

Wolf Management Report and Plan, Game Management Units 14A and 14B:

Report Period 1 July 2010–30 June 2015, and
Plan Period 1 July 2015–30 June 2020

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Species management reports and plans provide information about species that are hunted or trapped and management actions, goals, recommendations for those species, and plans for data collection. Detailed information is prepared for each species every 5 years by the area management biologist for game management units in their area, who also develops a plan for data collection and species management for the next 5 years. This type of report is not produced for species that are not managed for hunting or trapping or for areas where there is no current or anticipated activity. Unit reports are reviewed and approved for publication by regional management coordinators and are available to the public via the Alaska Department of Fish and Game's website.

This species management report and plan was reviewed and approved for publication by Todd A. Rinaldi, Region IV Management Coordinator for the Division of Wildlife Conservation, Palmer.

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Contents

Purpose of this Report.....	1
I. RY10–RY14 Management Report	1
Management Area.....	1
Summary of Status, Trend, Management Activities, and History of Wolves in Units 14A and 14B	3
Management Direction.....	3
Existing Wildlife Management Plans	3
Goals	4
Codified Objectives	4
Amounts Reasonably Necessary for Subsistence Uses.....	4
Intensive Management	4
Management Objectives	4
Management Activities	4
1. Population Status and Trend	4
2. Mortality–Harvest Monitoring and Regulations	5
3. Habitat Assessment–Enhancement	6
Nonregulatory Management Problems or Needs	9
Data Recording and Archiving	9
Agreements	9
Permitting.....	9
Conclusions and Management Recommendations	9
II. Project Review and RY15–RY19 Plan	9
Review of Management Direction	9
Management Direction	9
Goals	10
Codified Objectives	10
Amounts Reasonably Necessary for Subsistence Uses.....	10
Intensive Management	10
Management Objectives	10
Review of Management Activities.....	10
1. Population Status and Trend	10
2. Mortality–Harvest Monitoring.....	11
3. Habitat Assessment–Enhancement	11
Nonregulatory Management Problems or Needs	12
Data Recording and Archiving	12
Agreements	12
Permitting.....	12
References Cited	12

List of Figures

Figure 1. Map showing the boundaries of Units 14A and 14B, Southcentral Alaska.2

List of Tables

Table 1. Units 14A and 14B fall (pretrapping season) wolf population estimates, Southcentral Alaska, regulatory years ^a 2001–2010.	5
Table 2. Units 14A and 14B wolf harvest, Southcentral Alaska, regulatory years ^a 2010–2014.	7
Table 3. Units 14A and 14B wolf harvest chronology by percent of annual harvest, Southcentral Alaska, regulatory years ^a 2010–2014.	7
Table 4. Units 14A and 14B wolf harvest percent by transport method, Southcentral Alaska, regulatory years ^a 2010–2014.	8



Purpose of this Report

This report provides a record of survey and inventory management activities for wolf (*Canis lupus*) in Units 14A and 14B for the previous 5 regulatory years (RY; RY10–RY14) and plans for survey and inventory management activities in the 5 years following the end of that period (RY15–RY19). A regulatory year begins 1 July and ends 30 June (e.g., RY10 = 1 July 2010–30 June 2011). This report is produced primarily to provide agency staff with data and analysis to help guide and record its own efforts but is also provided to the public to inform them of wildlife management activities. In 2016 the Alaska Department of Fish and Game’s (ADF&G) Division of Wildlife Conservation (DWC) launched this 5-year report to more efficiently report on trends and describe potential changes in data collection activities over the next 5 years. It replaces the wolf management reports of survey and inventory activities that were previously produced every 3 years and supersedes the 1976 draft Alaska wildlife management plans (ADF&G 1976).

I. RY10–RY14 Management Report

Management Area

Unit 14A is located in Southcentral Alaska, north of Anchorage. The total area of Unit 14A is 2,685 mi² and consists of all land from the east bank of the Susitna River beginning at the mouth at Cook Inlet heading north to the mouth of Willow Creek then south of the north bank of Willow and Peters Creek to the headwaters, and south of the hydrologic divide separating the Susitna River and the Knik Arm drainages to the outlet creek at Lake 4408, then southeast in a straight line to the northern most fork of the Chickaloon River then south along the east bank of the Chickaloon River to the bridge on the Glenn Highway at milepost 77.7, then following the hydrologic divide separating Carbon and Coal creeks to the hydrologic divide between the waters of the Matanuska River and the Knik Glacier across the face of the glacier south to the south bank of the Knik River to Cook Inlet, following Cook Inlet to the mouth of the Susitna River (Figure 1).

Unit 14B covers approximately 2,512 mi² of the Talkeetna Mountains. It consists of all land east of the Susitna River to its confluence with the Talkeetna River south and west to its headwaters, and north of the north bank of Willow Creek and Peters Creek to the headwaters, and the hydrologic divide separating the Susitna River and the Knik Arm drainages to the outlet creek at Lake 4408 (Figure 1). Much of the area is above timberline or is heavily forested with birch (*Betula* spp.), aspen (*Populus* spp.), and spruce (*Picea* spp.). Several of the large river valleys contain important wintering habitat for moose (*Alces alces*).

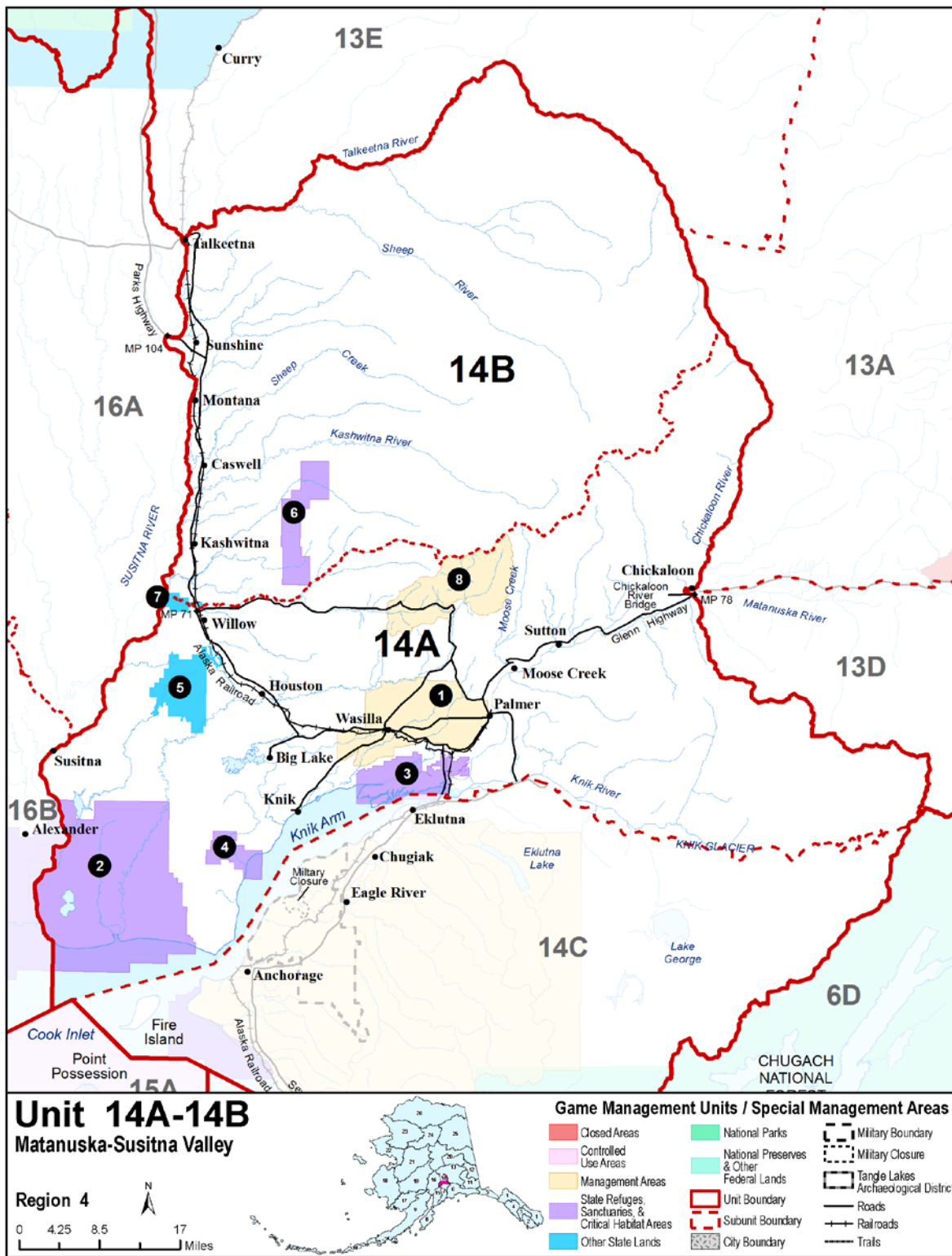


Figure 1. Map showing the boundaries of Units 14A and 14B, Southcentral Alaska.

Summary of Status, Trend, Management Activities, and History of Wolves in Units 14A and 14B

Wolf numbers in Unit 14 were likely kept relatively low in the 1950s and early 1960s, primarily due to predator control efforts by the federal government (Rausch 1967). Wolf populations increased during the late 1960s and early 1970s after the end of predator control activities and bounty payments. However, wolf numbers remained low in the Matanuska–Susitna region near human settlements through the 1970s. Additional increases in human population in this area and associated increases in hunting and trapping pressure further reduced wolf numbers until the mid- to late 1980s. During the early 1990s wolf populations increased, in part because of high prey densities. Excessive winter moose mortality, caused by deep snows during the winters of 1989–1990 and 1994–1995, reduced many of the local moose populations and in Unit 14B at least, the wolves in the area may have prevented the moose populations from rebounding. The reported harvest had also increased, coincident with high wolf densities. Recently wolf harvests have declined somewhat but this is probably due to a decrease in trapping effort and not associated with wolf numbers. Several factors determine the amount of trapping pressure wolves receive including the cost of fuel and the price of wolf pelts.

During November and December 1998 trappers caught several wolves (and coyotes [*Canis latrans*]) in Unit 14B that were infested with the dog-biting louse, *Trichodectes canis*. This was the first time lice had been confirmed in Alaska wolves beyond the Kenai Peninsula, where louse-infested wolves were first detected in 1981. The source of the Unit 14 infestation was unknown, but we suspect interactions between feral dogs or wolf-hybrids and wild wolves. During January 1999 we mounted an effort to evaluate the extent of infestation and treat infested wolves in the Susitna Valley to prevent the spread of lice to other areas of the state. Our efforts revealed 2 packs in Unit 14B were infested, as well as 1 pack in adjacent Unit 16A. We attempted to capture and treat all members of infested packs with the antiparasitic drug ivermectin (Merck & Co., Inc., Kenilworth, New Jersey). We also distributed approximately 1,200 medicated baits, aimed at coyotes, dogs, and lone wolves. However, several louse-infested wolves were caught the following winter, indicating we were unsuccessful in eliminating lice from area wolves (Peltier 2006).

Previous versions of the Unit 14 wolf management report included all the subunits of Unit 14: 14A, 14B, and 14C. Given the differences in the management emphasis between Units 14C and Units 14A and 14B, this report will only cover Units 14A and 14B (Peltier 2012).

Management Direction

EXISTING WILDLIFE MANAGEMENT PLANS

Wolves are recognized as an integral part of the ecosystem throughout Unit 14 and are managed to provide for a wide variety of human uses and values including hunting and trapping (for personal or commercial use of hides), photography, viewing, listening, and scientific research (ADF&G 2002).

GOALS

In Units 14A and 14B the primary goal is to provide for an optimal, sustained harvest of wolves and to provide maximum opportunity to participate in hunting and trapping wolves.

CODIFIED OBJECTIVES

None.

Amounts Reasonably Necessary for Subsistence Uses

None.

Intensive Management

Not applicable.

MANAGEMENT OBJECTIVES

The population objective is to maintain a minimum population of 35 wolves in Units 14A and 14B combined. The human-use objective is to allow harvest by hunting and trapping, provided harvest does not conflict with maintaining the population objective. Because wolves are a significant predator on moose, a secondary objective is to keep the wolf population in check thereby reducing the wolves' impact on the moose populations in Units 14A and 14B.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Estimate the spring (pre-pupping–posttrapping) wolf population using incidental staff and pilot observations, anecdotal public reports, and harvest data and sealing records.

Data Needs

Estimates of the wolf population in Unit 14 are necessary to ensure that minimum population objectives are being met and can lead to a better understanding of predator–prey dynamics.

Methods

Reports of wolves were collected from pilots, trappers, and others on an annual basis. This information was supplemented with reports of wolves or wolf tracks observed during moose surveys in the fall.

Results and Discussion

The wolf estimate for RY10 was 131–159 in 14–15 packs (Table 1). The harvest of wolves and the trapping effort beyond 2010 was reduced to the point that further population estimation with any degree of certainty could not be accomplished. Based on this assessment and using the total area of Units 14A and 14B as 5,197 mi², the population density for the area would be 25–31 wolves/1,000 mi² or 10–12 wolves/1,000 km².

Table 1. Units 14A and 14B fall (pretrapping season) wolf population estimates, Southcentral Alaska, regulatory years^a 2001–2010.

Regulatory year	Population estimate	Packs	Basis of estimate
2001	105–106	12–14	Reports from trappers, staff, public
2002	89–94	12–14	Reports from trappers, staff, public
2003	75–96	12–14	Reports from trappers, staff, public
2004	120–148	13–16	Reports from trappers, staff, public
2005	105–135	14–17	Reports from trappers, staff, public
2006	148–184	14–16	Reports from trappers, staff, public
2007	141–174	15–17	Reports from trappers, staff, public
2008	142–162	15–16	Reports from trappers, staff, public
2009	134–156	13–14	Reports from trappers, staff, public
2010	131–159	14–15	Reports from trappers, staff, public

^a A regulatory year begins 1 July and ends 30 June, e.g., regulatory year 2001 = 1 July 2001–30 June 2002.

Recommendations for Activity 1.1

Continue this activity once a precise or viable baseline population estimate has been established (see activity 1.2 in the planning section below).

2. Mortality–Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor hunter and trapper harvest trends through sealing records.

Data Needs

Fur sealing data from the databases accessible through ADF&G’s Wildlife Information Network (WinfoNet) are needed annually to assess trends in the harvest. Harvest location, pack size, and hunter–trapper effort are critical elements needed to assess harvest trends and corroborate aerial survey observations in order to ensure that the population is not being harvested in excess of sustained yield.

Methods

All wolves harvested through hunting or trapping activity are required to be submitted to ADF&G for sealing. Information recorded at the time of sealing includes month and year of kill, name of harvester, location of kill, methods of take and transportation, sex, color, and the number of other wolves believed to be in the pack.

Season and Bag Limit

Unit and bag limits	Resident open seasons	Nonresident open seasons
<i>Unit 14A</i>		
Hunting: 5 wolves.	10 Aug–30 Apr	10 Aug–30 Apr
Trapping: No limit.	10 Nov–31 Mar	10 Nov–31 Mar
<i>Unit 14B</i>		
Hunting: 5 wolves.	10 Aug–30 Apr	10 Aug–30 Apr
Trapping: No limit.	10 Nov–30 Apr	10 Nov–30 Apr

Results and Discussion

Harvest by Hunters and Trappers

Hunters and trappers reported harvesting between 1 and 7 wolves annually during the reporting period (Table 2). The average for the period was 3.2 wolves annually versus 9.8 annually for the previous 5-year period (Peltier 2012). The majority of the harvest comes from Unit 14A which has large areas open to hunting and trapping with good access.

Harvest Chronology

The small harvest in the past few years makes the effect of the timing look large and varied (Table 3). Harvest chronology coincides with method of take in that wolves taken by snare or trap are taken during the trapping season of November through March or April. Wolves that were shot were typically incidentally taken during the fall moose hunting season.

Transport Methods

Most successful hunters and trappers routinely use snowmachines or all-terrain vehicles to harvest wolves (Table 4).

Recommendations for Activity 2.1

Continue.

3. Habitat Assessment–Enhancement

None.

Table 2. Units 14A and 14B wolf harvest, Southcentral Alaska, regulatory years^a 2010–2014.

Regulatory year	Reported harvest				Method of take				Successful trapper–hunters
	M	F	Unk	Total	Shot	Trap	Snare	Unk	
<i>Unit 14A</i>									
2010	2	5	0	7	2	1	4	0	5
2011	0	0	1	1	1	0	0	0	1
2012	1	2	0	3	0	2	1	0	2
2013	1	2	0	3	0	2	1	0	3
2014	1	0	0	1	1	0	0	0	1
<i>Unit 14B</i>									
2010	0	2	0	2	1	1	0	0	2
2011	2	1	0	3	3	0	0	0	1
2012	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0

^a A regulatory year begins 1 July and ends 30 June, e.g., regulatory year 2010 = 1 July 2010–30 June 2011.

Table 3. Units 14A and 14B wolf harvest chronology by percent of annual harvest, Southcentral Alaska, regulatory years^a 2010–2014.

Regulatory year	Harvest chronology by percent ^b							
	Aug–Oct	Nov	Dec	Jan	Feb	Mar	Apr	<i>n</i>
2010	33	0	11	0	56	0	0	9
2011	25	0	0	0	25	50	0	4
2012	0	33	67	0	0	0	0	3
2013	0	0	33	67	0	0	0	3
2014	100	0	0	0	0	0	0	1

^a A regulatory year begins 1 July and ends 30 June, e.g., regulatory year 2010 = 1 July 2010–30 June 2011.

^b Includes one or more unknown dates of kill. Percentages add up to less than 100% in those instances.

Table 4. Units 14A and 14B wolf harvest percent by transport method, Southcentral Alaska, regulatory years^a 2010–2014.

Regulatory year	Harvest percent by transport method									<i>n</i>
	Airplane	Dog sled	Boat	ATV ^b	Snowmachine	ORV ^c	Highway vehicle	Snowshoes	Unk	
2010	0	0	0	22	67	11	0	0	0	9
2011	0	0	0	25	75	0	0	0	0	4
2012	0	0	0	33	0	67	0	0	0	3
2013	0	0	0	0	33	0	0	67	0	3
2014	0	0	0	100	0	0	0	0	0	1

^a A regulatory year begins 1 July and ends 30 June, e.g., regulatory year 2010 = 1 July 2010–30 June 2011.

^b ATV = all-terrain vehicle.

^c ORV = off-road vehicle.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Harvest data and copies of sealing forms are stored on an internal database housed on a server (<http://winfonet.alaska.gov/index.cfm>).
- Field data sheets are scanned and housed on the network server in the Palmer Area Biologist office (O:\WC\Palmer Area Office Folder\Species\Furbearer\Wolf\Scanned Archive Files) and stored in file folders located in the Palmer Assistant Area Biologist's office.

Agreements

None.

Permitting

None.

Conclusions and Management Recommendations

Very little is known about the status of wolves in Units 14A and 14B. The lack of active trapping in the area means that little information can be gleaned from the few reports that are submitted. It also suggests that the population may be unchecked; however recent moose surveys indicate an increase in the moose population which demonstrates that there is little impact of wolves on their primary prey. Therefore, it is reasonable to conclude that the population is not increasing.

Without current survey information the wolf population size can only be surmised. Surveys should be conducted every 3 years to assess wolf numbers. Minimum pack sizes can best be determined by simple reconnaissance flights when tracking conditions are best, using 2–3 aircraft during a short period between January and March. This will require additional funding and some technical staff time every 3 years. This baseline information can then inform the current methodology (observations by staff, trappers, and the public) and should suffice for distribution information.

II. Project Review and RY15–RY19 Plan

Review of Management Direction

MANAGEMENT DIRECTION

The existing management direction and goals appropriately direct management of wolves in Units 14A and 14B. The management direction for these units ensures that wolves persist as part of the natural landscape and ensures continued hunting, trapping, and viewing opportunities. There is no indication that the long-term sustainability of the wolf population or that statewide goals (ADF&G 2002) for human uses cannot be met; therefore, the management direction should

continue to be that wolves will be managed in a manner that complements the statewide wolf management goals. There are no area-specific issues in either Unit 14A or Unit 14B that require a departure from the statewide goals for wolf management.

GOALS

In Units 14A and 14B the primary goal is to provide for an optimal, sustained harvest of wolves and to provide maximum opportunity to participate in hunting and trapping wolves.

CODIFIED OBJECTIVES

None.

Amounts Reasonably Necessary for Subsistence Uses

None.

Intensive Management

Not applicable.

MANAGEMENT OBJECTIVES

The population objective is to maintain a minimum population of 35 wolves in Units 14A and 14B combined. The human-use objective in Units 14A and 14B is to allow harvest by hunting and trapping, provided harvest does not conflict with maintaining the population objective. As wolves are a significant predator on moose, a secondary objective is to keep the wolf population in check thereby reducing the wolves' impact on the moose populations in Units 14A and 14B as well as caribou (*Rangifer tarandus*) in Unit 14B.

Review of Management Activities

1. Population Status and Trend

ACTIVITY 1.1. Estimate the spring (pre-pupping–post-trapping) wolf population using incidental staff and pilot observations, anecdotal public reports, and harvest data and sealing records.

Data Needs

Estimates of the wolf population in Unit 14 are necessary to ensure that minimum population objectives are being met and can lead to a better understanding of predator–prey dynamics.

Methods

Reports of wolves will be collected from pilots, trappers, and others on an annual basis once a precise or viable baseline population estimate has been established. This information will be supplemented with reports of wolves or wolf tracks observed during moose surveys in the fall.

ACTIVITY 1.2. Conduct sample unit probability estimator (SUPE; Becker et al. 1998, 2004) or minimum wolf count (MWC; Gardner and Pamperin 2014) surveys to estimate wolf abundance.

Data Needs

A statistical estimate of the wolf population derived from a sample-based estimator including a measure of precision would be invaluable to detect future fluctuations in wolf density and aid in our understanding of predator–prey ratios. While minimum wolf counts do not provide density information, they are less expensive and do not require as much time or logistical planning to accomplish; and can be used to ensure that the management objective of maintaining a population of at least 35 wolves has been met.

Methods

Both SUPE and MWC survey methodologies use aerial enumeration of packs and individual wolves to determine population size. SUPE survey assumptions are described in Becker et al. (1998, 2004) and Gardner and Pamperin (2014): 1) all wolves in the study area move and leave tracks; 2) fresh wolf tracks are not missed; 3) tracks can be followed forward and backward; 4) number of wolves in a pack are correctly enumerated; 5) no packs are double counted; 6) there is a 1:1 relationship between packs and tracks counted; and 7) the probability of observing any pack in the study area is greater than zero.

A SUPE survey is preferable to an MWC because it provides density information as well as an estimate of the total population and a measure of precision, however when conditions are not favorable for completing a SUPE, an MWC can be accomplished that will provide a minimum estimate of the population size – thus determining if the population objective has been met. An MWC does not have a range of values, confidence intervals, or well-defined statistical inference; it will be used only to evaluate the minimum wolf abundance relative to the population objectives.

2. Mortality–Harvest Monitoring

ACTIVITY 2.1. Monitor harvest through sealing records.

Data Needs

Wolf harvest data are necessary to annually assess trends in harvest, corroborate anecdotal or incidental observations, survey results, and ensure that the population is not being harvested in excess of sustained yield.

Methods

Harvested wolves will continue to be sealed, and sealing information will be entered and stored in databases accessible through WinfoNet. Sealing data will be queried and analyzed annually or more frequently as needed.

3. Habitat Assessment–Enhancement

None.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Harvest data and copies of sealing forms are stored on an internal database housed on a server (<http://winfonet.alaska.gov/index.cfm>).
- Field data sheets are scanned and housed on the network server in the Palmer Area Biologist office (O:\WC\Palmer Area Office Folder\Species\Furbearer\Wolf\Scanned Archive Files) and stored in file folders located in the Palmer Assistant Area Biologist's office.

Agreements

None.

Permitting

None.

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