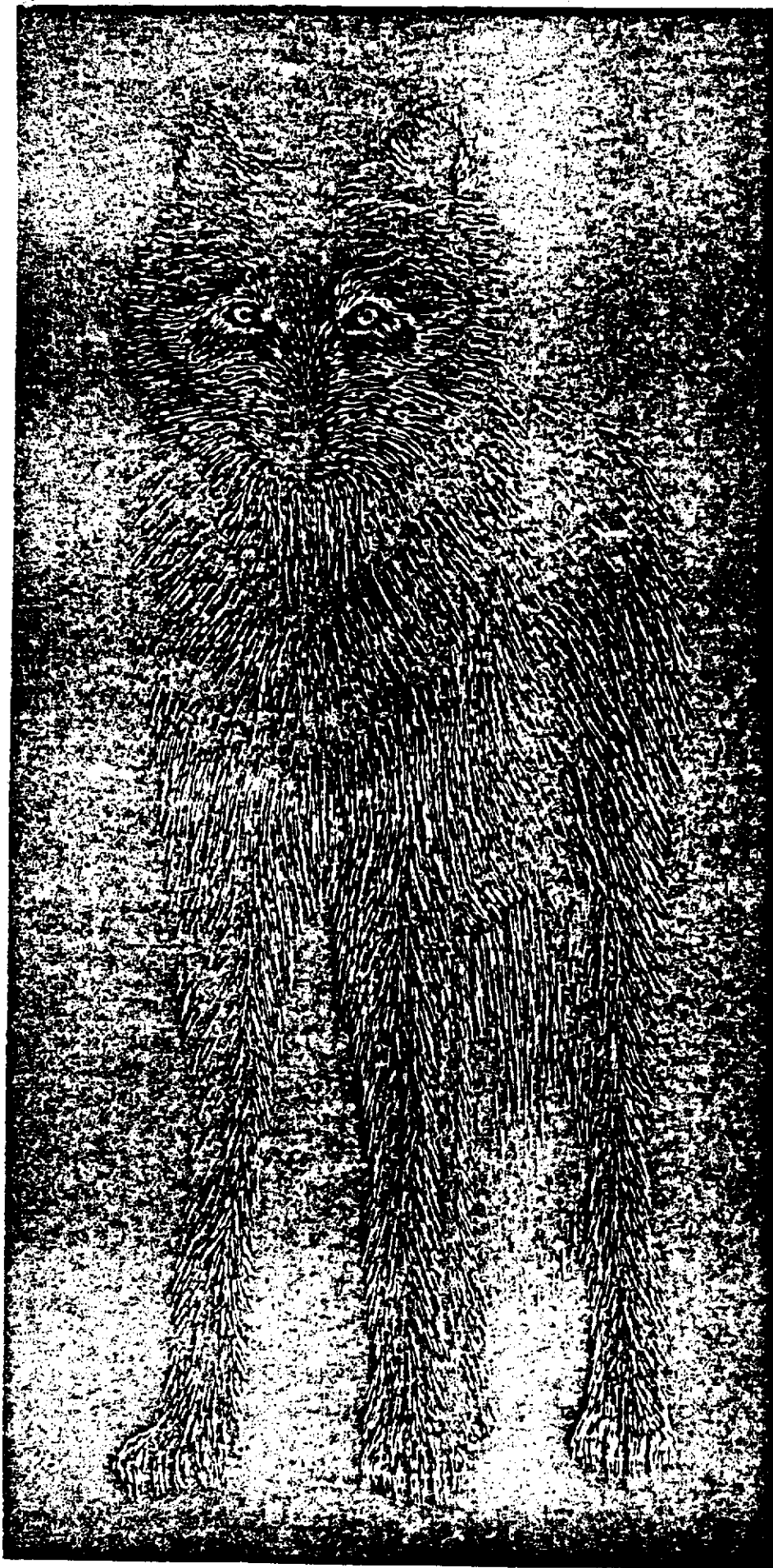


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Wolves
of
Northern Idaho
and
Northeastern
Washington

Merle A. Corbridge

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**WOLVES OF NORTHERN IDAHO
AND NORTHEASTERN WASHINGTON**

**H. Jerome Hansen
Montana Coop. Wildlife Research Unit
U.S. Fish and Wildlife Service
1986**

Cover by Terry Lawson

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A special thanks goes to Melodie Richman and Terry Lawson, who stepped into the office and did so much for this study for so little. I doubt it could have been done without them.

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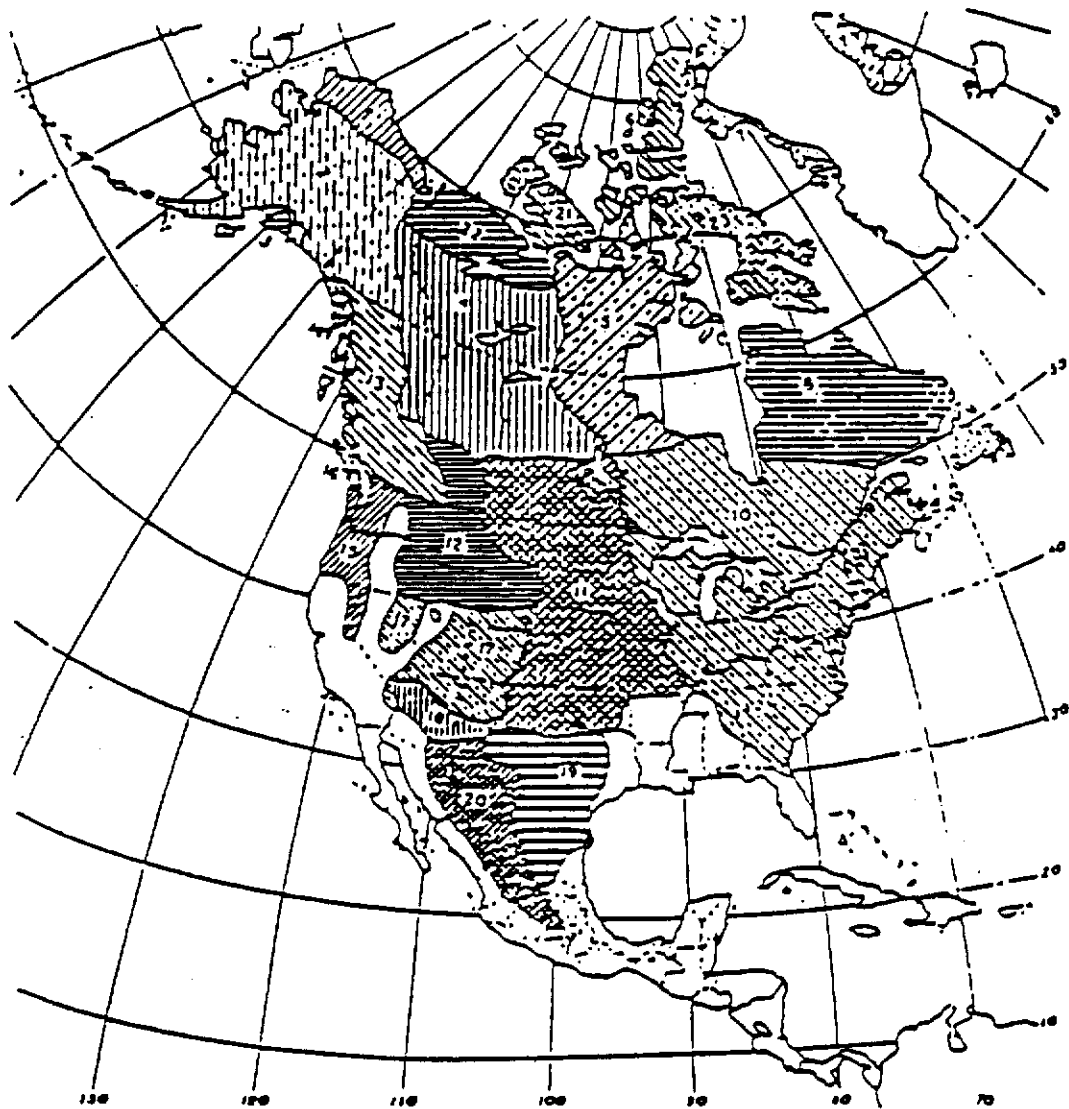
I. Introduction

The gray wolf (Canis lupus) historically ranged over most of the United States, including the state of Idaho (Goldman 1944) (Figure 1). During the latter half of the 19th century, buffalo hunters, settlers, and others decimated the buffalo herds and other ungulates that provided prey for wolves roaming the northern Rocky Mountains (Agency Review Draft Revised Northern Rocky Mountain Wolf (DNRMW) Recovery Plan, 1985). Along with the decline in buffalo and other prey came an increase in livestock. Stockmen and government trappers began an intensive campaign to eradicate the wolf. By 1930, wolves were essentially gone from the west. The last of these animals were believed to have been extirpated from the mountainous regions of central Idaho in the late 1930's (Kaminski and Hansen 1984).

The Northern Rocky Mountain Wolf (NRMW) (Canis lupus irremotus) is considered by some taxonomists to be a separate subspecies of the gray wolf which once roamed from eastern Oregon and Washington to central Montana and northern Wyoming. Its range included all of Idaho except the extreme southwestern corner. The NRMW was listed as endangered in 1973 under the Endangered Species Act. In 1978, the entire wolf - species throughout the lower 48 states was listed as endangered except in Minnesota, where it was listed as threatened. Because of the present tendency to recognize .pa

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Figure 1. Gray Wolf Distribution in North America
(Young and Goldman 1944)



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|---------------------------------|--------------------------------|
| 1. <i>Canis lupus tundrarum</i> | 13. <i>C. l. columbianus</i> |
| 2. <i>C. l. pambasilus</i> | 14. <i>C. l. ligoni</i> |
| 3. <i>C. l. alces</i> | 15. <i>C. l. fuscus</i> |
| 4. <i>C. l. occidentalis</i> | 16. <i>C. l. crassodon</i> |
| 5. <i>C. l. hudsonicus</i> | 17. <i>C. l. youngi</i> |
| 6. <i>C. l. arcticus</i> | 18. <i>C. l. mogollonensis</i> |
| 7. <i>C. l. orion</i> | 19. <i>C. l. monstrabilis</i> |
| 8. <i>C. l. labradorius</i> | 20. <i>C. l. baileyi</i> |
| 9. <i>C. l. baohucus</i> | 21. <i>C. l. bernardi</i> |
| 10. <i>C. l. lycaon</i> | 22. <i>C. l. mackenzii</i> |
| 11. <i>C. l. nubilus</i> | 23. <i>C. l. manningi</i> |
| 12. <i>C. l. irremotus</i> | |



fewer subspecies of the wolf, the 1985 DNRMW Recovery Plan refers to the gray wolf (Canis lupus) in the northern Rocky Mountains.

A NRMW Recovery Plan was approved by the U.S. Fish and Wildlife Service in 1980. The primary objective of that plan called for securing and maintaining, where feasible, viable population of wolves within their former range. The central Idaho area, encompassing two wilderness areas (Frank Church River of No Return and Selway-Bitterroot) and adjacent national forest lands, is one of three areas selected as having potential for its recovery. The other two areas include the Glacier National Park and Yellowstone National Park ecosystems (Figure 2).

Scattered reports of wolves have persisted in central Idaho from the early 1940's to the present. The status of wolves in central Idaho has been studied in the past (Kaminski and Boss 1981, and Kaminski and Hansen 1984). Kaminski and Hansen (1984) stated that fewer than 15 wolves were believed to remain in the central Idaho area in the mid-'80's with surviving wolves inhabiting both wilderness and non-wilderness areas on national forest system lands.

The current population appears to be made up essentially of lone wolves. Over 80 percent of all wolf reports in Idaho are of single animals (Kaminski and Hansen 1984). Occasional wolves dispersing southward out of Canadian wolf populations are believed responsible for most wolf reports in Idaho.



The DNRMW Recovery Plan (1985) promotes wolf recovery in Idaho by natural recolonization of wolves from western Canada. Therefore, areas in the northern panhandle of Idaho and to some extent in northeastern Washington play a key role in fostering wolf recovery in central Idaho. These areas provide an important link between wolf populations in Canada to the north with the central Idaho wolf recovery area (CIA) to the south. Past studies, with limited data, have indicated that mountains along the Idaho/Montana border hold the most potential as a southward travel corridor for wolves. This is based partly on the relative remoteness of the area (Ream and Mattson 1982, Kaminski and Hansen 1984).

In order to gain a better understanding of the status of wolves in northern Idaho and northeastern Washington, and to investigate the concept of a "travel corridor" for southward movements of wolves through these areas, this study was initiated in October 1984.

The specific objectives of this study include:

- 1) Determine the status (both past and present) of wolves in northern Idaho and northeastern Washington;
- 2) Investigate the travel corridor concept along the Idaho/Montana border and determine if wolf movements through these areas are feasible.
- 3) Map land use activities which could conflict with wolf activity in northern Idaho and northeastern Washington.

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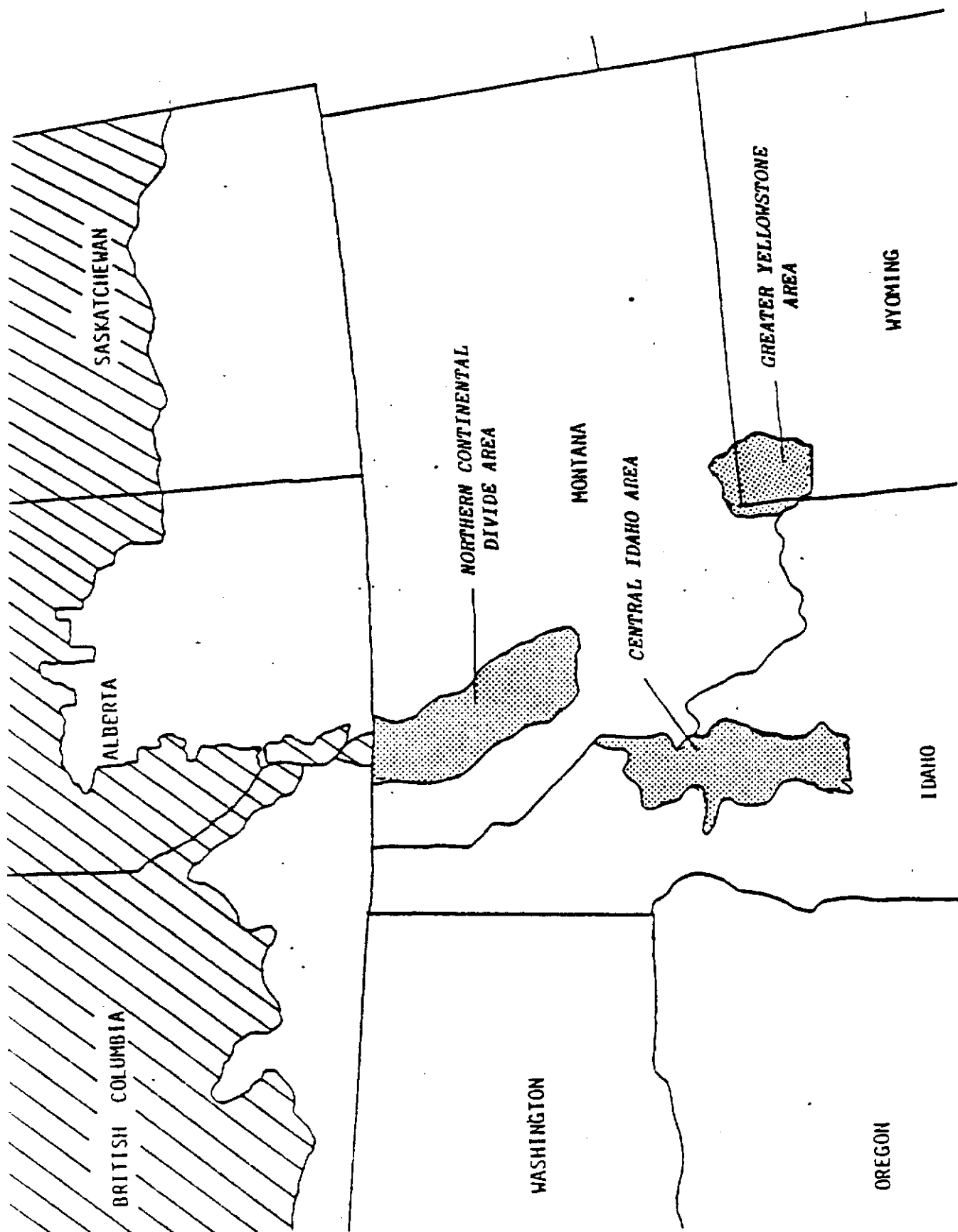


Fig. 2. Three proposed wolf recovery areas in relationship to the current Canadian wolf range.



Point out potential conflicts and develop acceptable management recommendations which will help alleviate these conflicts.

- 4) Delineate any key wolf areas in northern Idaho and northeastern Washington.
- 5) Examine the current status of wolves directly north of the Idaho border.

This study was funded cooperatively by the U.S. Fish and Wildlife Service and the Montana Cooperative Wildlife Research Unit, Missoula, Montana (Contract No. 14-16-0009-1534, Work Order No. 2).

II. Study Area

A. Northern Idaho

The northern Idaho study area is composed of the Kaniksu, Coeur d'Alene, and St. Joe National Forests and adjacent private and state lands. These three forests are combined today and referred to as the Idaho Panhandle National Forests (IPNF). The IPNF is influenced by maritime air from the Pacific Ocean, particularly the more northern areas. In the winter, the maritime influence results in greater average cloudiness, greater frequency of precipitation, and greater mean temperatures than lands of the same latitude farther east. Mean annual precipitation ranges from 24 inches at lower elevations to nearly 100 inches per year at higher



mining district, acclaimed to be the richest silver, lead, zinc, and antimony mining area in the United States. Mining activity in the northern and southern portions of the IPNF has fluctuated in the past based on demand for minerals.

Much of the IPNF has been heavily roaded in the past to access timber sales. Within the general forest boundary, a pattern of private land intermingled with public land is common.

B. Northeastern Washington

The northeastern Washington study area includes the Colville National Forest (CNF), Colville Indian Reservation and adjacent private and public lands. The CNF contains 1,096,097 acres. The eastern half of the CNF contains the majority of reported wolf activity in Washington. The eastern half of the forest is bisected by the Pend Oreille River. This portion of the forest is influenced by maritime air from the Pacific Ocean in a manner similar to the Idaho Panhandle Forest resulting in high annual precipitation. The topography and vegetation of this area is also similar to the Panhandle National Forest. White-tailed deer, mule deer, and elk are common on the forest. The extreme northeastern corner of the CNF, next to the Canada and Idaho border, is inhabited by both the threatened grizzly bear and endangered woodland caribou.



Washington newspapers from the turn of the century were examined for further wolf accounts. These included the Idaho Farmer, Kootenai Herald, Spokane Falls Review, Kootenai County Republican, Bonniers Ferry Herald, and Pend Oreille Review.

In order to gain a better understanding of the current status of wolves in northern Idaho and northeastern Washington, elk hunters, trappers, and outfitters and guides were contacted and questioned about any evidence of wolves or their sign. Methods were similar to those used by Kaminski and Hansen (1984). Wolf reports collected from northern Idaho during the Kaminski and Hansen (1984) central Idaho study were also re-examined and included in this report. In addition, random wolf reports from sources other than questionnaires were gathered and investigated as they became available.

1. Elk Hunter Survey

A question, "during this year or in previous years of elk hunting, did you observe what you believed to be a wolf(ves) or wolf sign?" was attached to the 1984-85 Idaho Fish and Game (IDFG) elk hunter survey. This question was only asked during interviews with hunters from northern Idaho big game units one through 9A, which roughly corresponded to the IPNF boundaries.



The IDFG survey samples approximately 10 percent of all elk hunters (by unit) from regular and special seasons. Elk hunters from big game units 1,4,6,7,9, and 9A were also questioned during IDFG phone survey in 1982-83 and 1983-84 (Kaminski and Hansen 1984). Big game hunters who indicated seeing wolves or their sign were contacted by phone for more detailed information.

A question could not be included on the Washington 1984-85 big game survey as that survey is structured a year in advance and cannot accommodate additional questions. Hence, elk hunters were not surveyed in northeastern Washington.

2. Trapper Questionnaires

A total of 210 questionnaires were sent to trappers whose address and zipcode roughly corresponded to the area encompassed by IDFG big game hunting units one through 9A in northern Idaho. A total of 157 questionnaires were sent to trappers in northeastern Washington who resided in Pend Oreille, Stevens or Ferry counties, the eastern portion of Okanogan county and the northern half of Spokane county.

The format of the questionnaire was similar to that developed by Kaminski and Hansen (1984). In addition to the letter, a stamped, pre-addressed 3X5 index card was included in the questionnaire sent to the



trapper. The backside of this card had blanks for the trappers name, address, phone number, trapping area, number of wolves seen, and any additional information. Any trappers who indicated seeing what they believed to be wolves or their sign were contacted by phone and a wolf report form was completed.

Trappers are believed to be an invaluable source of information on wolves, as they are conducting trapping activities in the field and backcountry at a time when few other people are present. Successful trapping also requires careful scrutiny and analysis of wildlife sign, hence trappers are likely to notice wolf tracks, scat or other sign.

3. Outfitter and Guide Interviews

Nine northern Idaho outfitter and guides were contacted by phone and questioned about any past encounters with wolves or wolf sign. In addition, one other longtime Idaho outdoorsman who was referenced by one of the outfitters was contacted and questioned.

Three outfitters and guides from the Washington Outfitters and Guides Association were contacted by phone and questioned about any past encounters with wolves or wolf sign. All three outfitted in the Okanogan National Forest and/or Pasayten Wilderness

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Area. These areas are located west of the Colville National Forest. No outfitters from the Washington O&G Association guide in the CNF.

4. Rating of Wolf Reports

All wolf sightings were recorded on a standard wolf report form. Reports were rated using Weavers (1978) point system developed during a study of wolves in Yellowstone National Park. (Table 1). This system removes much of the subjectivity involved with rating reports. Points are scored based on the animals size and body description, color, distance between the observation and the animal, and the observers experience with western coyotes and wolves. If supporting evidence such as a large track or convincing howls were included in the report, it scored more points. The main purpose of the system is to determine whether the animal or sign observed was most likely a wolf or very possibility could have been a coyote or a large domestic dog. Reports scoring less than 16 points were rated as "possible", while reports scoring greater than or equal to 16 points were rated as "probable".

Some older wolf reports from the Washington Department of Game files and past wolf surveys in northeastern Washington (Layser 1970 and Burke 1979) were sometimes difficult to rate, based on lack of information. To maintain homogeneity in this paper,



these reports were assigned a possible or probable rating based on available information.

B. Winter Field Investigation

Specific study areas for on-ground investigation were selected using criteria developed by Kaminski and Hansen (1984) and Kaminski and Boss (1981). The importance of ungulates (deer, elk, moose) as a prey source for wolves has been well documented in the past (Mech 1970, Carbyn 1974, Weaver 1978, 1979). During selection of study areas, the premise was used that wolves would compress their range in the winter in response to concentrations of ungulates (prey) on winter range. This reduction in-home range has been shown in other studies (Cowan 1947, Parker 1973, Van Ballenberghe et. al. 1975, Fritts and Mech 1981).

Major ungulate winter range areas in northern Idaho and northeastern Washington were outlined and overlayed with mapped wolf reports. Areas for field investigation were selected based on the proximity of wolf reports to ungulate winter range. Wolf reports occurring on ungulate summer range were also considered in this selection, as wolves are believed to follow ungulates in their altitudinal migrations to and from summer and winter ranges (Weaver 1978). An effort was made to conduct field activities in the more remote portions of northern Idaho, to reduce the chances of encountering



Table 1. Criteria and point system for categorizing wolf observations (Weaver, 1978).

Criteria	Points
Observer	
experience with Western coyotes	7
experience with wolves	3
Observation	
distance	
100 m	3
100-400 m	2
400 m	
length of observation time	
10 seconds	1
optical aid such as binoculars	1
Description of animal and/or sign	
body description	
large body size	4
large and blocky head, short ears	
and relatively short muzzle	4
relatively large, long legs	2
color	
solid white or black	10
howl	
distinctively different from coyote	10
track	
10 cm (4.0 in) long including toe-	
nails (must include evidence to	
rule out domestic dogs)	10

Reports scoring 16 points qualified as "probable"; those $\geq$ 16 points, "possible."
See text for discussion of system.

large dog sign. An effort was also made to spend some time on ungulate winter range near the Idaho-Montana border, as this area is believed to hold the most



potential as a movement corridor for wolves travelling from north to south. Logistics and discussions with Forest Service and IDFG personnel entered into the final selection of specific study areas.

Field work consisted of snowmobiling, cross county skiing, snowshoeing, and hiking on a network of roads and trails in ungulate wintering areas, while searching for tracks or other signs of wolf activity. In addition, aerial searches for wolf sign from a helicopter were conducted over much of northern Idaho and a portion of northeastern Washington. Wolves and wolf tracks have been successfully located in the Clearwater National Forest using winter aerial surveys in past Idaho studies (Kaminski and Hansen 1984).

Field techniques also included the use of human initiated wolf howls to elicit a response in wolves during the time period (January-March) which generally corresponds to wolves' breeding season (Pimlott 1980, Harrington and Mech 1982). Howling trials were conducted at various times throughout the day and followed techniques developed by Harrington and Mech (1982), with minor variations.

C. Status of Wolves North of the Idaho/Canada Border.

The status of wolves directly north of the Idaho/Canada border was determined through correspondence with wolf biologists from southeastern British Columbia and



southwestern Alberta and discussions with field researchers who have spent considerable time in the border area conducting other wildlife research. In addition, past reports and publications pertaining to wolf occurrence in the border area were searched. Past work conducted by the Wolf Ecology Project (WEP) team from Missoula, Montana was especially helpful.

D. Potential Conflicts with Wolf Movements and Existence in Northern Idaho and Northeastern Washington.

Areas of existing and proposed land use activities in northern Idaho, northeastern Washington, and the northwestern border of Montana were outlined on clear mylar, shaded with chartpak materials, and overlaid on base maps containing wolf reports from these areas. Existing and proposed land use activities included timber sales, livestock allotments, and areas of concentrated mineral extraction activity. Resource information of this type was obtained from Forest Service personnel. All of these activities are believed to pose potential conflicts with wolf movements or existence in northern Idaho and northeastern Washington.

IV. Results

A. Historical Records of Wolves in Northern Idaho and Adjacent Areas.

Kaminski and Hansen (1984) chronicled the historical distribution and eventual demise of the gray wolf in



Idaho. The following is a brief account from their report plus additional information obtained during the course of the study.

The entire State of Idaho, excluding the extreme southwestern corner, was included in the original range of the Northern Rocky Mountain Gray Wolf (Goldman 1944). Although wolves occurred in the forested and mountainous portions of the Northern Rocky Mountains, they were apparently most abundant in the prairies and foothills where their distribution and numbers were associated with large herds of buffalo and other ungulates. Large numbers of buffalo and wolves were common in central Alberta and British Columbia, Montana, Wyoming, Oregon, and Idaho during the early 1800's. Wolf numbers were believed to have reached their greatest density in Idaho in the southeastern portion of the state, where large herds of buffalo and other ungulates were common.

Humans had a profound effect on wolf and prey (ungulates) numbers during the period from 1860 to 1900. Buffalo numbers were decimated in the southeast and other parts of the state during this period. As buffalo numbers decreased, buffalo hunters began shooting and poisoning wolves for their pelts. Buffalo were essentially gone from Idaho and most of the northwest by 1890.

Mining brought thousands of people to the central Idaho mountains from 1860 to 1900. With this increase of



people came a decrease in ungulate numbers. Elk populations were all but eliminated from central Idaho by 1900.

During this same time period and through the turn of the century, livestock numbers increased significantly across Idaho, especially in the southeast portion of the State. Wolves occasionally preyed on cattle and sheep as their native prey was depleted.

A wholesale effort to destroy wolves followed. By the late 1920's, wolves were all but eradicated from southeastern and the central part of the state of Idaho. In 1927, the Biological Survey (FWS) concluded "large gray or lobo wolves have been almost cleared from livestock ranges...only a few scattered individuals remain." (USDA Agric. Yearbook 1927:776).

As wolves were eliminated over large expanses of their former range in the western United States, those remaining in the remote, mountainous portion of central Idaho became increasingly isolated from other populations. Scattered reports of wolves have persisted in the central Idaho area from the 1930's to the present.

Wolves may have been more abundant in the northern portion of Idaho than in the central area during the late 1800's. Forty wolves were said to have been taken near the Pend Oreille River in 1899 (Davis 1939 in Kaminski and Hansen 1984). A logical answer for this



would be that northern Idaho wolf populations were close enough to Canadian wolf populations for some interchange of individuals. If this were the case, it was a short lived phenomena as the gap between Canada and Idaho wolf populations widened. The decline of ungulates and wolves in Alberta paralleled the eradication of wolves in the northwestern United States.

By 1890, the bison were virtually eliminated, cattle were common, and wolves were drastically reduced in numbers in the prairie portion of "Alberta" (Gunson 1982). A wolf bounty was established in Alberta in 1899 (Pimlott 1961 in Gunson 1982).

Stelfox (1969 in Gunson 1982) estimated that wolves were very scarce along the eastern slopes of the Rockies and practically non-existent in the prairies and parklands of the central part of Alberta by 1900. Limited historical records in British Columbia indicate that wolves were rare or non-existent in the southernmost areas of the Province (Tompa, 1982).

Even with increased isolation from northern wolf populations, some individuals evidently survived in the panhandle region of Idaho. Packs of up to seven wolves ranged southward over the Pack River Divide and along the Priest River side of Baldy Mountain during the late teens and early 1900's (L. Black from V. Black, pers. comm. in Kaminski and Hansen 1984). Wolf packs of varying

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size were also observed northwest of Coeur d'Alene between Spirit Lake and Blanchard and along the Priest River during this period (J. Smith and V. Black pers. comm. in Kaminski and Hansen 1984). A wolf was reported to have moved back and forth between the Hughes Meadows area north of Priest Lake to Prouty Mountain in northeastern Washington during the summer of 1932 (M. Cook, pers. comm.).

Reports of wolves from the 1930's through the 1940's in northern Idaho were rare. U.S. Forest Service records estimated that 48 wolves remained on national forest lands in Idaho during 1939 (Young 1944). The Coeur d'Alene Forest was estimated to have a population of two wolves remaining on it. Little data was found for the basis of this estimate.

Leo Black trapped along the border area from 1917 to 1976 and reported several wolves trapped near Bonner's Ferry and along the Priest River during the 1950's (V. Black pers. comm. in Kaminski and Hansen 1984).

John Smith also trapped the area in the early 1950's and reported wolves travelling along the Priest River and other drainage bottoms northwest of Coeur d'Alene. Smith observed tracks of a pack of 12 wolves near Spirit Lake in 1952 and tracks of a pack of seven in 1953 in deep snow (J. Smith pers. comm. in Kaminski and Hansen 1984).



This sudden increase in reported wolf activities in northern Idaho could have been on the heels of the concurrent expansion of wolves into portions of their former range in British Columbia and Alberta.

The annual Game Warden reports and Provincial Game Commission reports (1929-55) referred to increasing wolf populations in the northern regions and the central Interior of British Columbia from the early 1920's until the late 1940's (Tompa 1982). It was believed that the reported increase was due to a gradual spread of moose (Alces alces) throughout the Province.

Wolves were also expanding into their former range in Alberta during the 1930's and 40's. Wolves reached Banff National Park in 1943 (Green 1951 in Gunson 1982) and lone individuals reappeared in Waterton National Park in the extreme southwestern corner of Alberta in 1943 following extermination there due to livestock depredations (Cowan 1947).

From the late 1940's to mid 1950's, Singer (1975) estimated that the northwestern Glacier Park area contained from five to ten wolves. Immigration from wolf populations in Banff and Jasper National Parks was believed to account for their presence.

Whereas wolves increased during the 1930's and 40's in Alberta and British Columbia, their numbers declined drastically during the 1950's, due to stepped up

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poisoning efforts by Canadian Department of Agriculture and private landowners (Mattson and Ream 1980). An outbreak of rabies and concern for ungulates prompted the mass eradication of wolves using strychnine, "1080" (Sodium fluoroacetate) and cyanide guns. Poisoning in Banff National Park reduced the wolf population from 39 in 1950 to four in 1953 (Banfield 1958 in Mattson and Ream 1980). In Waterton Park, only two wolf sightings and four sets of tracks were recorded during the 1950's (Singer 1975).

During the 1960's, wolf numbers again began increasing in Alberta and British Columbia with the reduction in poison campaigns (Mattson and Ream 1980). In northwestern Montana, scattered reports of single animals, tracks and occasional pairs in Glacier National Park persisted, with no sign of pack activity (Mattson and Ream 1978).

Five probable reports of wolves were received from northern Idaho from 1960 to 1973 including an all white male gray wolf killed near Bloom Peak along the Idaho/Montana border. According to the information contained in the report filed by IDFG personnel, the animal was confirmed to be a wolf by a Spokane, Washington taxidermist.

Other reports during this time period were of a single, dark brown wolf observed ten miles south of Bonners Ferry. This animal was spotted in September, 1970.

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Ferry. This animal was spotted in September, 1970. Another wolf was reported in Boundary county in 1972. Two separate wolves were observed in the winter of 1973 by Forest Service personnel and a logging crew working Grass Creek and Boundary Creek near the Canadian border. One wolf was black and the other was described as silver.

B. Historical Records of Wolves in Northeastern Washington

The fact that wolves historically ranged over most of Washington is generally agreed upon. However, there is some disagreement as to the specific subspecies of wolf which once inhabited the state, as pointed out in the 1974-1975 Washington Fish and Game Big Game Status Report. Hall and Kelson (1959) and Goldman (1944) both generally agree that the northern Rocky Mountain Wolf (Canis lupus irremotus) inhabited the eastern portion of the State while the subspecies Canis lupus fuscus inhabited the western part of the state.

However, Dalquest (1948) includes the northeastern part of Washington in the original range of the Columbia gray wolf (Canis lupus columbianus). This subspecies originally occurred throughout most of British Columbia.

The recent trend among taxonomists has been to recognize fewer subspecies. Nowak (1982) has suggested that wolf characteristics show more affinity between individuals in an east-west direction than north or south. He has suggested that there may be a fairly sharp shift in

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characteristics of C. lupus in a zone that covers much of the U.S./Canada border area and then swings northward in western Canada.

Regardless of which subspecies of wolf originally occurred in northeastern Washington, there is little doubt that it was closely related to the wolf inhabiting Idaho.

Dalquest (1948) states that "wolves occurred in western, northeastern, and southeastern Washington. The early settlers found wolves to be common and serious pests. By 1900. they had nearly disappeared. Only rumors (no authentic reports) of wolves are available from northeastern Washington. The reappearance of caribou may attract wolves from British Columbia".

Historical records of wolves in northeastern Washington area are rare. Two wolves were reported poisoned by a carcass put out for coyotes in the 1890's at the north end of Palmer Lake, in Okanogan county.

The 1914 Annual Grazing Report of the Colville National Forest mentioned an "apparent increase of gray wolves...where a large band of a dozen wolves are depleting the deer range. One large wolf was killed this season". The area referred to in the report was the Aeneas Valley in Okanogan county.

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In 1930, a wolf was reported trapped near Tonasket, also in Okanogan county. A wolf was reported in the Prouty Mountain area in extreme northeastern Washington in the summer of 1932 (M. Cook, pers. comm.).

In 1950, a confirmed male adult wolf was taken in a trap by Merle Williams, the State predator hunter (Burke 1979). The wolf was taken in the Sherman Creek area in Ferry county. Another report (Wash. Dept. of Game Files) mentions two gray wolves seen near Curlew in Ferry county in 1951.

Four wolves were observed in the Sheep Creek drainage in northern Stevens county in the early 1950's. These wolves were also heard howling the evening of the sighting (O. Rhoades, pers. comm.). In an unrelated interview, another trapper mentioned hearing of wolves in the Sheep Creek drainage 30 or 40 years ago (B. Willard, pers. comm.).

Layser (1970) documented several wolf reports from the northern portion of the Sullivan Lake Ranger District of the Colville Forest. The earliest report was of a wolf crossing the highway immediately north of Slate Creek in 1955. Several other sightings were made in the Slate Creek/Sullivan Creek area from 1960 to 1970. Many were by the Howard Luhr family who live three miles south of Slate Creek. In the winter of 1966 and again in 1967, a single wolf was observed near the customs check station

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at the International Boundary in extreme northern Pend Oreille County. Layser (1970) concluded in his report that the northern portion of the Sullivan Lake Ranger District east of the Pend Oreille River provides a home area for three gray wolves.

Table 2. Number of wolf reports by data source in the northern Idaho Panhandle.

Data Source	RATING		Total
	Probable	Possible	
Regular Reports	16	8	24
Elk Ques. (82-83)	9	29	38
Elk Ques. (83-84)	7	8	15
Elk Ques. (84-85)	4	24	28
Trapper Ques. (83-84)	12	14	26
Trapper Ques. (84-85)	6 ¹	5 ¹	11
Outfitter/Guide Ques. (84-85)	7	7	14
TOTAL	61	95	156

¹Three of the probable reports and 1 of the possible reports were taken from the northeastern Washington trapper survey.

Few records of wolves exist from the Colville Indian Reservation. Two wolves were reported south of Inchelium in 1970 by D. Stewart, who was chief Game Warden on the Reservation from 1962 to 1974. Two unconfirmed sets of wolf tracks were observed in the snow at Moses Meadow near Moses Mountain in November 1973 (Wash. Dept. of Game Files).

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knowledge of wolves or their sign, and 18 reported some evidence of wolves or their sign. Six of the eighteen cards indicated that the individuals had replied to the 1983-84 trapper questionnaire and had no new knowledge. Four trappers could not be reached by phone, one was reached but was uncooperative in providing information, and two indicated wolf activity in the Clearwater National Forest. Conversations with the remaining five individuals yielded three probable and four possible wolf reports. In addition, three probable and one possible wolf reports from northern Idaho were collected during the northeastern Washington trapper survey (Table 2).

Thirty-nine trappers answered questionnaires during the 1983-84 survey conducted across central and northern Idaho by Kaminski and Hansen (1984). Eighteen of the individuals indicated seeing some evidence of wolves in northern Idaho. Seventeen individuals were contacted, resulting in 12 probable and 14 possible wolf reports. Some individuals reported more than one sighting.

4. Outfitter and Guide Interviews

Nine individuals were contacted who still or recently were outfitters and guides in northern Idaho. In addition, one other long time northern Idaho outdoorsman was contacted based on a reference by an



outfitter and guide. Of the above ten individuals, seven indicated seeing wolves or their sign in northern Idaho, one indicated evidence of a pair of wolves in Washington, and two stated that they had never seen any sign of wolves during their outfitting years. Contacts with these ten individuals resulted in seven probable and seven possible wolf reports (Table 2).

5. Winter Field Investigation

Winter field work was conducted in northern Idaho between 16 January 1985 and 22 March 1985. Time was spent snowmobiling, cross-country skiing, and/or snowshoeing while searching for wolf sign in regions of the upper St. Joe River, Coeur d'Alene River/Tepee Creek, Priest Lake (Lamb Creek/Birch Creek) and the U.S./Canadian border (Mission Creek) (Figure 3).

In addition, a day and night were spent in a portion of the Yaak River drainage (vicinity of Pete King/Hensley Creek) in extreme northwestern Montana. Track searches and howling surveys were conducted in this area where a wolf track had recently been reported by a University of Montana wildlife student.

No confirmed wolf sign was found during field work conducted in the above listed areas. Continuous snowfall during portions of the fieldwork, especially



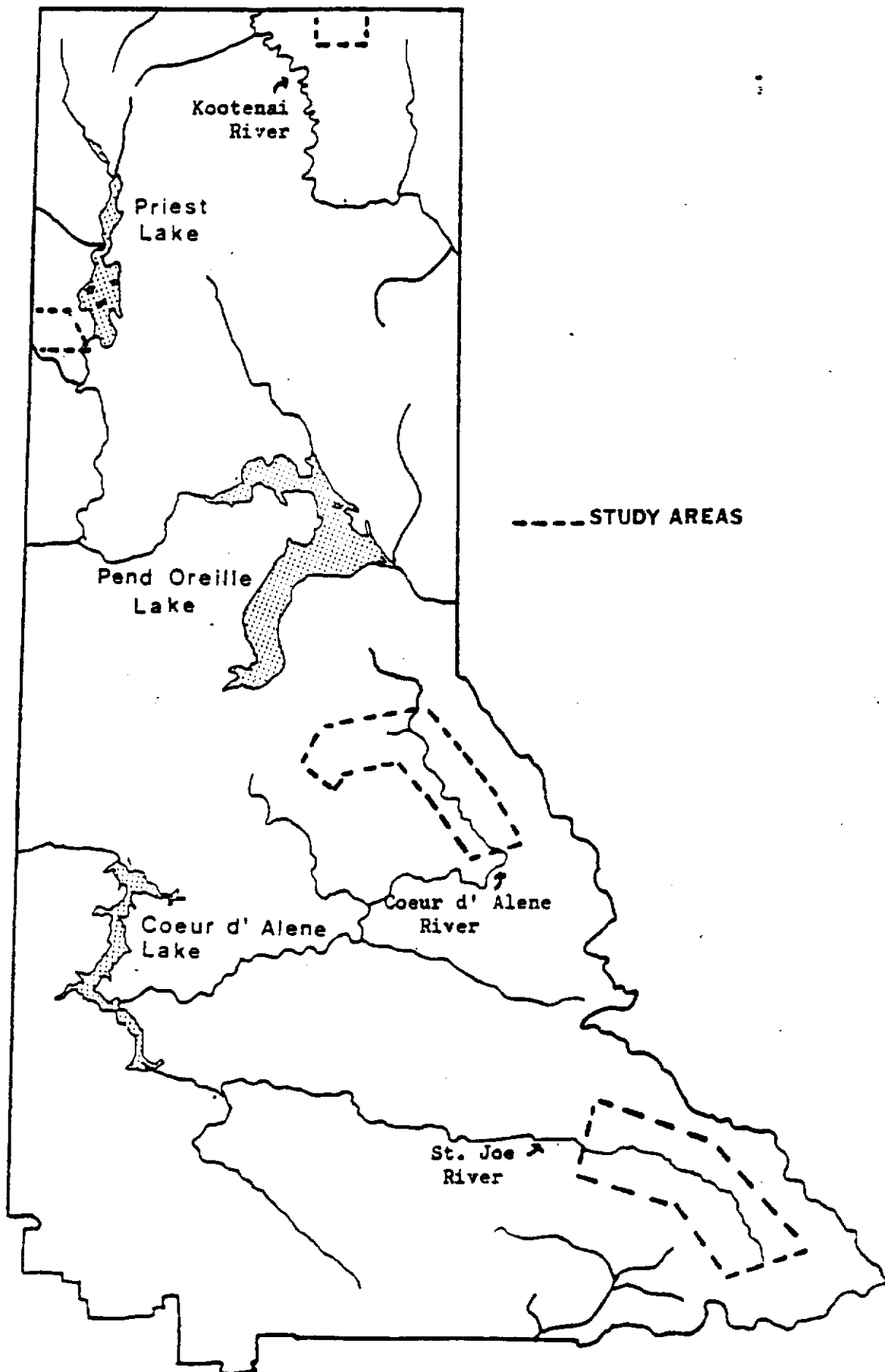


Fig. 3. Northern Idaho field study areas.



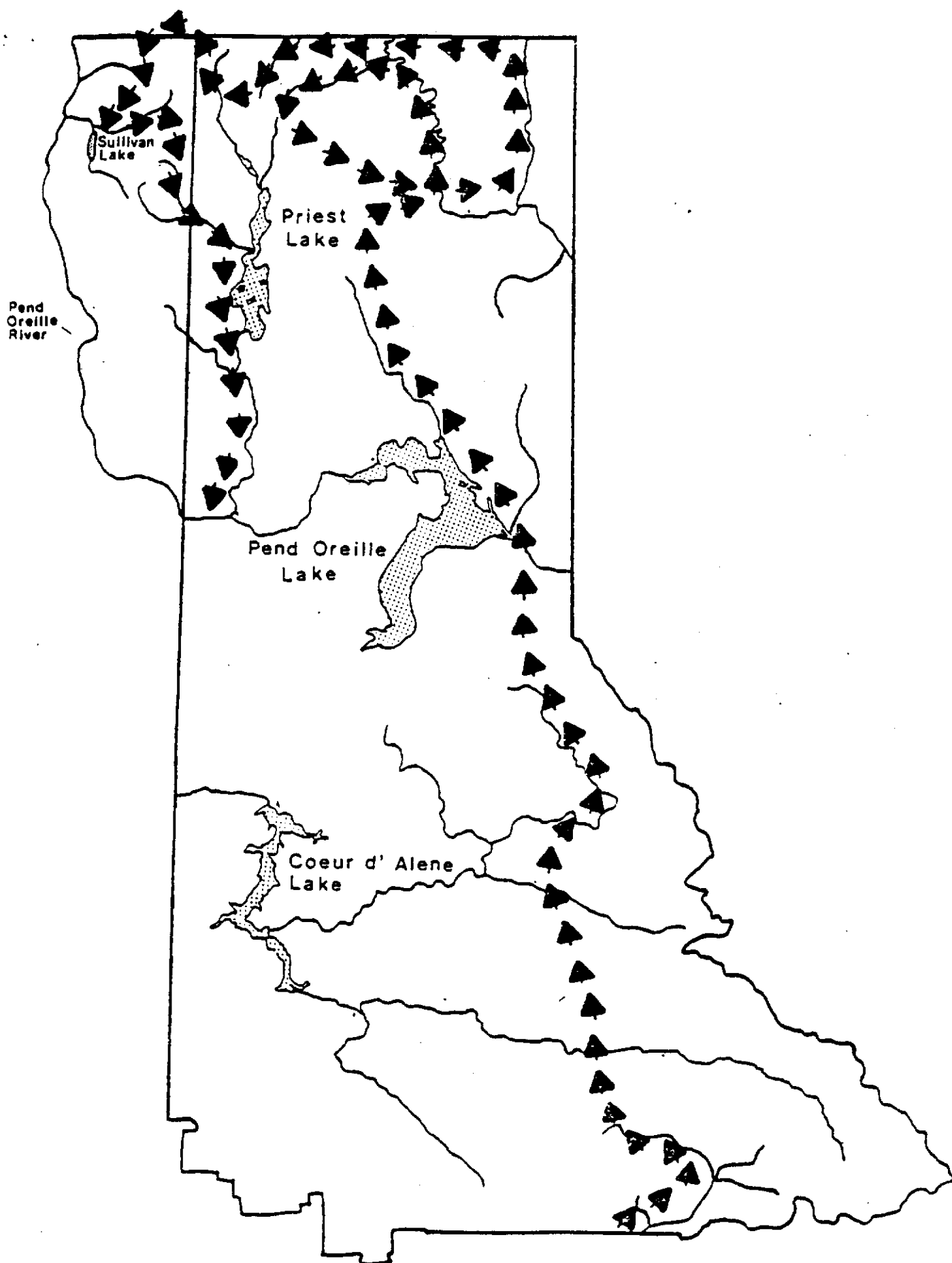


Fig. 4. Helicopter route flown while searching for wolf sign.



Of 156 total wolf reports from northern Idaho, 132 (85%) have been of single animals, 14(9%) have mentioned two animals together, and 10(6%) have included three or more animals together (Table 4).

Wolf report locations are scattered across northern Idaho, as shown in Figure 5. Most reports fall in the boundaries of the Panhandle National Forest, which generally includes the most forested and remote areas of northern Idaho.

When only the probable wolf reports are examined (Figure 6), no real pattern of distribution appears, although there does seem to be a tendency for many reports to occur in the vicinity of the Idaho/Montana border.

Twenty-five probable wolf reports have been collected from the area of northern Idaho roughly corresponding to the Kaniksu National Forest. This would be the area north of and including the Pend Oreille and Clark Fork rivers. Sixteen of the probable reports have occurred since 1980.

Four probable reports have occurred since 1980 in the southern Selkirk/Priest River area. Included among these were a light gray animal observed in upper Grass Creek by the University of Idaho grizzly bear research team (1984), a black animal spotted in Bog Creek by a forest technician (1984), large tracks



observed in Bugle Creek by a former member of the gray wolf research team (1984), and large tracks observed on Continental Mountain by a University of Montana wildlife student (1981).

Table 3. Number of wolf reports by time in the northern Idaho Panhandle.

Year Groups	Rating		Total
	Probable	Possible	
Pre 1960	3	1	4
1960-73	5	2	7
1974-79	12	8	20
1980-Present	41	84	125
TOTALS	61	95	156

Table 4. Abundance of wolves reported in the northern Idaho Panhandle.

	Rating		Total
	Probable	Possible	
Single Animal	56	76	132 (85%)
Pair	3	11	14 (9%)
Group (> 3)	2	8	10 (6%)
Totals	61	95	156 (100%)



Other probable reports since 1980 from the southern Selkirk Mountains include separate reports of a black animal and a light gray animal in the upper Pack River area in 1982. Tracks were observed and howling of a lone animal was heard in Long Canyon Creek, also in 1982.

Three probable wolf reports have been collected from the Moyie River drainage, including a report of three wolves in 1984 near Good Grief, and a report by an outfitter of tracks of a single animal in Canuck Basin, also in 1984.

Seven reports of wolves have come from the Cabinet Mountain region, north and east of Pend Oreille Lake, between 1977 and the present, with six of the reports since 1980.

A single set of tracks was observed near Katka Peak in 1977 by a long time Idaho outdoorsman. D. Sherwood (pers. comm.) mentioned that this was the only sign of wolves he has seen in all of his years in the Idaho backcountry.

Other probable wolf reports from the Cabinet Mountain area include a set of tracks observed in upper Grouse Creek in 1980 and again in 1981, a tawny colored animal observed in upper Rapid Lightning Creek in 1982, a silver colored animal observed three miles northeast of Clark Fork in 1982, a white animal



observed near Dry Creek in 1982, and tracks observed by an outfitter in Wellington Creek in 1984.

Probable wolf reports from the area of northern Idaho corresponding to the Coeur d'Alene National Forest are distributed over two broad areas. One area, located within national forest boundaries, includes the Coeur d'Alene River and associated tributaries. The wide, flat valley around Spirit and Hayden lakes is the other area where several wolf reports have occurred.

Eight probable wolf reports have been collected from the Coeur d'Alene River drainage since 1978. Four of the reports have come from near the Idaho/Montana border in the Bitterroot Mountains.

A dark gray canid was observed near Jordan Saddle in 1979, a set of tracks was observed near Clinton Creek in 1982, a set of tracks and a medium gray animal were observed near Porcupine Pass in 1983, and a dark gray animal was observed in upper Elm Creek in 1984. Further south along the Idaho/Montana border, four large tracks were observed in the winter of 1978.

Other probable wolf reports in the Coeur d'Alene River drainage include a light gray animal observed in Independence Creek in 1980 and a report of a pair of dark wolves near the Steamboat Creek drainage in



both 1982 and 1983 by separate, unrelated observers. In both reports, the observers mentioned that one of the animals of the pair seemed smaller than the other.

Nine probable reports of wolves have been collected since 1974 from the wide, expansive valley between Coeur d'Alene and Pend Oreille Lakes. In both 1974 and 1975, a light gray animal was observed in the Sheep Springs area between Athol and Spirit Lake. The observer felt that this likely could have been the same animal. During 1981, a light gray animal and a large set of tracks were observed near Bayview, a large set of tracks was observed north of Hayden Lake, and a large set of tracks was observed east of Hayden Lake.

In 1983, a light gray animal was observed below Bernard Peak and a medium gray animal was observed near Chilco Lake. In 1984, a dark gray animal was observed in the Brickell Creek drainage, west of Spirit Lake.

Sixteen probable wolf reports have been collected from the St. Joe portion of Northern Idaho since 1978. Eight reports have been associated with the St. Joe River drainage. A pair of dark colored animals were observed in Bird Creek in 1978. Three or four days later, a black animal was observed near



Siwash Peak by the same observer. In 1980, a long drawn out howl was reported from near Big Creek Cabin. A medium gray animal was reported near St. Joe Lake in 1981. Large tracks were reported in Upper Fishhook Creek during 1983 by two separate individuals. One of the individuals reported that the animal had stepped in his coyote set and broken the double-coil spring trap. In 1984, tracks were reported in Hugus Creek and a medium gray animal was observed near Spruce Creek campground.

Three reports of wolves have come from drainages associated with the Little North Fork of the Clearwater River. Included are two reports in 1984 of a medium gray animal and a howl in Pinchot Creek. These were observed and heard by an employee of the U.S. Fish and Wildlife Endangered Species Office from Portland, Oregon. A black animal was observed at the head of Foehl Creek in 1983.

Four probable wolf reports were collected from the extreme northern portion of the Clearwater National Forest. Those reports were obtained from outfitters and guides and included a single, light gray animal observed in 1978, 79, and 81 along Lost Ridge Trail and a single set of tracks observed in the Mallard-Larkin area.



D. Present Status of Wolves in Northeastern Washington

1. Random Reports

A total of 33 random wolf reports were collected from northeastern Washington (Table 5). These came from a variety of sources including Layser (1970), Burke (1979), Washington Department of Game Files, and unsolicited (non-questionnaire) reports from the general public. Eighteen of the reports were rated probable while 15 were rated as possible. Fifteen of the reports occurred before or during 1973 and were discussed under the Historical Records part of this report.

2. Trapper Questionnaire 1984-85

Of 157 questionnaires sent to trappers in northeastern Washington, 48 (31%) were returned to the U.S. Fish and Wildlife Service, Boise Field Office. Thirty-two individuals reported that they had not seen wolves or their sign, 13 indicated some knowledge of wolves or their sign, and three questionnaires were returned unopened. Three of the 13 individuals who reported wolves or their sign could not be reached. Conversations with the remaining ten individuals resulted in seven probable and three possible wolf reports in Washington (Table 5) and 4 wolf reports in northern Idaho. In addition, one individual contacted during the



northern Idaho trapper survey reported wolf tracks in northeastern Washington.

3. Outfitter and Guides

Three outfitters and guides were contacted from northeastern Washington. All three outfit in the Okanogan National Forest, mostly in the Pasayten Wilderness. None of the three had ever observed what they believed were wolves or their sign in the Okanogan region. One of the outfitters reported that his father had outfitted in the Okanogan Forest for 50 years and had never mentioned wolves.

4. Aerial Survey

On March 18, 1985, an aerial search for wolf sign was conducted from the Canada border, south through the Salmo Mountain area, along Crowell Ridge and Sullivan Creek to Sullivan Lake and eventually back to the east through Pass Creek Pass into Granite Creek in northern Idaho. No sign of wolves was recorded during this survey. Snow conditions were not optimal as no new snow had fallen for several days.

5. Summary of Distribution and Abundance of Wolf Reports in Northeastern Washington

A total of 42 wolf reports from northeastern Washington were collected during this study. Several were obtained from Burke (1979) and Layser (1970). Twenty-four were rated probable and 18 possible



(Table 6). Twenty-four reports have occurred since 1973. Eleven have been rated probable while 13 were rated possible.

Of 42 total wolf reports, 27(64%) have been of single animals, ten (24%) have indicated a pair of wolves, and five (12%) have observed three or more animals together (Table 7). Many of the pairs and groups of wolves were observed prior to 1973. Of the 24 reports since 1973, eighteen have been of lone animals, five have indicated pairs, and one mentioned a group of three or more.

Two thirds of all reports collected since 1973 have come from the eastern half of the Colville National Forest. The majority of these reports have been obtained from the Slate Creek/Sullivan Creek area, on the east side of the Pend Oreille River (Figure 7).

In 1975, tracks of two animals were observed in Slumber Creek, a tributary of Slate Creek. These tracks were observed by an Idaho outfitter and guide who remarked he had seen two sets of wolf tracks in his life, the pair in Slumber Creek and a set in Alaska (A. Roberts pers. comm.). In 1976, a wolf was observed crossing a clearcut in the head of Lead Creek. In 1984, tracks of a single animal were observed near Crescent Lake, just south of the U.S. Canadian border.



Tracks of three animals were observed on the Sullivan Mountain road in 1980. In 1981, a wolf was heard howling on Sullivan Mountain by two employees of the Forest Service. Wolves were reported near the H. Luhr residence on Three Mile Creek in 1981 and 1983. Tracks of a pair of animals were observed on the Sullivan Creek road in 1982, followed by the observation of a single set of tracks in the same area in 1983. In February of 1984 and again in February of 1985, a pair of wolves were observed on the east shoreline of Sullivan Lake. In both cases the wolves were observed periodically for three or four days.

Seven reports of wolves have come from just west of the Pend Oreille River, within or adjacent to the Colville National Forest. Tracks of a single animal were seen repeatedly in Cedar Creek in 1976, just east of where a lone animal was reported near Cedar Lake in 1975. Tracks of a single animal were observed in the south Fork of Silver Creek, south of Cedar Creek, also in 1976. The individual reporting these tracks was 80 years old and mentioned that they were the only sign of wolves he had ever seen in all his years in the backcountry.

In 1978, a pair of black wolves was observed in a powerline right-of-way between Metaline Falls and

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Table 5. Number of wolf reports by data source in northeastern Washington.

Data Source	Rating		Total
	Probable	Possible	
Regular Reports ¹	18	15	33
Trapper Ques. (84-85) ²	6	3	9
Totals	24	18	42

¹ Several reports came from Layser (1970) and Burke (1979).

² One probable report came from the 1984-85 Idaho Trapper Questionnaire.

Table 6. Number of wolf reports by time in northeastern Washington.

	Rating		Total
	Probable	Possible	
Pre 1960	8	0	8
1960-73	5	5	10
1974-79	4	5	9
1980-Present	7	8	15
Totals	24	18	42

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Table 7. Abundance of wolves reported in northeastern Washington.

	Rating		Total
	Probable	Possible	
Single Animal	13	14	27 (64%)
Pair	7	3	10 (24%)
Group (≥ 3)	4	1	5 (12%)
Totals	24	18	42 (100%)

lone by a pilot for Bonneville Power. In 1979, a live animal was seen near Power Lake and in 1982, a light gray animal was observed in the Grouse Creek drainage near Jumpoff Joe Lake. In March of 1985, a live animal was observed between Metaline Falls and Colville in a meadow.

Wolf reports from west of the Columbia River are scattered. In 1974, a deer hunter was reported to have shot a coyote in the South Fork of Barnaby Creek and found it to be a wolf. According to the report, he didn't pack the animal out because it was too heavy. In 1979, a large animal was observed south of Northport on the Marble Flats highway. In 1980, tracks of a lone animal were observed north of Pierre Lake.

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During 1981, tracks of a lone animal were observed in the North Fork of Deadman Creek. Tracks of lone animals were also observed south of Inchelium on the Colville Indian Reservation. The former Chief Game Warden on the Colville Indian Reservation mentioned that no wolves had been seen on the Reservation for the last three or four years (D. Stewart pers. comm.). He mentioned an outbreak of parvo on the Reservation three or four years ago killed many dogs and probably coyote and any wolf pups. Tracks of a lone animal were reported from Deadman Creek in 1983.

Three other wolf reports from Washington which fell outside of the study area should be mentioned here. In 1970, two wolves were heard howling ten miles west of Mt. Adams, in western Washington. This appeared to be a very authentic report by a reliable source (B. Rohrback, pers. comm.). Dalquest (1948) in Burke (unpubl. rep., 1979) mentions that there were still said to be some wolves near Mt. Adams.

In 1975, a gray wolf was killed by a farmer near Mansfield in Douglas county (Burke 1979). The wolf was confirmed as Canis lupus columbianus. This particular species of wolf is found commonly in British Columbia. It was reported that the wolf did kill three yearling calves.



For about a six year period starting in the late 1970's, tracks of a lone wolf were observed in the Okanagon National Forest, between Early Winters and Cutthroat Creeks, south of the Pasayten Wilderness. The report mentioned that the wolf hunted in areas where the deer would not migrate out of despite deep snow. In the winter of 1980, the wolf was encountered near a coyote set. It appeared he was seriously injured (probably shot) but ran off anyway (G. Lambert, pers. comm.).

E. Present Status of Wolves in Southwestern Alberta and Southeastern British Columbia

An illustration of the most recent wolf information in southeastern British Columbia and southwestern Alberta is shown in Figure 8. The gray wolf is not classified as an endangered species in British Columbia or Alberta.

The most consistent wolf activity occurs along the Continental Divide, which forms the border of British Columbia and Alberta (Ream and Mattson 1980). Wolves are currently believed to be at or near carrying capacity in Jasper National Park (R. Demarchi, pers. comm.). Small wolf packs also exist in Banff National Park. Packs of from five to 14 wolves are common in Yoho and Kootenay National Parks, with a few wolves ranging south. Two wolves were killed near the confluence of the White and Kootenay River in 1984 (R. Demarchi, pers. comm.). More southerly wolf activity in Alberta includes tracks of a



pack of five wolves in the Sheep River drainage in 1984 and the report of at least two wolves in the Oldman River drainage, also in 1984 (J. Gunson, pers. comm.). Although there has been no recent significant southern advances of wolves in Alberta (J. Gunson pers. comm.), enough dispersal has appeared to occur along the continental divide to establish a small wolf population in northwestern Montana.

In the spring of 1979, a female wolf was captured and radio-tagged by Wolf Ecology Project personnel in the North Fork Flathead River Drainage (Ream and Mattson 1982). In the spring of 1982, seven wolf pups were observed several miles north of the U.S. Canadian border. Since 1982, there has been an increase in wolf sightings and sign in the North Fork of Flathead River drainage, especially, south of the border (Ream et. al 1985). Based on available information, it appears 12 to 16 wolves may inhabit the Flathead River drainage, including both north and south of the U.S./Canadian border (R. Demarchi, pers. comm., Ream et al. 1985).

The occurrence of wolves west of the continental divide appears to be limited to lone animals and occasional pairs. A wolf was reported killed near Trout Lake in 1982/83, tracks were reported in Kokanee Glacier Provincial Park in 1983/84 and a lone wolf was sighted in the Bull River drainage in December, 1984 (Figure 8).

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The wolf along Bull River was observed by the regional wildlife biologist with the Ministry of Environment in British Columbia (R. Demarchi, pers. comm.).

In the fall of 1984, a farmer near Creston, British Columbia, directly north of the Idaho border, was rumored to have shot one wolf out of a pack of four-five which was harassing his livestock. The animal was buried after the shooting. Further investigation of the incident led to the excavation of the animal. Upon examination by Forest Service and Idaho Fish and Game personnel, the skull was declared to be that of a dog (G. Servheen, pers. comm.).

Wolf populations were never believed to be high in the Selkirks or Purcells (just north of the Idaho border) in southeastern British Columbia (R. Demarchi, pers. comm.). Rugged topography with few wide valleys was believed to preclude substantial pack activity and restrict east and west movements of wolves. The establishment of reservoirs in many areas in southeastern British Columbia has further depleted available wolf habitat, and also ungulate winter range. Most of the remaining valleys are heavily settled with human activities.

Past records do indicate that fairly substantial wolf numbers inhabited the Big Bend area of the Columbia River (just off the map to the north (Figure 8)) during the 1960's and early 70's. When the Mica Reservoir was put



in this area around 1975-1980, wolves formerly inhabiting this area were driven out. It is believed that some of these wolves may have established in the upper Kootnay River in the early 1980's (R. Demarchi, pers. comm.).

Wolves were also present in the Duncan River drainage before the Duncan Reservoir was established during the period of 1971-73, (R. Demarchi, pers. comm.). Remnants of this population may be responsible for some of the reported wolf activity in the Selkirks and Purcell Mountains.

V. Discussion

1. Key Areas for Wolf Conservation in Northern Idaho and Northeastern Washington.

The 1985 DNRMW Recovery Plan promotes wolf recovery in central Idaho via natural recolonization from Canada. For successful recovery to occur, wolves must travel through northern Idaho or northwestern Montana.

It is doubtful that wolves will travel directly from established Canadian wolf populations to the central Idaho wolf recovery area. Rather, it is likely that a wolf moving through northern Idaho will stop at some point, especially if suitable habitat components are encountered. Key components of wolf habitat are generally (1) sufficient year round prey (2) suitable and somewhat secluded areas for raising pups and (3)



sufficient space with minimal exposure to humans (Kaminski and Hansen 1984).

Further dispersal to the south would depend on physical events and physiological needs of the wolf. Hence, any movement of wolves through northern Idaho would likely take place in a series of stochastic "stops" and "starts". Maintenance of suitable wolf habitat components, especially "stop" areas will be imperative if wolves are to survive while inhabiting northern Idaho.

The entire northern Idaho/northwestern Montana border area should be considered important to wolf conservation in northern Idaho and ultimately to wolf recovery in central Idaho. A brief discussion, of areas important to wolf recovery in north and central Idaho follow:

Little North Fork of the Clearwater River

The Little North Fork of the Clearwater River (LNFCR) forms an important link between southern portions of the IPNF and remote regions of the Clearwater National Forest including the Mallard Larkins Pioneer Area. Reports of wolves have persisted in and around the Mallard Larkins area for the last several years (L. Crane, pers. comm.). Ungulates concentrate in the LNFCR in the winter (Figure 9). No roads are open into the LNFCR in the winter, adding to the importance of the area to wolves. Important drainages include Crescendo, Foehl, Sawtooth, Canyon, Floodwood, and Pinchot Creeks.



St. Joe River

The North Fork and that portion of the St. Joe River upstream from Avery are believed important to wolves in northern Idaho. This drainage parallels the Bitterroot Divide on the Idaho/Montana border and provides a natural travel corridor for wolves from the Coeur d'Alene portion of the Panhandle National Forest to the central Idaho Wolf Recovery Area in the Clearwater National Forest. This drainage is especially important in the winter as any wolves travelling the Idaho side of the Bitterroot Divide are likely to follow ungulates to winter range along the St. Joe River. The headwaters of the St. Joe River are located directly north and adjacent to the headwaters of the North Fork of the Clearwater River, an area of known wolf activity (Kaminski and Hansen 1984). This essentially roadless area provides an important link between the Panhandle and Clearwater National Forest.

Coeur d'Alene River

That portion of the Coeur d'Alene River upstream from Shoshone Work Camp and including Shoshone, Independence, and Teepee Creeks, is believed to provide a natural travel corridor for wolves moving from the Kaniksu portion of the Panhandle National Forest to the St. Joe portion. Its importance is similar to that of the St. Joe River, in that wolves inhabiting the Idaho side of the Bitterroot divide could be expected to follow ungulates to wintering areas along the river and tributaries.



Cabinet Mountains

The Cabinet Mountains are generally oriented in a north-south axis along the Idaho-Montana border, north and east of Lake Pend Oreille. This rugged mountain range stands between wolves moving south from the Kootenai or Moyie River drainages in extreme northern Idaho or the Yaak River System in northwestern Montana. Ungulate winter range is lacking in this area. On the Idaho side, some ungulates do winter along the eastern shore of Lake Pend Oreille (Figure 9). Potential movement corridors for wolves through this area could be from Boulder Creek to Lightning Creek. Movement through the area would likely be limited to non-winter months.

Kootenai and Moyie River Drainages

Both the Kootenai and the Moyie rivers would seem to form natural travel corridors for wolves as both rivers flow across the U.S./Canadian border. However, both river valleys are populated by people and livestock. Ungulates are also funneled into the river valleys in the winter. The potential for human caused wolf mortality would be high for any wolves following ungulates to winter ranges.

Southern Selkirks

The southern Selkirk Mountain region contains a mix of national and state forest lands. The area referred to here encompasses the upper Priest River drainage, Selkirk Crest, and extreme northeastern Washington including



Sullivan and Slate Creek drainages. Several probable reports of wolves have occurred between Priest Lake and the Canadian border since 1980. Several probable reports have also come from the Sullivan Creek/Slate Creek area of northeastern Washington. Portions of the southern Selkirk Mountain range are inhabited by the endangered woodland caribou and threatened grizzly bear.

Although this area is not located along the perceived primary travel corridor for wolves, it is believed important to their continued existence in northern Idaho. The northwestern Idaho and northeastern Washington areas together form a large, contiguous, relatively remote parcel of habitat upon which any wolves crossing the Canadian border can gain a foothold.

It is very possible that wolves move between the IPNF and the CNF along the Shedroof Divide. Major ungulate (white-tailed deer) winter range on the Idaho side is located along the shoreline of Priest Lake, where the potential for human caused wolf mortality is expected to increase as wolves follow ungulates to winter range. Ungulate winter range along Sullivan Creek and Slate Creek (Figure 10) in northeastern Washington may be a key in maintaining wolves on an annual basis in the southern Selkirks.

The chances of a wolf moving safely from the southern Selkirks to the central Idaho recovery area are unknown.



Most likely travel routes would be along the Pack River to the northeastern shore of Pend Oreille Lake or along the Priest River south into the Spirit Lake/Hayden Lake area.

The Spirit Lake/Hayden Lake area poses potential problems to wolves moving through northern Idaho. From the standpoint of topography, this large expanse of flat, forested land provides some of the most ideal wolf habitat in northern Idaho. Wolf packs were reported historically from this area. However most of the land is privately owned, with small dwellings and farms scattered throughout. The potential for human caused wolf mortality is believed high for wolves crossing this area. The cluster of probable wolf reports around Spirit and Hayden Lakes would indicate that at least one or two wolves have moved through recently. The fate of wolves which travel further south and encounter urban areas along Interstate 90, which run east and west across northern Idaho, is unknown.

2. Potential Conflicts Between Wolves and Land Use Activities.

A. Northern Idaho

Figures 11, 12, and 13, have been developed to illustrate some of land use activities which pose potential conflicts with gray wolves inhabiting or travelling through northern Idaho. Because there is



general agreement that the Idaho/Montana border area holds the most potential as a travel corridor for wolves travelling from Canada to the central Idaho Recovery Area, land use activities along the northwestern Montana border are also mapped, but not discussed in this report. Conflict potential from land use activities arise as roads access previously remote, secure areas for gray wolves and human activity in these areas subsequently increases. The presence of domestic livestock near areas where wolves may occur also increases the potential for encounters between humans and wolves and subsequently human caused wolf mortality.

Many timber sales are planned along the Idaho/Montana border. (Figure 11). Timber sale boundaries and harvest schedules undergo frequent changes during the management of national forests, hence timber sales shown in Figure 11 are subject to change. Timber sales planned on state forest land along portions of the Little North Fork of the Clearwater River and east of Priest Lake are not shown, nor are sales planned on private inholdings interspersed throughout the Panhandle National Forest.

Timber sales planned along the Idaho/Montana border which include the establishment of new, open roads hold some potential for conflict with wolf activity. Much of the border area is already heavily roaded



from past timber harvest activities, and is accessible to humans year round. As roads access the remaining undisturbed areas, it will be increasingly hard for wolves to move through northern Idaho without encountering some form of human activity. The Management Recommendations section of this report suggests some guidelines for reducing conflict potential between harvest activities and gray wolves.

Because of recent probable wolf reports in the area, timber sales planned in upper Floodwood and Glover Creeks in 1988 and timber sales planned in upper Priest River in 1988 and 1989 also pose conflict potential with wolves.

Areas of high mineral activity in northern Idaho and northwestern Montana are shown in Figure 12. The majority of mining activity in the Panhandle National Forest occurs in the Coeur d'Alene Mining District, acclaimed to be the richest silver, lead, zinc, and antimony mining area in the United States. Significant mineral activity also occurs in the Cabinet Mountains, along the Idaho/Montana border. The degree of mineral activity on the forest can change rapidly, based on an increase or decrease in demand. Potential for conflict with wolf activity arises when roads are built to access claims in



previously undisturbed, secure areas, especially along the Idaho/Montana border.

Few livestock allotments exist on the Panhandle National Forest (Figure 13). Allotment boundaries are usually on roads or ridges and define the outside limits of where a cow or horse can travel without getting off the permitted area. Most of actual grazing use is in riparian zones or meadows. Livestock allotments on the Panhandle Forest are limited to cattle and horses.

At the present time, it appears few conflicts would occur on the St. Joe portion of the Panhandle between livestock allotments and sheep. The allotment in the upper St. Joe River is maintained for an outfitters horses, with most activities in the fall. Conflict potential with wolves is believed low.

Livestock allotments in the Coeur d'Alene portion of the forest which are believed to hold the most potential for future conflicts with gray wolves include Beaver Pony and Beaver cattle allotments. Both occur close to the Idaho/Montana border.

Cattle allotments which hold the most potential for conflict with wolves in the Kaniksu portion of the forest include Boulder Creek, (close to the Idaho/Montana border) and Hughes Meadows, Cow Creek, and Grass Creek (north of Priest Lake). If wolves



should become more established in the Priest Lake area, conflict potential with the Lower Squaw Valley, Flat Creek, Boswell, Cottonwood, Lamb Creek, upper West Branch, Morses Creek, Four Corners, and Kavanaugh cattle allotments would increase.

Figure 13 does not include livestock on private land, which is interspersed throughout the forest. Additional conflicts could arise on these private lands.

B. Northeastern Washington

Figures 14 and 15 have been developed to illustrate land use activities which may conflict with wolves inhabiting northeastern Washington. No information on areas of mineral activity was obtained. As stated earlier, conflicts arise as roads access previously secure areas for gray wolves, increasing the potential for human cause wolf mortality.

Although much of the Colville National Forest contains livestock allotments (Figure 14), none occur in the extreme northeastern corner believed most important for wolves. Hence, conflict potential is believed low.

A large number of timber sales are planned in the Sullivan Creek/Slate Creek areas of northeastern Washington (Figure 15). Conflict potential with gray



wolf activity is believed high from all timber sales planned east of the Pend Oreille River and north of Molybdenite Mountain. Cumulative impacts of several ongoing sales in the same area will have the greatest potential to adversely affect gray wolves in northeastern Washington. The Management Recommendations section of this report outlines methods for resolving potential conflicts.

3. Natural Recolonization, in Idaho. (What are the Chances)?

The DNRMW Recovery Plan (1985) identifies the Idaho/Montana border as a potential dispersal corridor for wolves moving from the U.S./Canadian border to the Central Idaho Wolf Recovery Area. The Recovery Plan goes on to state that "identification and maintenance of suitable travel corridors is essential to any natural recolonization by Canadian wolf populations".

Figure 8 illustrates potential movement corridors of wolves from Canadian wolf populations to Idaho. Although some wolves may trickle in from the Purcell or Selkirks Mountains ranges, recruitment from these areas is believed minimal. Based on confirmed southerly wolf activity and topography of the area, movement of wolves from the Continental Divide populations is more likely. Several unconfirmed wolf reports have come from the upper Yaak River in

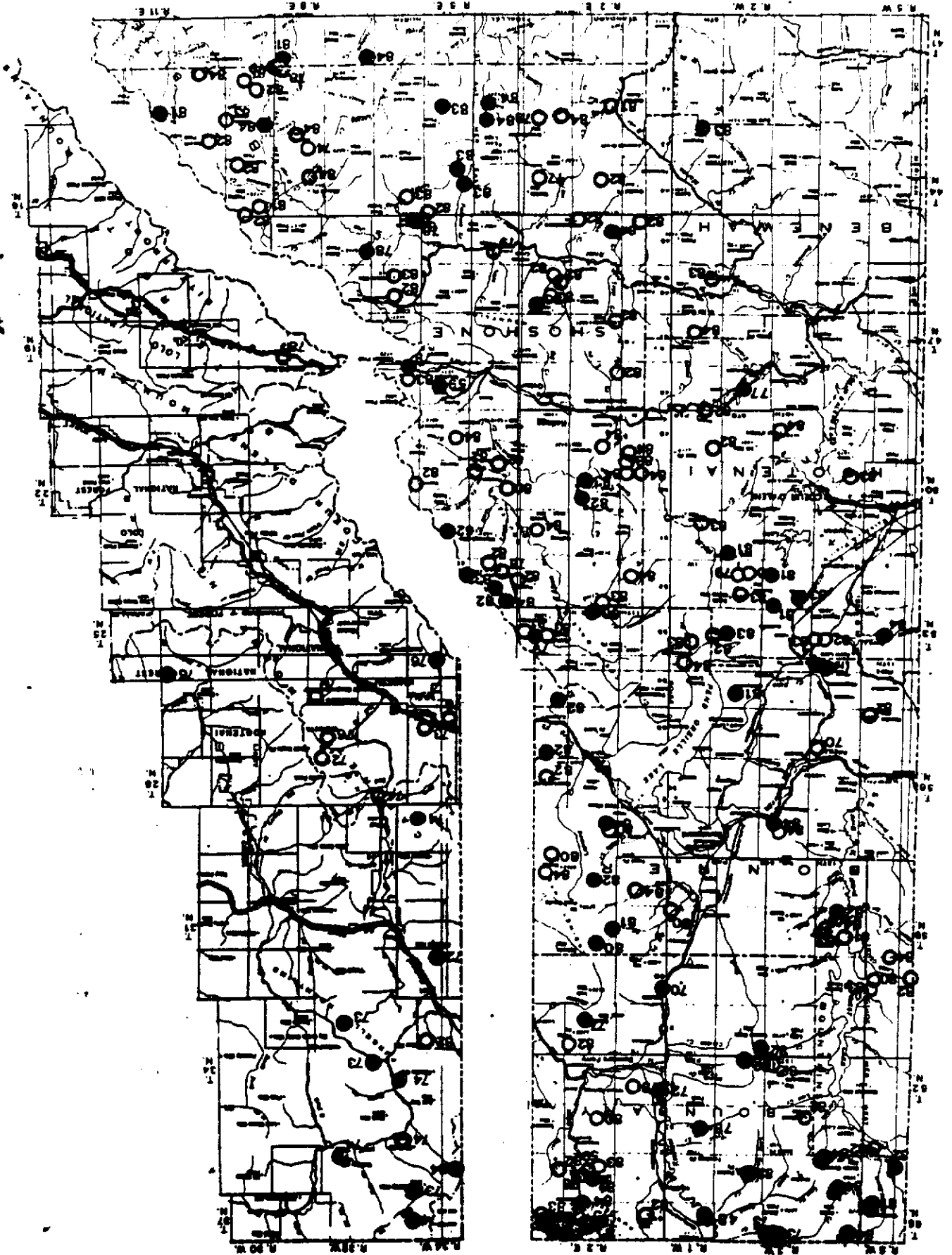


IDAHO PANHANDLE AND N.W. MONTANA

WOLF REPORTS BY YEAR

● PROBABLE
○ POSSIBLE

Fig. 5



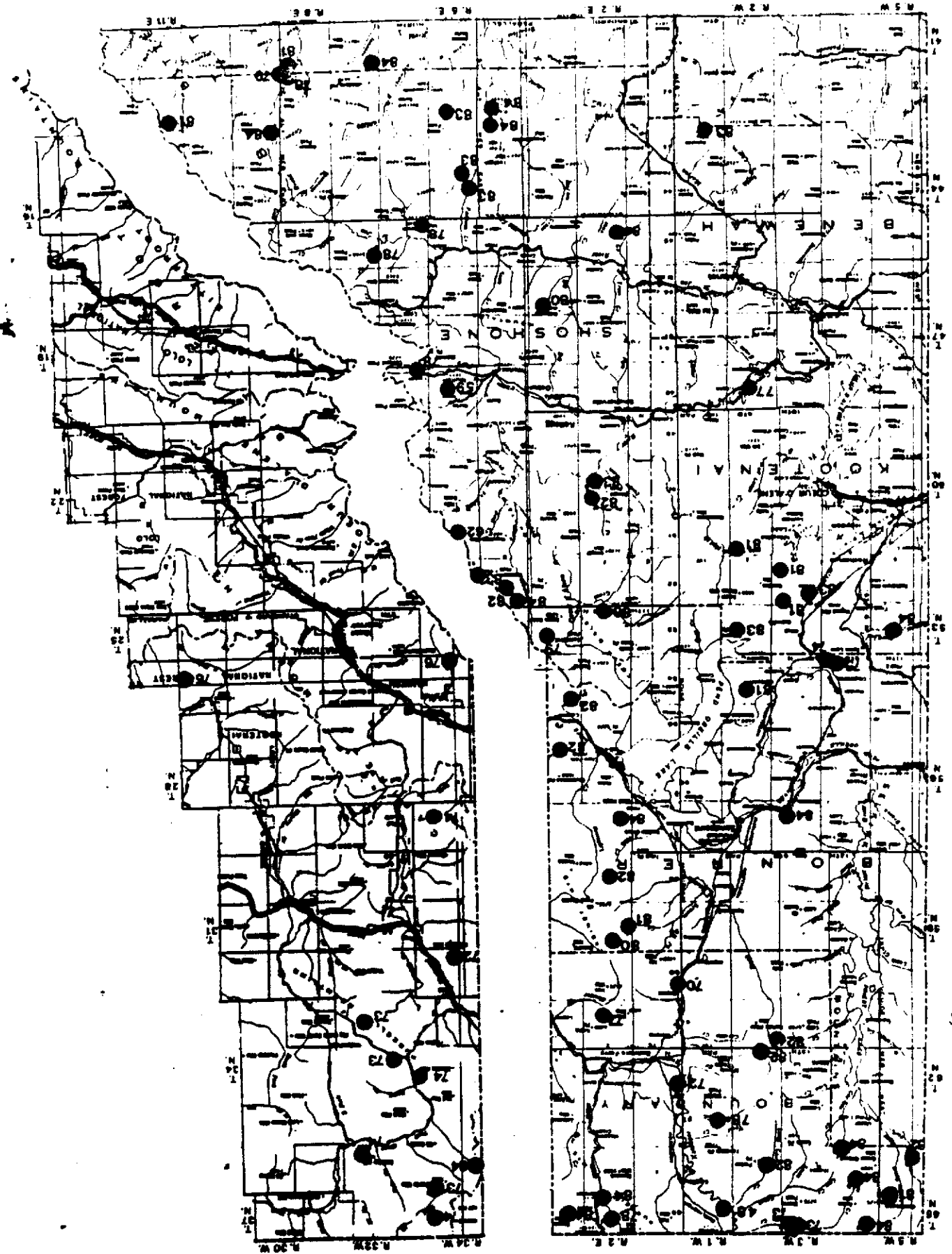
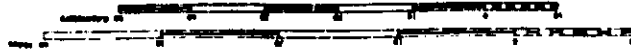


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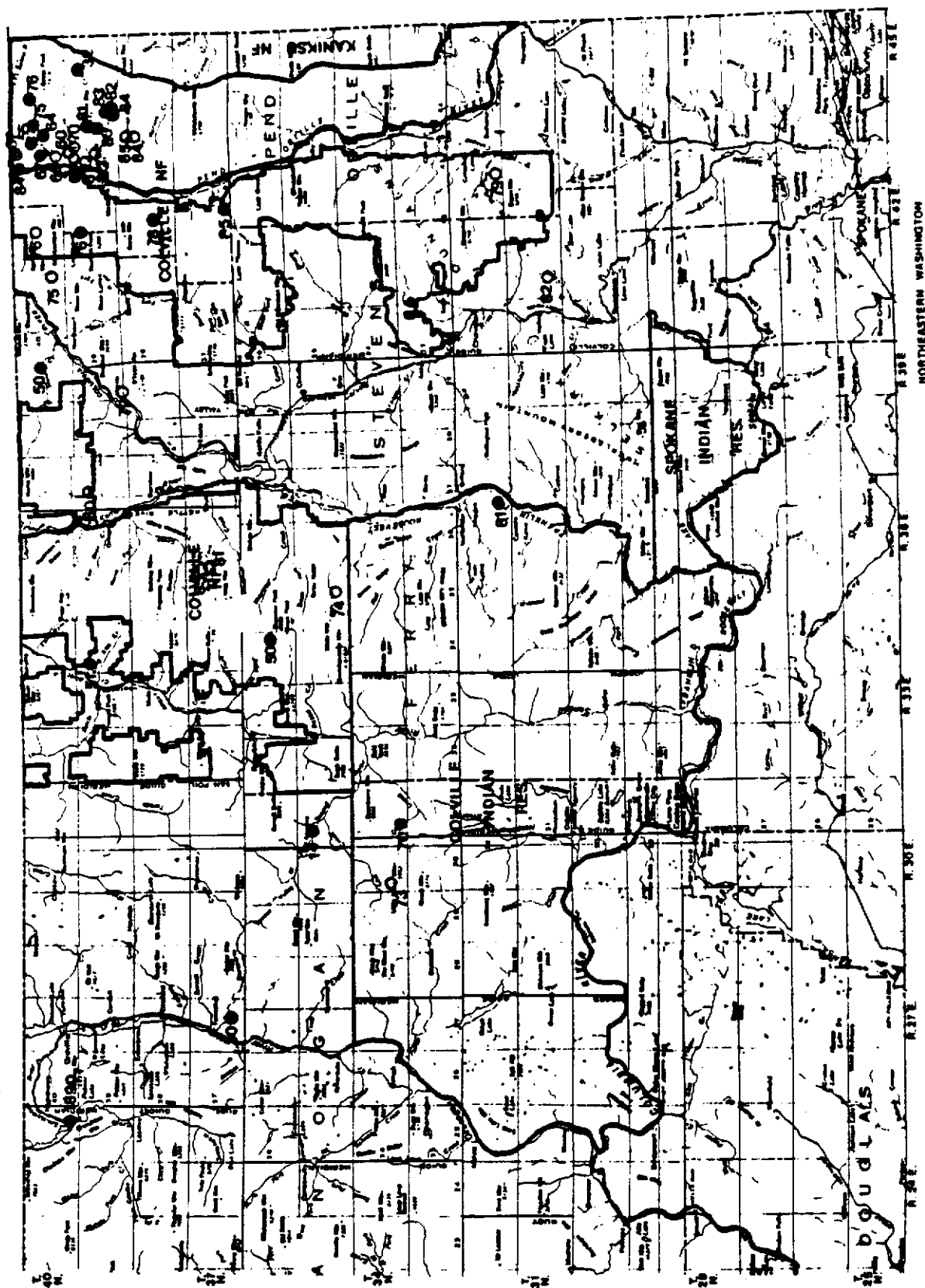
WOLF REPORTS BY YEAR

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Fig. 6







WOLF REPORTS BY YEAR

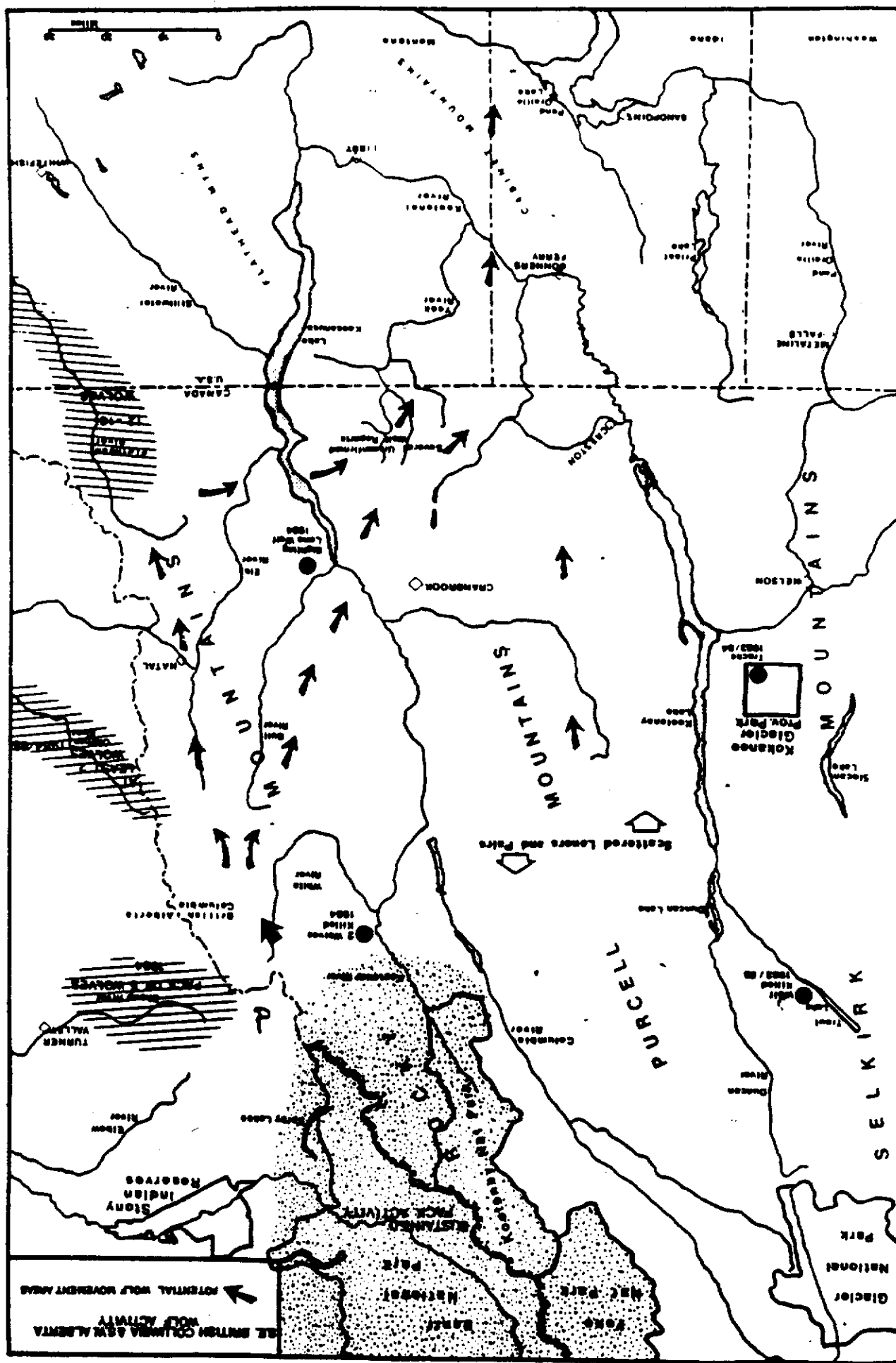
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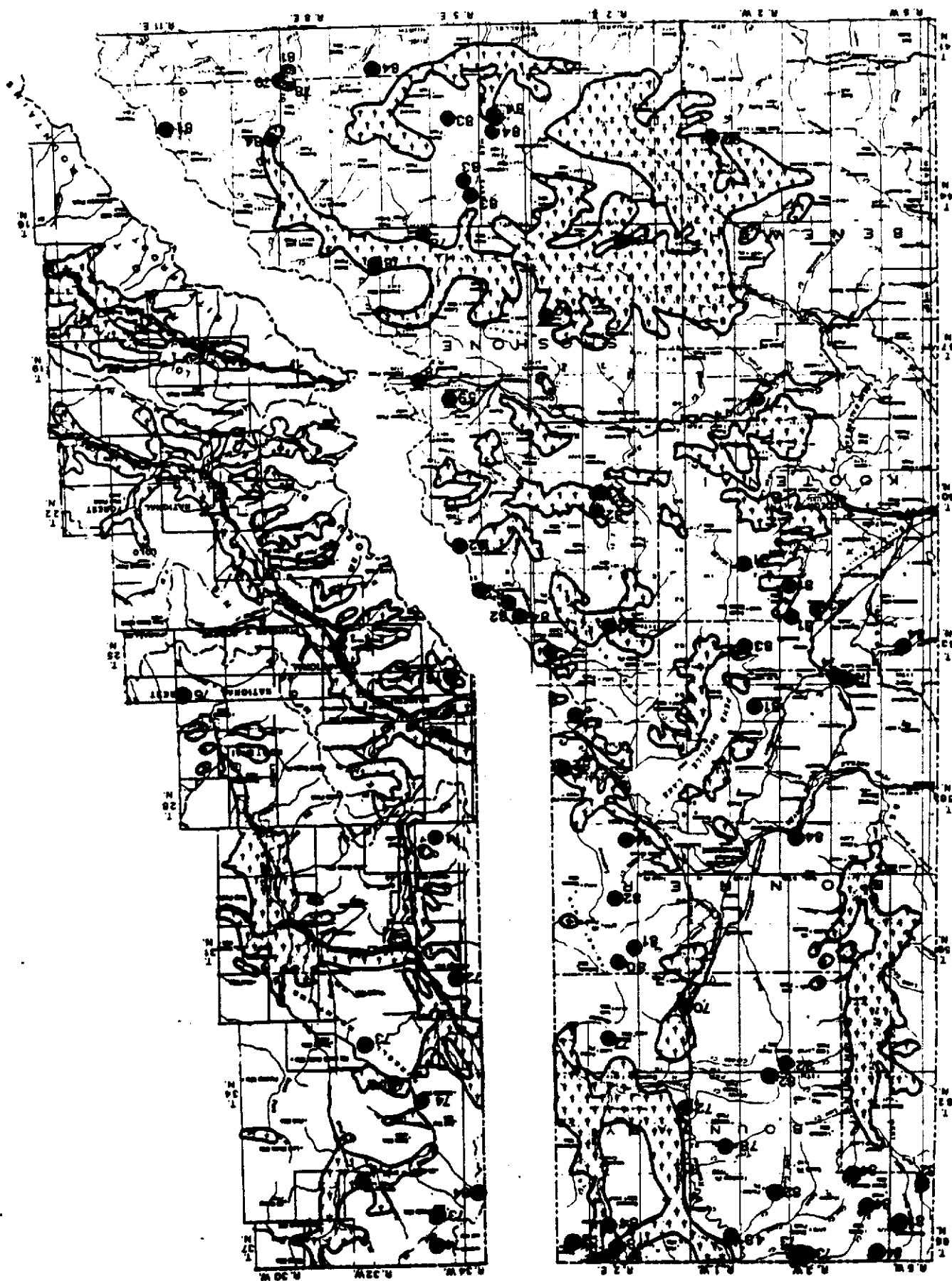
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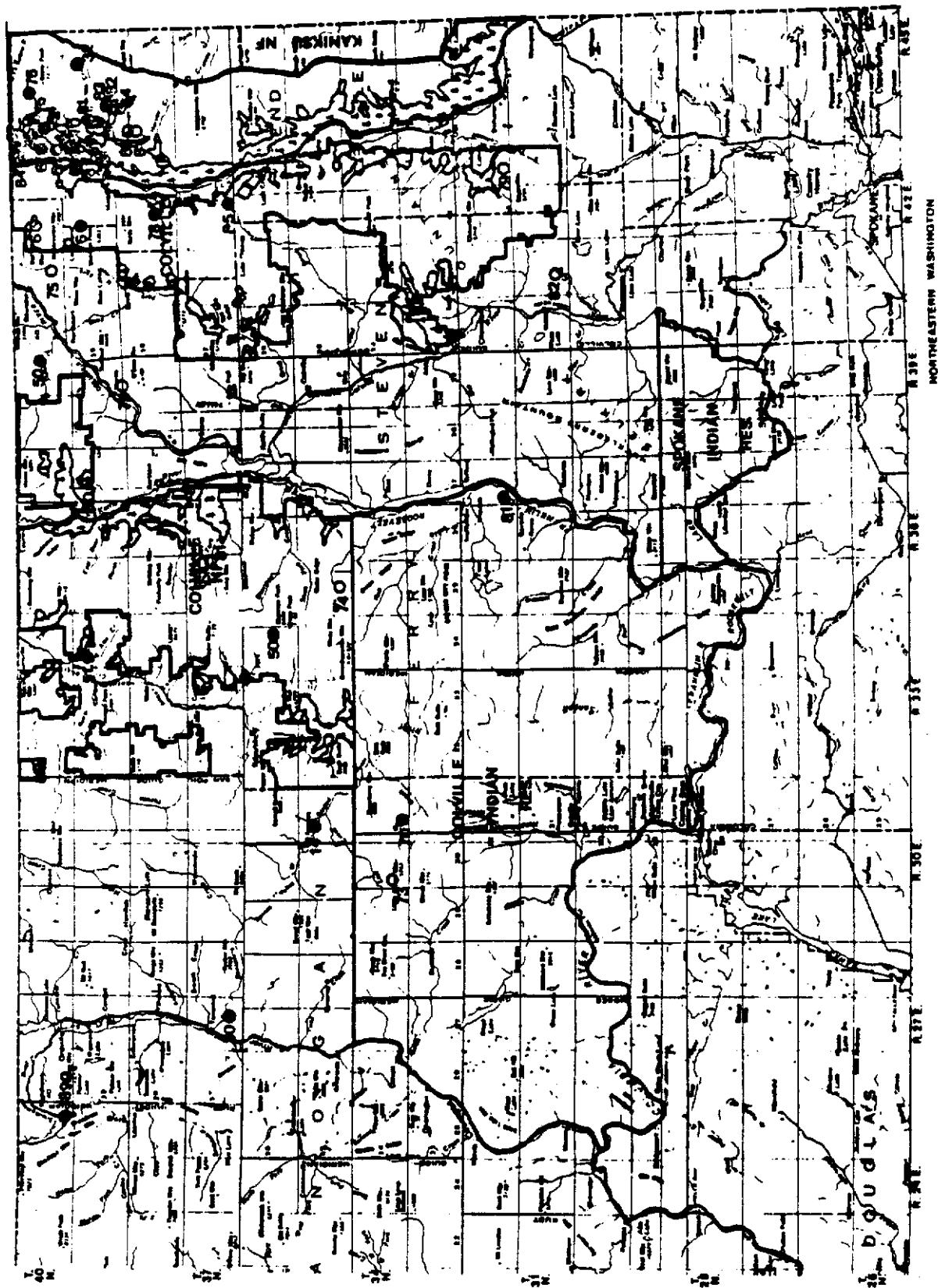




UNGLATE WINTER RANGE







WOLF REPORTS BY YEAR

● PROBABLE

○ POSSIBLE

UNCLIMATE WINTER RANGE



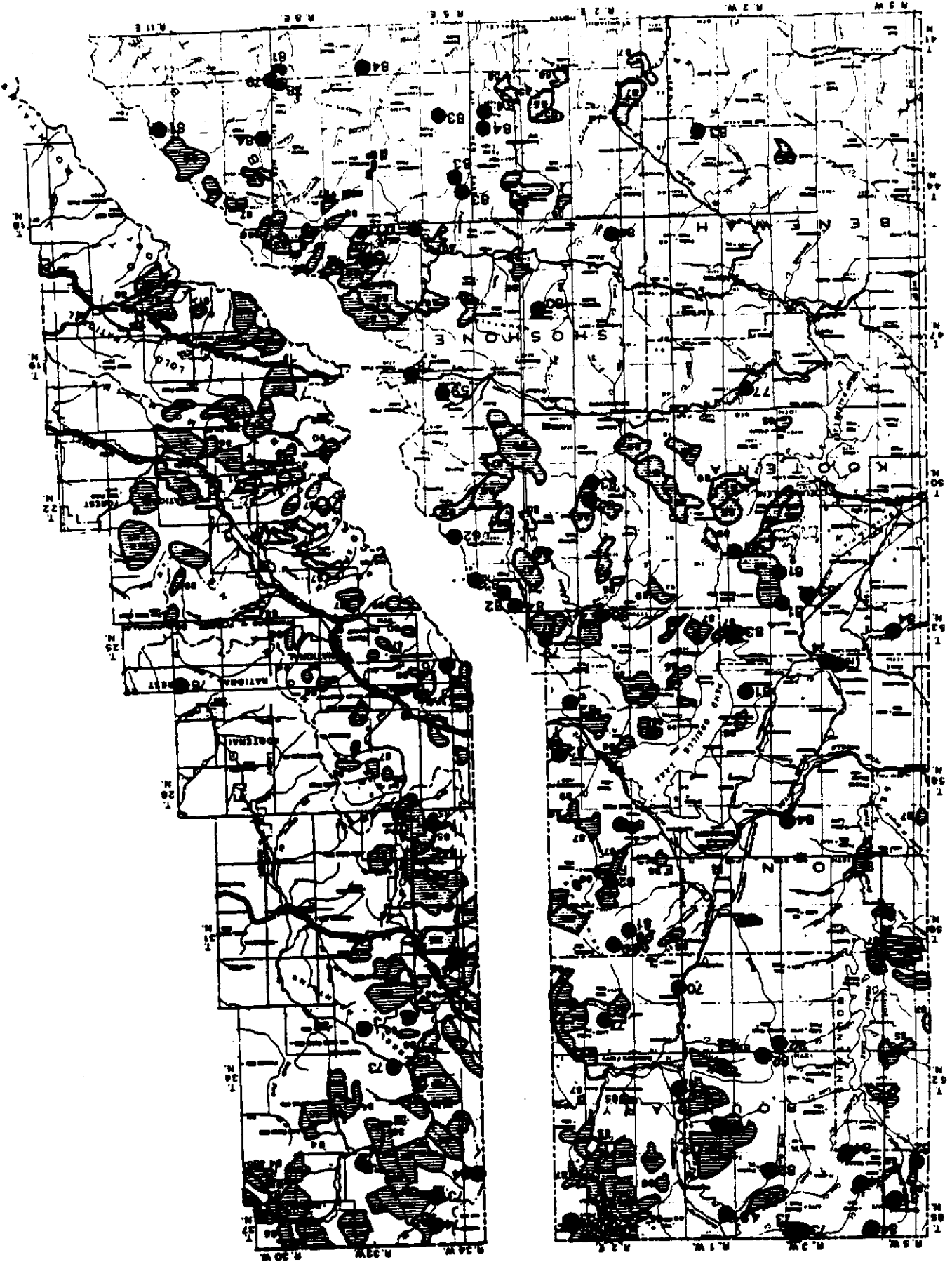
IDAHO PANHANDLE AND N.W. MONTANA

WOLF REPORTS BY YEAR

PROBABLE

TIMBER SALES

Fig. 11

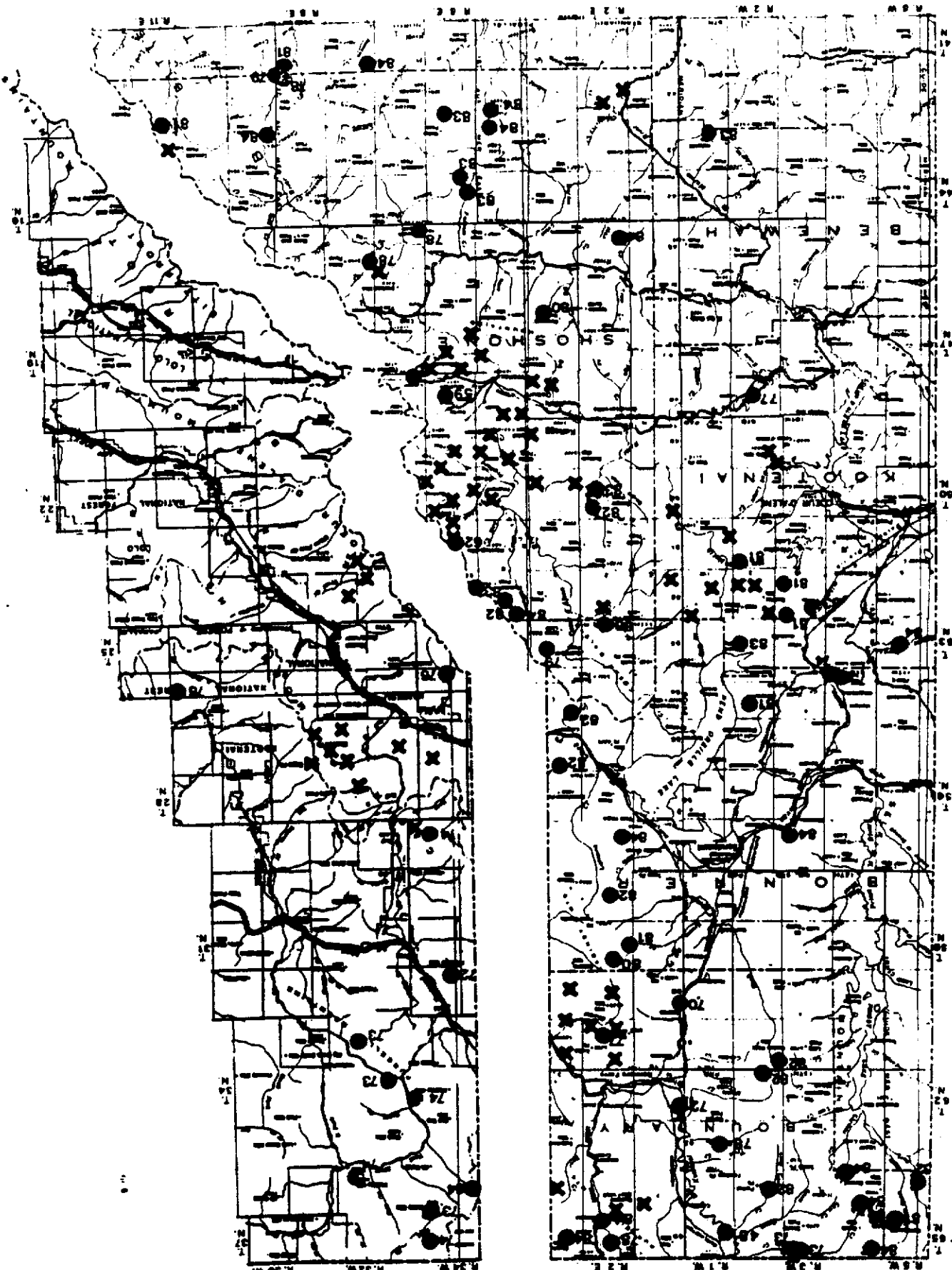




IDAHO PANHANDLE AND N.W. MONTANA

WOLF REPORTS BY YEAR

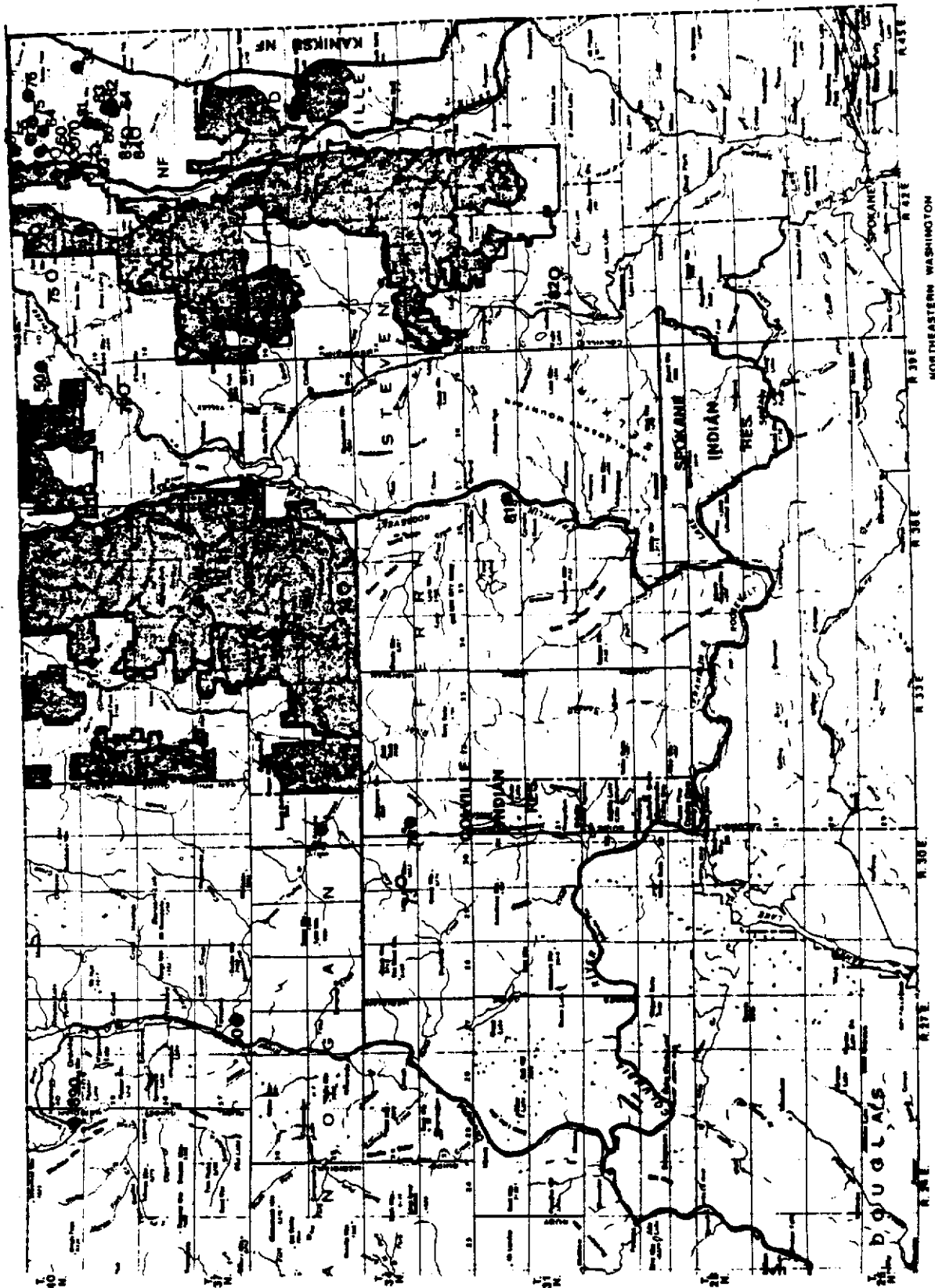
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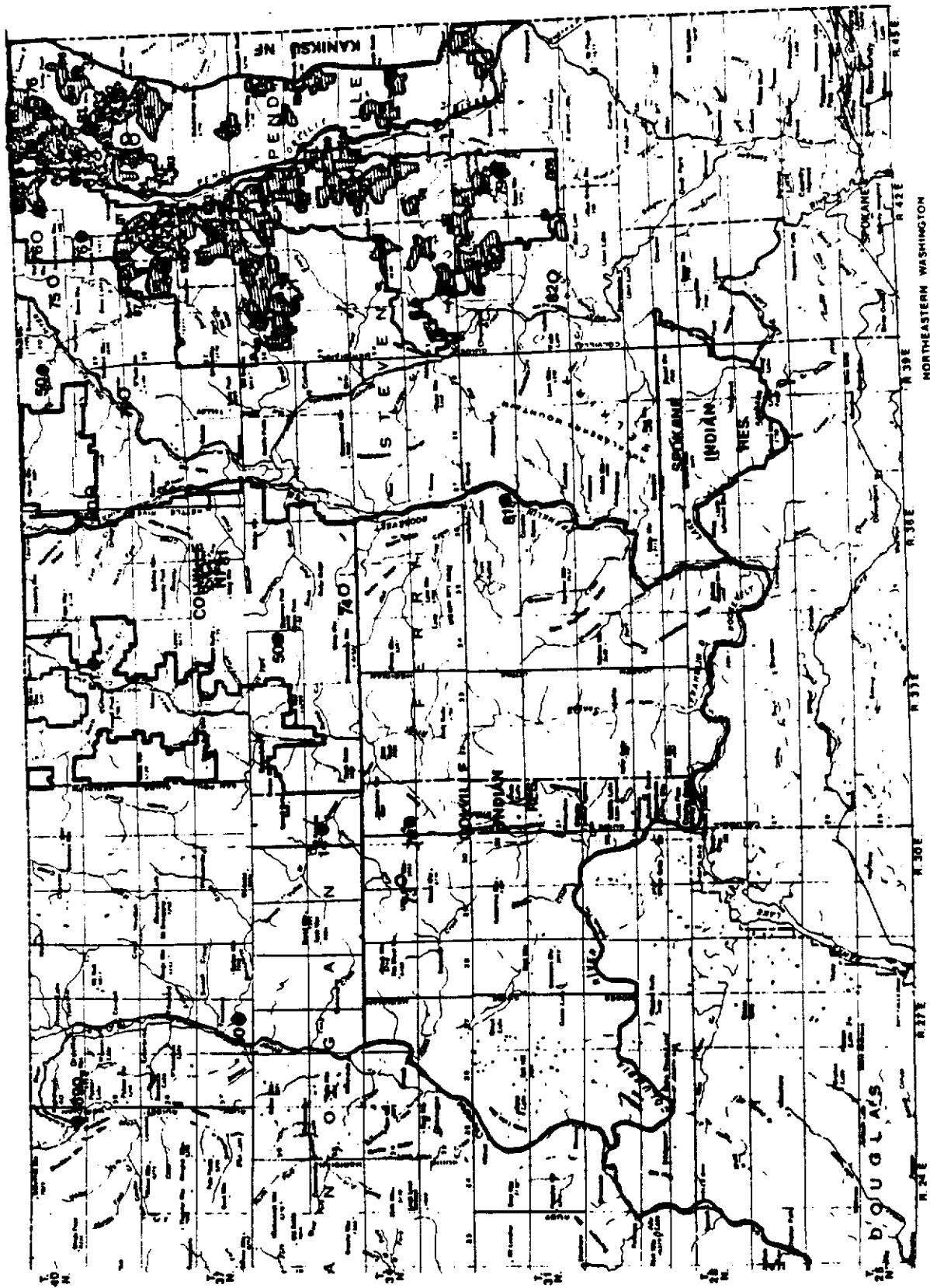
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LIVESTOCK ALLOTMENTS

Fig. 14





WOLF REPORTS BY YEAR

● PROBABLE

○ POSSIBLE



TIMBER SALES (1911)



Fig. 15



British Columbia in the past few years, Mattson and Ream, 1980 (Figure 8). Wolf movements along the Yask River, through northwestern Montana, and eventually into Idaho is possible. Whether wolves could be expected to move from the Flathead River drainage into Idaho is unknown. If some dispersal did occur, movements would more likely occur on the Canadian side of the border. Wolves moving southwest toward Idaho from the Montana portion of the Flathead River would encounter much human activity. Potential for human cause wolf mortality would be high.

Because of its relative remoteness, the Idaho/Montana border is believed to provide the best route for any wolves moving from Canadian border, south, with "best" meaning "least likely to encounter human activity". The term "dispersal corridor" connotes a picture of a gray wolf tightropeing his way down the border area. Obviously this is not the case. Although several probable reports are distributed along the border area (Figure 6), many are not. An examination of probable and possible reports together reveals no specific pattern, as reports are spread across the forest.

It is not so much that wolves move down the border area as that we hope they do. The few wolves that are believed to trickle into northern Idaho apparently wander randomly across the Panhandle.



Some may end up close to human settlements while others travel through less populated areas such as the Idaho/Montana border. Wolves may be selectively forced into more remote areas by human pressure. It is wolves in the latter category which may have the best chance of reaching the Central Idaho Recovery Area. Hence, the importance of the Idaho/Montana border area.

Several factors are believed to work against wolves in northern Idaho and subsequently against wolf recovery in central Idaho via natural recolonization. One factor is the distance involved between viable wolf populations in Canada and the Central Idaho Recovery Area. After flying over northern Idaho, U.S. Fish and Wildlife Service Wolf biologist Steve Fritts (pers. comm.) wrote "I think that the greatest difficulty in wolves making it to central Idaho is the sheer distance involved. I can see how that factor combined with low wolf densities north of the Canadian border (and perhaps rough terrain) make the probability of reaching central Idaho very low". From the Idaho border, the closest viable Canadian wolf population is approximately 150 to 200 miles north (Figure 8). Conversely, the designated Central Idaho Wolf Recovery area is located 150 miles south of the border. Hence, 300 to 350 airline miles



separate viable Canadian wolf populations and the Central Idaho Area.

The longest wolf dispersal on record is that of a male which traveled 670 km (428 miles) in western Canada (Van Camp and Gluckie 1979). The second longest dispersal recorded was that of a male wolf in northwestern Minnesota, which traveled 390 km (242 miles) (Fritts and Mech 1981).

Terrain where these record dispersals occurred was considerably less rugged than topography in northern Idaho and southeastern British Columbia, where movements could be hampered by snow depths and east-west running mountain ranges.

Most wolf dispersal distances are much shorter than the two records mentioned before. Peterson et. al. (1984) found that dispersing wolves on the Kenai Peninsula of Alaska rapidly colonize vacant territory. For natural recolonization of wolves in Idaho to become a reality, it would seem a distinct southern shift in wolf populations in southeastern British Columbia, closer to the Idaho border would have to occur.

Peterson et. al. (1984) found that the annual survival rate for dispersing wolves was only 0.38 compared to 0.73 for resident wolves. Being more

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vulnerable in unfamiliar surroundings, a large proportion of dispersers were killed by humans.

The DNRMW Recovery Plan (1985) states that "although maintenance and improvement of suitable habitat may be the key long-term factor in wolf conservation, an important factor limiting wolf recovery in the northern Rocky Mountains is human-induced mortality". Human caused mortality has had a major impact on wolves in many areas. Following legal protection of wolves, the percent mortality caused by humans was 42 percent in northeastern Minnesota (Mech 1977), 33-50 percent in northwestern Minnesota (Fritts and Mech 1981), 76 percent in northcentral Minnesota (Berg and Kuehn 1982) and 78 percent in the Minnesota/Wisconsin border area (D. Thiel, pers. comm.).

People's attitudes about wolves vary across northern Idaho. An individual from the 1984-85 trapper questionnaire wrote "Sure there are a few wolves in Idaho. But as quick as they drift in, they are shot. You will never be able to get any information on them because these people keep their mouths shut. Why don't we forget them and let them fade into the sunset."

A dairy farmer (since 1951) from near Spirit Lake was contacted during the 1984-85 elk hunter survey. He believed a few wolves occasionally occurred in the



area. He mentioned that he never worried about wolves and felt coyotes were more of a problem because they were more domesticated.

Much of the Panhandle National Forests is heavily roaded due to past land use activities. More roads will be built in the future. Thiel (1985) examined the relationship between rural road systems and wolf vulnerability in Wisconsin. As road densities exceeded 0.94 miles/square mile of habitat, wolf populations declined from breeding to non-breeding and finally to absent. Increasing road densities in areas occupied by wolves can be translated as meaning increased chances of human caused wolf mortality.

The wolf has been maligned and misunderstood by people through the years. Many still have a tendency to shoot at them when given a chance. Some wolves travel on secondary roads (if plowed in winter) even though the probability of harmful contact with humans is increased considerably (Fritts and Mech 1981).

There is some evidence to suggest that male wolves disperse more often than female wolves (Mech 1970, Ballard et. al. 1981). Peterson et. al. (1984) found no statistical difference between male and female dispersers. However, there was a tendency for females to disperse a shorter distance than males. Of nine wolves killed in Idaho, Montana, Northeast



Washington and Oregon since 1941 (Kaminski and Hansen 1984) all have been males. If this can be considered a representative sample of wolves inhabiting Idaho, it is easy to see that reproductive potential is not high.

Coming up with an estimate of the present number of wolves now inhabiting northern Idaho and northeastern Washington is difficult. A total of 41 probable wolf reports have been collected from northern Idaho since 1980. However, actual confirmation of reports is difficult based on the distribution of private land and hence presence of domestic dogs across the panhandle. At least two places are known to raise wolf-dog crosses in the area. From a distance, coyotes, large domestic dogs, and wolves are difficult to distinguish between to the untrained (and sometimes the trained) eye. Some of the reports certainly may be of the same animal. Based on the experience and reliability of many individuals reporting wolves the presence of a handful of wolves across northern Idaho and northeastern Washington can not be discounted. For instance, of ten individuals contacted during the outfitter and guide survey, seven reported wolves or their sign in Idaho and one reported similar activity in northeastern Washington.

At the same time, no sign of wolves was turned up during field work conducted in northern Idaho and



northeastern Washington during the winter of 1984-85. Admittedly, it was impossible to cover more than a small portion of the total area available to wolves. Based on data at hand, five to seven wolves are believed to inhabit northern Idaho at this time. However, no pack activity has been observed.

The future of wolves in northern Idaho and consequently the central Idaho Wolf Recovery Area is unknown at this time. The agency review draft revised Northern Rocky Mountain Wolf Recovery Plan (1985) states that "the probability of recovery through natural recruitment is moderate in Idaho". Based on the large number of factors which are believed to work against wolves in northern Idaho, I feel this statement is overly optimistic (Figure 16). Rather it would seem to probability of recovery through natural recruitment is low at this time. For natural recolonization of wolves to become a reality, a conscientious effort will need to be made by all agencies involved with wolf recovery. Secure areas for wolves must be maintained and even increased in some areas (i.e. along the Idaho/Montana border) by road closures. Factual information on wolves and wolf recovery must be made available to the public. Law enforcement efforts must be stepped up with harsh penalties for those unlawfully shooting wolves.



DISPERSAL IN FALL BY
YEARLING WOLVES COMMON.

IN ALASKA, ANNUAL SURVIVAL
RATE FOR DISPERSING WOLVES WAS
0.38 COMPARED TO 0.73 FOR
RESIDENT WOLVES.

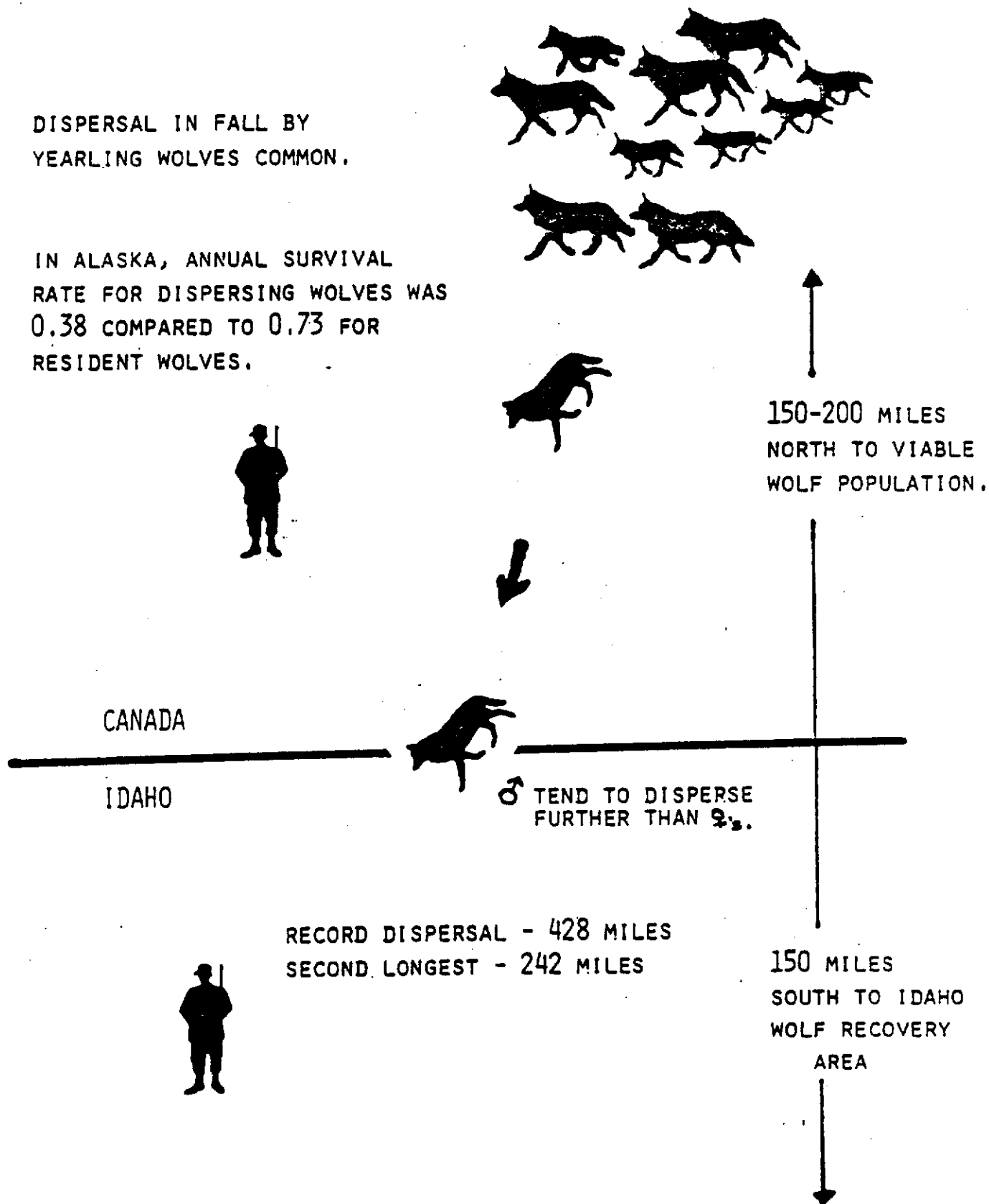


Fig. 16. Distance involved and human caused mortality combine to limit chances of natural recolonization.



Conclusions drawn in this report may be disputed by some. Certainly, the rating of reports and conclusions drawn from these reports involves varying levels of subjectivity. However, it will hopefully add another needed piece of information to that already accumulated on gray wolves in the northern Rocky Mountains.

IV. Management Recommendations

An identified task in the agency review draft revised Northern Rocky Mountain Wolf Recovery Plan (1985) is to delineate movement corridors between Canada and Idaho. The Recovery Plan also states that "management to maintain the essential qualities of such areas should be encouraged".

Although not all wolves can be expected to travel down the Idaho/Montana border, those that do can be expected to have the best chance to survive. Careful management of the Idaho/Montana border is imperative if wolf recovery through natural recolonization is to occur. The most important management tool will be road closures, followed with enforcement.

The IPNF should also make a conscientious effort to close unneeded roads across the forest following timber sales or other land use activities. The CNF should follow this policy in northeastern Washington.



Kaminski and Hansen (1984) developed recommendations for wolf management in the central Idaho Wolf Recovery Area. Many of those recommendations are applicable to northern Idaho and northeastern Washington. Some of those recommendations follow with some variations.

1. Roadless or near roadless management should be emphasized in remaining contiguous blocks of habitat in northern Idaho and northeastern Washington to minimize the potential for human caused wolf mortality. Dispersing wolves will become resident wolves of northern Idaho for various amounts of time and need secure areas with minimum exposure to humans.
2. Open roads should not exceed one mile/square mile habitat, and seasonal or year-long road closures enforced. This would apply mainly to the Idaho/Montana border area, southern Selkirks and the Little North Fork of the Clearwater River drainage. The border area would include the Bitterroot Divide and associated drainages to the west.
3. The IPNF and CNF should take steps to protect the welfare of the wolf's principal prey base (ungulates). Logging activity should be avoided within a one mile (1.6 km) radius of traditional ungulate calving/fawning or nursery areas from 15 May to 15 July. Logging activity should be avoided near traditional ungulate migration routes and staging areas after 15 September. A 100-300 foot



(31-93 m) buffer should be maintained between cutting and/or roads near riparian areas in drainage bottoms and meadow complexes. Buffers should be 300 feet (93 m) where elevational differences increase the line of site.

Shapes of cutting units should be irregular to reduce sight distances. Cutting units should not adjoin meadow complexes. If possible, roads should be layed out in a manner to reduce sight distances.

4. The IPNF and CNF should be prepared to change or postpone land use activities in an area should highly probable reports of wolf reproductive activity be received. This could be in the form of den sites or rendezvous sites. Rendezvous sites are pup rearing areas and are most often associated with meadow complexes, similar to those used for elk calving/nursery areas.
5. Potential conflict between wolves and livestock allotments is not believed high at this time. In order to further reduce conflict potential, permittees should be encouraged to burn or otherwise destroy livestock carcasses to avoid potential habituation of wolves to livestock carrion as food. Emphasis is on those allotments which were pointed out previously as having the most potential for conflict with gray wolves. Encourage permittees through I&E to follow husbandry and breeding programs that do not result in cows calving on these allotments during summer grazing periods.



Livestock grazing should not occur on ungulate winter range during 15 December through 15 April, to reduce any potential for wolf depredations on livestock during a period when native prey and, potentially, wolves are present. Livestock grazing should not occur in traditional ungulate calving/nursery areas during 15 May through 15 July for the same reason as above.

6. The IPNF should promote a public understanding of wolf ecology and the nature of conflict with people through an information and education effort across the forest. The CNF should do likewise in the northeast portion of that forest. Temporary/seasonal employees should be educated about wolves, habitat and prey needs, and wolf characteristics. All individuals associated with land use activities across the forest should be made aware of the possible presence of wolves, their protected status, and the role that the IPNF and CNF play in the recovery of the gray wolf in central Idaho.

