition (release, relocation, or removal) should be made by the Montana/Wyoming State Supervisor, Fish and Wildlife Service, within 24 hours. Captured wolves will be maintained in an appropriate holding facility. Any injuries sustained during the capture will be appropriately and humanely treated.
- (9) Problem wolves will be released or relocated to a predetermined area within the designated wolf recovery area, approved by the State Wildlife agency and appropriate land management agency, as soon as possible. Prior to relocation, the Service will consult with the involved land management agency to determine the best release site and to coordinate relocation activities. Relocated wolves will be radio-collared, permanently marked (lip-tattooed), and monitored using radiotelemetry.
- (10) Wolves determined to present a human health hazard will be promptly removed from the wild, quarantined, and killed. All determinations by the Service to kill or otherwise remove such a wolf from the wild will be followed by written authorization by the Montana/Wyoming State Supervisor, Fish and Wildlife Service. No animal that represents a health hazard to people will be relocated. Disposition of such animals will be the prerogative of the Service. As stated above, such animals or their parts remain the property of the Fish and Wildlife Service. The Assistant Regional Director, Law Enforcement, will make the final determination on disposition of any wolf carcass or wolf parts taken during authorized activities.

VI. Guidelines for Disposition of Problem Wolves

- (1) The disposition of a problem wolf will be based on its sex, age, reproductive status, and on the status of wolf recovery in the particular recovery area pursuant to Table 1.
- (2) Problem wolves will be killed, released, or relocated (Table 1) to a predetermined area as soon as possible after capture. Captured animals will only be killed if there is no other alternative, such as with an animal that is unsuitable for release and for which no captive holding facility is available. In selecting release sites, consideration will be given to ensuring that sufficient natural prey is available to sustain relocated wolves on an annual basis. Absence of livestock and distance from capture area are other key considerations. All wolves relocated will be permanently marked, measured, and radio-collared (see attached forms in Appendix A).



- (3) Potential relocation sites for problem wolves will be identified within designated wolf recovery areas in advance of any relocation. Prior to a relocation, the Service will consult with the land management agencies that have potential release sites to determine the best release site and to coordinate the relocation.
- (4) Wolves determined to be problem wolves a second time will be removed from the population.
- (5) In situations where the physical condition of the wolves prevent release into the wild, every effort will be made to place the wolves in captivity (such as a research facility). If captive facilities are unavailable the problem wolves will be euthanized. Disposition of wolf carcasses will be handled as noted below in (6).
- (6) If wolves must be killed, the action will be completed only by (a) authorized personnel of the Service, Tribes, and cooperating State and Federal agencies, or (b) designated agents of the Service. Any wolf carcasses will be transported to the State Wildlife Agency laboratory in Bozeman, Montana, for examination. These animals or their parts remain the property of the Fish and Wildlife Service. The Assistant Regional Director, Law Enforcement (U.S. Fish and Wildlife Service, P.O. Box 25486, Denver Federal Center, Denver, Colorado 80225, telephone 303/236-7540 or FTS 776-7540), will make the final determination on disposition of any wolf carcass or wolf parts taken during authorized activities.

These wolf control guidelines are intended to be dynamic. Consideration will be given to restricting or liberalizing the measures outlined herein based on experience. Proposed changes would be covered under an amendment to this document and would undergo review by appropriate agencies.

VII. Communications and Media Coordination

The public and news media are extremely interested in all operations involving gray wolves. To ensure they receive accurate information, it is critical that accurate information be shared among all involved agencies in a timely manner. Planned news releases will be the responsibility of the Service and the State wildlife agency in coordination with the administering land management agencies.



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IX. Acknowledgements

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Table 1. Guidelines for Problem Wolf Control Actions within Proposed Recovery Areas.1/

No. of Offenses	No. of Packs In Recovery Area			
	0-5		6-10	
	1st	2nd	1st	2nd
Type of Wolf				
Females				
Young-of-the-Year (<Aug. 1)	RLS	REM	RLS	REM
Adult w/young-of-the-year (lactating)	If <Aug. 1 RLS If >Aug. 1 RLO	REM REM	If <Aug. 1 RLS If >Aug. 1 REM	REM
Other	RLO	REM	REM	
Males				
Young-of-the-Year (<Aug. 1)	RLS	REM	RLS	REM
Adult w/young-of-the-year ("Alpha")	RLO	REM	REM	
Other	RLO	REM	REM	

Pack = A group of wolves consisting of a breeding pair and their offspring.

RLS = Release on site and initiate intensive management actions to reduce probability of additional offense and subsequent control actions.

REM = Remove from population (place in captivity or kill)

RLO = Relocate

Other = Young-of-the-Year (0-12 months); Yearling (12-22 months);
Adult (>22 months and without young-of-the-year)

< = before > = on or after

1/ The control of problem wolves outlined in this table is based on the following factors/considerations:

- (a) In the early phase of recovery (five or less packs), human-induced mortality, particularly to females, should be minimized. Management-induced mortality in the later phases of recovery (six or more packs) becomes less critical to the successful recovery of the species.



Table 1 Continued

Established populations can sustain an annual human exploitation rate of approximately 30 percent of fall wolf populations (Keith 1982). Densities of wolves in seven stationary populations reviewed by Keith (1982) were unrelated to rates of exploitation but were significantly correlated ($r=0.94$, $P<0.01$) to total ungulate biomass.

- (b) Wolves that become established livestock killers are undesirable on a biological basis and will not be tolerated either socially or politically. Animals that habitually depredate on livestock are certainly not desirable for use as seed stock in establishing or bolstering wolf populations. In addition, their actions can have a significant impact on public support for (and thus success of) the entire recovery program. Even when wolf numbers are low, the potential costs to the program as a whole far outweigh any benefits derived from keeping such animals in the population. Therefore, wolves that direct their hunting behavior toward livestock will be removed from the population.
- (c) In developing the guidelines for control actions, every attempt was made to keep alpha females (females with young or females showing signs of lactation) in the population when feasible in order to maintain the integrity of the breeding segment of the population. Thus, females with young-of-the-year will be released or relocated after their first offense in the early stages of recovery; and during the later stages of recovery, when other adults are removed from the population after their first offense, females with young (<August 1) will be released.
- (d) An alpha male, if relocated or removed from the population, would be expected to be replaced by another high-ranking male in the social hierarchy. Loss of the alpha male may result in a temporary disruption and reorganization of the pack social structure and possibly in some members of the pack dispersing. Pup survival should not be greatly impacted since the entire pack helps care for the young.
- (e) Relocation of an animal(s) versus removal from the population is based on the number of established packs in the recovery area and on the sex, age, and reproductive status of the captive animal. In order to avoid the possibility of impeding recovery, relocation or onsite release will be favored (rather than removal) after the first offense in the early phases of recovery (five or less packs). Animals in the early phase of recovery represent the seed stock on which recovery depends. They will be maintained in the population, if at all possible, to facilitate population expansion. Relocation or release is not considered feasible after a second depredation offense due to the potential for habituation to livestock and the greater chance of additional offenses. Therefore, it is undesirable to maintain such a wolf in the population. Once six



Table 1 Continued

packs have been established, removal from the population on a first offense will be favored. Killing these animals will not impede recovery because of the reproductive potential of the population at that point and the security of having six or more packs established in the recovery area.

- (f) Relocation sites will be within the recovery area and will be areas where established packs do not exist. Research in Minnesota has shown that relocation of individuals into areas supporting established packs are largely unsuccessful. Therefore, areas having no pack activity but contiguous with areas having established packs and having a history of wolf reports will be favored as release sites. These areas exhibit the most need for relocated animals because: (1) packs do not currently occur there; (2) their past history of wolf activity indicates that individuals occur/occurred in the area as either residents or transients; (3) the area is favored by wolves as evidenced by past wolf occupancy; and (4) future pairing and pack formation by the relocated animal(s) with dispersing animals from the pack contiguous to the release site is enhanced.



Appendix A



WOLF DEPREDAATION/COMPLAINT INVESTIGATION FORM

ST Year _____ No. in Year _____

Investigator _____

Date Responded: _____ Time Responded: _____

Landowners Name _____ Tel. # _____

Mailing Address _____

Depredation/Harassment: Date _____ Time _____

State: MT ID WY Township _____ UTM Zone _____

County: _____ Range _____ UTM East _____

Section _____ UTM North _____

Land Ownership: USFS () Forest _____ State _____

BLM () District _____ Private _____

NPS () Park _____

BIA () Reservation _____ Other _____

Location of ranch and allotment _____

Losses/Injuries claimed _____

Losses/Injuries verified _____

% of carcass eaten _____

Distance from kill site to ranch buildings _____

Were old carcasses seen at the ranch? _____

Distance from old carcasses to kill site _____

Photos taken? _____ Scat Sample? _____ Track cast? _____

Evidence of Involvement by Wolves (in detail): _____

Chance for additional depredations? _____



Depredation history on allotment _____

Action taken _____

Written permission to trap or employ aversive agents? _____



WOLF CONTROL ACTION FORM

ST Year _____ No. in Year _____

Control Agency: _____ Personnel: _____

Control Action Period:

Beginning Date _____ Ending Date _____

Landowners Name: _____ Telephone #: _____

Mailing Address: _____

Depredation No(s): # _____
(From Form 1)

State: MT ID WY Township _____ UTM Zone _____
County: _____ Range _____ UTM East _____
Section _____ UTM North _____

Land Ownership: USFS () Forest _____ State _____
BLM () District _____ Private _____
NPS () Park _____
BIA () Reservation _____ Other _____

Wolves taken:

Date	Sex	Age	Weight	Tattoo #	Rt. Eartag #/Color	Lt. Eartag #/Color	Radio Freq.	Color/ Marks	Type Capt.
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Traps out: No. _____ Date Set: _____ Date Pulled: _____

Verified losses on ranch or allotment while trapping (date, type, number) _____

Losses claimed by rancher during trapping period _____



Disposition: (release on site; relocation; killed; placed in captivity)

Tattoo No.

Offense Description:

Depredation History:

Narrative:



GRAY WOLF CAPTURE DATA FORM

Capture Date _____ Time _____ Personnel _____

Weather _____

General Location: National Forest _____ County _____

Other _____

Specific Location: Drainage _____ Road _____ Trap # _____

Sex _____ Age _____ Weight _____ Other Wolves at Site _____

	Markings		Position	
	Left	Right		
Ear	# Color	# Color		

Measurements



Front _____

Back _____

Length _____ Width _____

Tattoo # _____ Color _____ Front _____

Ear Tag Color: R _____ L _____ No. _____ Rear _____

Collar Color _____ Neck Size _____

Radio type/frequency _____ Shank Length _____

Zoological Length _____

Wounds _____ Tail Length _____

Shoulder Height _____

Heart Girth _____

Injections	Drug	Dosage	Induction Time
1st	1) _____	_____	_____
	2) _____	_____	_____
	3) _____	_____	_____
	4) _____	_____	_____
2nd	1) _____	_____	_____
	2) _____	_____	_____
	3) _____	_____	_____
	4) _____	_____	_____
3rd	1) _____	_____	_____
	2) _____	_____	_____
	3) _____	_____	_____
	4) _____	_____	_____
4th	1) _____	_____	_____
	2) _____	_____	_____
	3) _____	_____	_____
	4) _____	_____	_____



Effects (in min.) 1st _____ Tooth Wear _____
 Down Full _____ Testes L _____ W _____
 Recovered 1st _____ Baculum L _____
 Full _____ Nipple L _____ W _____
 Blood Samples _____ Breeding Condition _____
 Other Samples _____ Rectal Temperature _____
 _____ Fat Level _____
 Parasites _____ Coat Condition _____
 _____ Special Markings _____
 _____ Pelt Color _____

Treatment for Wounds: _____

Remarks & Sketches: (below)



GRAY WOLF RELEASE DATA FORM

Capture Date _____ Tattoo Number _____

Release Date _____ Ear Tag Color R _____ L _____

Lead Agency _____ Number R _____ L _____

Personnel (Name; Agency):

Capture _____ Sex _____ Age _____

Transport _____ Reproductive Status _____

Release _____ Radio Type/Frequency _____

Record _____ Mounted by _____

Offense Description: _____

_____Husbandry Practices: _____

_____Relocation Location: _____

_____Repeat Offender Yes _____ No _____ If yes, where, when, etc. _____

_____Physical condition of animal _____

_____History of Wolf _____

_____Consultation and approval to trap/relocate/dispatch by (Personnel, Agency)

_____Type of Capture _____



Habitat Description of Capture Site _____

Distance moved/barriers _____

Transportation type _____

Comments/Sketches: _____



Appendix B



APPENDIX B: AGENCY CONTACTS FOR WOLF CONFLICTS IN NORTHWEST MONTANA

U.S. Fish and Wildlife Service	Office Phone #	Home Phone #
Wayne Brewster, State Supervisor Fish and Wildlife Enhancement	(406) 449-5225 (FTS 585-5225)	(406) 443-7348
Dale Harms, Senior Staff Biologist Fish and Wildlife Enhancement	(406) 449-5225 (FTS 585-5225)	(406) 475-3810
Joel Scrafford, Law Enforcement	(406) 657-6340 (FTS 585-6340)	(406) 656-0056
Terry Grosz, Assistant Regional Director, Law Enforcement, Denver	(303) 236-7540 (FTS 776-7540)	(303) 674-1653
Animal Damage Control - Animal, Plant, Health Inspection Service		
Bill Rightmire, State Supervisor	(406) 657-6464 (FTS 585-6464)	(406) 373-6430
Carter Niemeyer, District Supervisor	(406) 449-5468	(406) 449-5468
Flathead National Forest		
Dave Bunnell, Fire/Wildlife/Fisheries Staff Officer	(406) 755-5261 (FTS 584-5261)	
Tom Wittinger, Forest Biologist	(406) 755-5255 (FTS 584-5255)	(406) 837-4150
Lewis and Clark National Forest		
Jerry Reese, Range/Wildlife/Recreation Staff Officer	(406) 791-7700	(406) 453-7001
Don Godtel, Forest Biologist	(406) 791-7700	(406) 727-9628
Lloyd Swanger, District Ranger	(406) 466-5341	(406) 466-5625
Stu Buchanan, District Biologist	(406) 466-5341	(406) 466-2310
Helena National Forest		
Gordon Gray, Forest Staff Officer	(406) 449-5201 (FTS 585-5201)	(406) 443-3289
Carl Frounfelker, Forest Biologist	(406) 449-5201 (FTS 585-5201)	(406) 449-6282



Lolo National Forest

Chuck Spoon, Resource Program Officer (406) 329-3834 (406) 251-2065
(FTS 585-3834)

Mike Hillis, Wildlife Biologist (406) 329-3792 (406) 543-4125
(FTS 585-3792)

Kootenai National Forest

Charles Brooks, Resources Staff Officer (406) 293-6211 (406) 293-9858
Bob Summerfield, Wildlife Biologist (406) 293-6211 (406) 293-3104

Bureau of Indian Affairs - Flathead Indian Reservation

Frank Acevedo, Chief Tribal Fish and (406) 675-4700
Game Enforcement

Jim Claar, Supervisory Wildlife (406) 675-2700 (406) 675-0305
Biologist

Bureau of Indian Affairs - Blackfeet Indian Reservation

Ted Hall, Natural Resources Officer (406) 338-7517 (406) 338-5313
Fred Crossguns, Chief Game Warden (406) 338-7521

Bureau of Land Management

Douglas Burger, Area Manager (406) 727-0503 (406) 761-5085
Tad Day, Wildlife Management Biologist (406) 727-0503 (406) 761-7363

Glacier National Park

Sandra Key, Assistant Superintendent (406) 888-5441 (406) 888-5237
Gary Gregory, Resource Management (406) 888-5441 (406) 888-5315
Specialist

