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

Report Period 1 July 2015–30 June 2020, and Plan Period 1 July 2020–30 June 2025

Tim C. Peltier



2024

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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 areas, 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 public website.

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

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Purpose of this Report

This report provides a record of survey and inventory management activities for wolf in Units 14A and 14B for the 5 regulatory years 2015–2019 and plans for survey and inventory management activities in the following 5 regulatory years, 2020–2024. A regulatory year (RY) begins 1 July and ends 30 June (e.g., RY15 = 1 July 2015–30 June 2016). This report is produced primarily to provide agency staff with data and analysis to help guide and record agency efforts but is also provided to the public to inform it of wildlife management activities. In 2016 the Alaska Department of Fish and Game's (ADF&G, the department) Division of Wildlife Conservation (DWC) launched this 5-year report to report on trends more efficiently and to describe potential changes in data collection activities over the next 5 years. It replaces the wolf management report of survey and inventory activities that was previously produced every 3 years.

I. RY15–RY19 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 creeks 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 (Fig. 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 and Peters creeks to the headwaters, and the hydrologic divide separating the Susitna River and the Knik Arm drainages to the outlet creek at Lake 4408 (Fig. 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.

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

Wolf (*Canis lupus*) 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



Figure 1. A map showing Units 14A and 14B in Southcentral Alaska as shown in the Alaska Hunting Regulations. The Special Management Areas indicated with black circles are management areas, state game refuges, and critical habitat and state recreation areas.

Borough 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 the wolves in the area may have likely 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 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 DWC staff suspect interactions between feral dogs or wolf hybrids and wild wolves. During January 1999, we began 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 that 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 the infested packs with the antiparasitic drug ivermectin (Merck & Co, Inc.). 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 completely eliminating lice from area wolves (Peltier 2006). There have been no reported lousy wolves in Units 14A and 14B for at least the last decade.

Management Direction

EXISTING WILDLIFE MANAGEMENT PLANS

- Alaska Wildlife Management Plans: Alaska Wolf Management Plan (ADF&G 1976)
- ADF&G Division of Wildlife Conservation Strategic Plan (ADF&G 2002)

GOALS

In Units 14A and 14B the primary goal for wolves is to provide for optimum harvest and to provide maximum opportunity to participate in hunting and trapping wolves.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

Under hunting regulations, there is a negative customary and traditional use determination for wolf in Units 14A and 14B, so no predetermined number of wolves are necessary for subsistence uses.

As far as hunting and trapping wolves as furbearers, the Alaska Board of Game has issued a positive customary and traditional finding under 5 AAC 99.025(13) for furbearers throughout the state, with a 90% of the harvestable portion specifically allocated for subsistence use.

Intensive Management

Wolves are not under intensive management in Units 14A and 14B.

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.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Monitor population status and trend using sealing records, the annual Alaska Trapper Report, and incidental observations of tracks and animals.

Data Needs

Given that surveys of wolves have not been completed on a regular basis, sealing records and trappers' responses to an annual trapper questionnaire—compiled into the annual Alaska Trapper Report—are necessary to monitor the population in Units 14A and 14B.

Methods

Sealing information is collected within 30 days of the end of the seasons for wolves or within 30 days of the harvest of wolves taken while hunting. At the time of sealing, hunters and trappers sealing hides are asked to estimate pack numbers for the animals they have taken. This information is compiled and available to DWC staff through the division's Wildlife Information Network (WinfoNet) internal database.

DWC staff conducting moose, caribou, or sheep surveys note observations of wolves and wolf sign seen incidentally during those surveys.

In addition, feedback from local trappers as reported in the annual Alaska Trapper Report provides an indication of trends in species abundance as well as a sampling of their effort and results. To compile the trapper report, each year DWC staff send a statewide trapper questionnaire invite to people who purchased a license authorizing them to trap that year. People who respond to the invite are sent the questionnaire. The results of the questionnaire are compiled each year into the Alaska Trapper Report, which includes harvest and other metrics by region, and in some cases, by unit.

Results and Discussion

Based on the information provided, it appears that the wolf population is stable in Units 14A and 14B. There is no reason to believe that the wolf population is not being maintained at 35 wolves or is increasing appreciably in either unit.

Recommendations for Activity 1.1.

Continue.

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 they 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.

Results and Discussion

Due to time and budget constraints, this activity was not completed.

Recommendations for Activity 1.2.

Continue with modification. Since Unit 14A is in a heavily populated area, most of which wolves are not found in, a SUPE would not be a practical approach.

2. Mortality-Harvest Monitoring and Regulations

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

Data Needs

Fur sealing information is needed annually to assess trends in the furbearer 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

Hunting and trapping seasons and bag limits are set by the Board of Game (Table1). All wolves harvested through hunting or trapping 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.

Table 1. Season and bag limits, Units 14A and 14B, regulatory years 2015–2019, Southcentral Alaska.

	Regulation			
	type	Bag limits	Resident season	Nonresident season
Unit 14A	Hunting	5 wolves	10 August-30 April	10 August–30 April
	Trapping	No limit	10 November-31 March	10 November-31 March
Unit 14B	Hunting	5 wolves	10 August–30 April	10 August–30 April
	Trapping	No limit	10 November-30 April	10 November-30 April

Results and Discussion

Harvest by Hunters-Trappers

Hunters and trappers reported harvesting between zero and 11 wolves annually during the RY15–RY19 reporting period (Table 2). The average for RY15–RY19 was 6.8 wolves annually versus 4.0 annually for RY10–RY14 (Peltier 2018). The majority of the harvest comes from Unit 14A, which has large areas open to hunting and trapping with good access. Most wolves that were taken by shooting in Unit 14A were taken during the fall hunting season; that was not the case, however, in Unit 14B.

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.

		Reported harvest				Method of take				_
	Regulatory									Successful
	year	Μ	F	Unk	Total	Shot	Trap	Snare	Unk	hunters/trappers
Unit 14A	2015	0	0	0	0	0	0	0	0	0
	2016	1	2	1	4	0	4	0	0	2
	2017	4	6	0	10	6	4	0	0	6
	2018	2	0	0	2	1	1	0	0	2
	2019	1	3	0	4	0	0	4	0	2
Unit 14B	2015	0	0	0	0	0	0	0	0	0
	2016	3	1	0	4	4	0	0	0	1
	2017	1	0	0	1	0	0	1	0	1
	2018	3	1	0	4	4	0	0	0	1
	2019	2	3	0	5	4	1	0	0	3

Table 2. Reported wolf harvest, Units 14A and 14B, regulatory years 2015–2019, Southcentral Alaska.

Table 3. Wolf harvest percent chronology, Units 14A and 14B, regulatory years 2015–2019, Southcentral Alaska.

Harvest percent chronology by month									
Regulatory									
year	Aug-Oct	Nov	Dec	Jan	Feb	Mar	Apr	n	
2015	0	0	0	0	0	0	0	0	
2016	0	0	12	38	50	0	0	8	
2017	46	9	9	0	36	0	0	11	
2018	0	0	0	17	66	0	17	6	
2019	11	0	11	11	67	0	0	9	

Transport Methods

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

Table 4. Wolf harvest percent by transport method, Units 14A and 14B, regulatory years2015–2019, Southcentral Alaska.

	Harvest percent									
Regulatory	Snow- Highway Snow-									
year	Airplane	Dogsled	Boat	ATV ^a	machine	ORV ^b	vehicle	shoes	Unk	n
2015	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	100	0	0	0	0	8
2017	9	0	0	36	45	0	9	0	0	11
2018	0	17	0	0	83	0	0	0	0	6
2019	11	0	0	22	67	0	0	0	0	9

^a ATV stands for all-terrain vehicle.

^b ORV stands for off-road vehicle.

Recommendations for Activity 2.1

Continue.

3. Habitat Assessment-Enhancement

No habitat assessment or enhancement activities were conducted during RY15-RY19.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Harvest data and copies of sealing forms are stored on the WinfoNet 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

Currently there are no agreements with other agencies pertaining to wolf management.

Permitting

No permits were needed to conduct wolf management activities in Units 14A and 14B during RY15–RY19.

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 wolf population is not increasing.

Without current survey information the wolf population size can only be surmised. Surveys such as the SUPE or MWC should be conducted periodically to assess wolf numbers.

II. Project Review and RY20–RY24 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 both ensures that wolves persist as part of the natural landscape and that there are 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 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 optimum harvest of wolves and to provide maximum opportunity to participate in hunting and trapping wolves.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

Under hunting regulations, there is a negative customary and traditional use determination for wolf in Units 14A and 14B, so no predetermined number of wolves are necessary for subsistence uses.

As far as hunting and trapping wolves as furbearers, the Board of Game has issued a positive customary and traditional finding under 5 AAC 99.025(13) for furbearers throughout the state, with a 90% of the harvestable portion specifically allocated for subsistence use.

Intensive Management

Wolves are not under intensive management in Units 14A and 14B.

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.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Estimate the spring (prepupping/posttrapping) wolf population using incidental observations from pilots and DWC staff, anecdotal public reports, harvest data and sealing records, and the Alaska Trapper Report.

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) or minimum wolf count (MWC) 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 they 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, tracks, 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) the number of wolves in a pack is 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 > 0.

A SUPE survey is preferable to a 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, a MWC can be accomplished that will provide a minimum estimate of the population size, thus determining if we have met the population objective. An MWC does not have a range of values, confidence intervals, or well-defined statistical inference, and will only be used to evaluate the minimum wolf abundance relative to the population objectives. Given that Unit 14A is a heavily populated area and few wolves are ever seen within

the populated areas, an MWC of the outlying portions of the unit should be sufficient to estimate the population.

2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Monitor harvest through sealing records.

Data Needs

Wolf harvest data is 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 WinfoNet. Sealing data will be queried and analyzed annually or more frequently as needed.

3. Habitat Assessment-Enhancement

No habitat assessment or enhancement activities are planned for RY20-RY24.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Harvest data and copies of sealing forms are stored on the WinfoNet 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

Currently there are no agreements with other agencies pertaining to wolf management.

Permitting

No permits are expected during RY20-RY24.

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