Wolf Management Report and Plan, Game Management Unit 17:

Report Period 1 July 2010–30 June 2015, and

Plan Period 1 July 2015–30 June 2020

Neil L. Barten

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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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Purpose of this Report

This report provides a record of survey and inventory management activities for wolf (*Canis lupus*) in Unit 17 for the 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 report of survey and inventory activities that was 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 17 is located directly north of Bristol Bay (Figure 1). It includes the systems of the Togiak, Mulchatna, and Nushagak rivers and encompasses the area from Cape Peirce northeast to Nishlik Lake, roughly east to Turquoise Lake, then southwest to Cape Constantine, as well as Hagemeister and the Walrus Islands. Maps for Unit 17 boundaries are found at http://www.adfg.alaska.gov/index.cfm?adfg=maps.main. Unit 17 is further divided into Unit 17A dominated by the Togiak River watershed, Unit 17B associated with the upper Nushagak and upper Mulchatna River watersheds, and Unit 17C – the lower Nushagak River watershed. Ecoregions include the Bristol Bay lowlands, Kuskokwim Mountains, Wood River Mountains, Neacola Mountains, Nushagak Hills, and Stuyahok Hills (Nowacki et al. 2001).

Summary of Status, Trend, Management Activities, and History of Wolves in Unit 17

Wolves are common throughout Unit 17; however, little objective data exists on the historic or current abundance of wolves in this area. Harvest data from 1962 to the present provide some indication of wolf distribution and relative abundance but these data are not collected in a consistent manner over time. Because mandatory sealing began in 1972, reported harvests prior to that year may only represent a portion of what was actually harvested. Bounty records from RY62 to RY69 indicate annual harvest was variable from 1 to 25 wolves, with the majority of the harvest from aerial shooting. Beginning in RY73, all harvest was reported as ground shooting (due to the passing of the federal Airborne Hunting Act which prohibited aerial shooting of wolves) or trapping–snaring, with no reported aerial hunting harvests. It has been reported to department staff in Dillingham by a long-time aerial wolf hunter that aerial hunting continued to take place during these years although the sealing forms do not reflect this activity (N. L. Barten, Wildlife Biologist, ADF&G, Dillingham, personal communication). In RY74, the harvest jumped dramatically to 111, followed by 47 and 45 in RY75 and RY76 respectively.
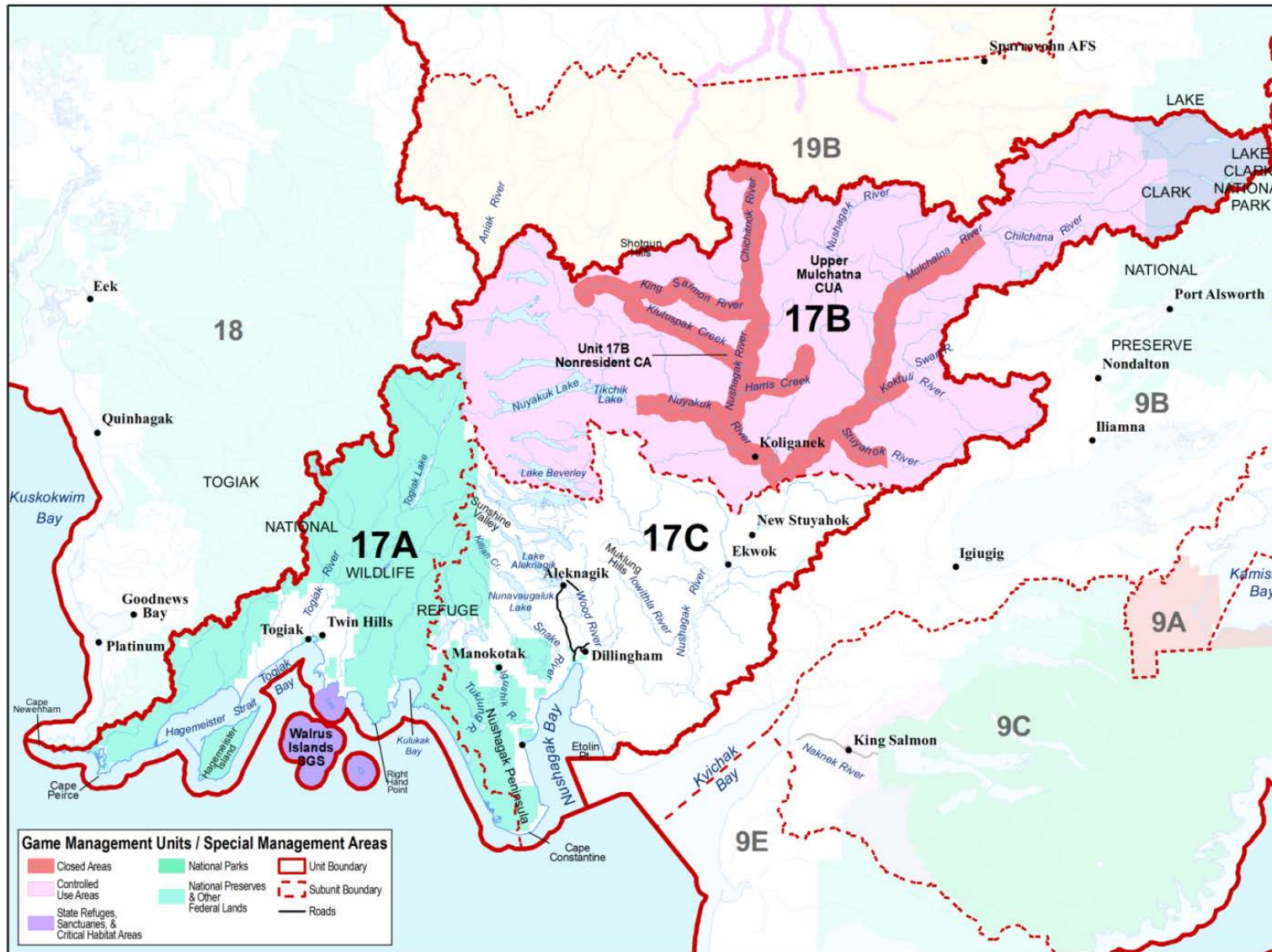
Figure 1. Game Management Unit 17, Southwest Alaska.

These high harvests suggest the wolf density peaked at this time considering the harvest during the previous 12 years averaged just 16 wolves/year and the 10 years following this period averaged 23 wolves/year; both are far below the average of 68 per year harvested during this 3-year period. Rabies was possibly a contributing factor to the decline in the late 1970s as this disease was reported in Unit 17 wolves in 1981. Wolf density seemed to increase during the mid- to late 1980s when another epizootic disease (likely rabies or distemper) again affected canid populations in the unit. Wolf populations began to increase again in the early 1990s based on harvest likely related to the increase of moose (*Alces alces*) and caribou (*Rangifer tarandus*) in the unit.

In 1988 the department implemented a trapper questionnaire program to collect information on relative abundance of furbearers, including wolves, adding another bit of insightful information into wolf abundance and population trends aside from just the sealing records.

In RY11, a wolf predation control program was initiated to boost the survival of caribou calves in the Mulchatna caribou herd. The herd had recently gone through an irruptive stage reaching an estimated 200,000 animals in the mid-1990s and had declined to less than 30,000 by 2010. The herd was below the intensive management (IM) objectives for population size, harvest, bull:cow ratios, and calf:cow ratios. Low calf survival and poor recruitment of young animals into the adult population were preventing this herd from increasing, with wolves suspected of having a large effect. This predation control program was framed around the same-day-airborne (SDA) aerial shooting of wolves by pilots and gunners permitted by the department. During RY11– RY14, 30 or more permits were issued annually, but few permittees participated due to poor flying–tracking weather, i.e., low visibility and insufficient snow. These poor conditions hindered efforts and limited program success in most years except RY11 when SDA hunters harvested 11 wolves (ADF&G 2016).

Management Direction

Wolves in Unit 17 are managed to provide for a variety of human uses – both consumptive and nonconsumptive. Not only are they harvested as a valuable furbearer, but wolves provide many other benefits such as photography, viewing, hearing wolves howl, observing tracks in the sand and snow, viewing kill sites from the ground and air, all of which add to the outdoor experience for residents and visitors alike. The present seasons and bag limits provide for these multiple uses of wolves. However, in portions of Units 17B and 17C a wolf predation control program has been in place since 2011 as part of an intensive management program to increase survival and recruitment of Mulchatna caribou. This program will likely continue in these areas until the Mulchatna caribou herd reaches the target objectives identified within the IM plan.

EXISTING WILDLIFE MANAGEMENT PLANS

- Direction, goals, and guidelines from *Alaska Wildlife Management Plans: Southwestern Alaska* (ADF&G 1976) have been utilized by the department over the years to provide guidance when informing the Alaska Board of Game (BOG).

- *Strategic Plan*, Division of Wildlife Conservation (ADF&G 2002).

GOALS

- Ensure the long-term conservation of wolves in Unit 17.

- Provide for a broad range of human uses and values of wolves.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

Although there is a positive customary and traditional use finding for wolves in Unit 17, the Board has not set an ANS level.

Intensive Management

The IM program for the Mulchatna caribou herd predation management area (MCHPMA) includes portions of Units 9B, 17B, and 17C (adopted in 2011), and Units 19A and 19B (adopted in 2012) were approved by BOG (ADF&G 2016). Although this report is generally specific to Unit 17, the IM programs in the adjacent units of Units 9B, 19A, and 19B are part of the overall effort to improve survival and recruitment of Mulchatna herd caribou, and thus referenced here.

Intensive Management Wolf Population Objective for Mulchatna Caribou Herd Predation Management Area

➢ Annually reduce the number of wolves within the wolf predation control area to a level that results in increased calf survival in caribou calving areas within Units 9B, 17B, 17C, 19A, and 19B.

MANAGEMENT OBJECTIVE

➢ Maintain a wolf population in Unit 17 that will sustain an annual harvest of at least 25 wolves.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Conduct sample unit probability estimator (SUPE; Becker et al. 1998, 2004) survey, intensive aerial wolf survey (Gardner and Pamperin 2014), or minimum wolf counts (Gardner and Pamperin 2014) to estimate wolf abundance within MCHPMA in Units 17B, 17C, 9B, 19A, and 19B.

Data Needs

An estimate of wolf abundance is needed to evaluate the success of wolf removal in MCHPMA, and to determine what level of wolf removal is sufficient to meet IM objectives for fall recruitment and population and harvest objectives.

Methods

During RY11–RY14 of this reporting period, funds were available and plans were in place to conduct wolf surveys in MCHPMA, however, weather patterns only allowed a successful survey effort in spring 2012.

During 23–29 February 2012, a minimum wolf count abundance estimate was completed in a 19,720 km^2 portion of Units 17B, 17C, and 9B (Todd Rinaldi, Research Biologist, ADF&G, Game management area 17B/17C/9B wolf survey memorandum, 12 January 2013, Palmer). The survey area was defined by a previously delineated and unutilized SUPE survey area developed to enumerate wolves in an area of scheduled wolf control. The survey area was partitioned into uniform coding units to serve as count areas and used the outer linear boundary of the SUPE sampling area as the perimeter. Thirteen count areas ranged from 478 km^2 to 2,809 km^2 and averaged 1,761 km^2.

During 16–18 March 2012 a minimum wolf count abundance estimate was completed in a 10,349 km^2 portion of Units 17B and 19B (Todd Rinaldi, ADF&G, Palmer, Game management area 17B/19B wolf survey memorandum, 12 January 2013). The survey included an area of potential wolf control in a southeast portion of Unit 19B. The survey area was partitioned by uniform coding units to serve as count areas. Eight count areas ranged from 156 km^2 to 2,619 km^2 and averaged 2,300 km^2.

Results and Discussion

The 23–29 February survey: Wolf group size ranged from 1 to 6 with an average of 3.4 (SD = 2.0). Minimum wolf density is estimated at 2.0 wolves/1,000 km^2 (5.2 wolves/1,000 mi^2).

The 16–18 March survey: Twelve individual wolves in 3 groups were observed and 96 sets of tracks were recorded. Wolf group size ranged from 2 to 6 with an average of 4.0 (SD = 2.0). Minimum wolf density is estimated at 1.8 wolves/1,000 km^2 (4.7 wolves/1,000 mi^2).

Recommendations for Activity 1.1

Attempt to collect wolf abundance data as weather allows as long as the wolf predator control program is active in these units.

Deploy radio collars on wolf packs within and adjacent to MCHPMA to assess wolf abundance and other population parameters such as pack size, home range, distribution, habitat use in relation to prey concentrations, and any other factors that will assist us in understanding the relationship between wolves and their prey in Unit 17.

2. Mortality–Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor the wolf harvest through field observations, fur sealing reports, trapper questionnaires, and contact with trappers and hunters.

Data Needs

Monitoring, collecting, and analyzing harvest data are critical for sustained yield management, and for assessing the effectiveness of the IM wolf removal program. Harvest distribution also

indicates minimum distribution of wolves across the unit. Harvest data are also used to verify or provide insight into whether the wolf population is sufficient to sustain a harvest of 25 wolves per year.

Methods

Hunters–trappers are required to seal harvested wolves and provide data on their harvest within 30 days of season end, to allow the department to monitor the wolf harvest in a timely manner. These data include pack size, color of wolves harvested, harvest location and month, hunter–trapper method of harvest, and transportation used. These data are compiled and stored in databases accessible through ADF&G's Wildlife Information Network (WinfoNet). Harvest is reported and compiled by regulatory year.

Season and Bag Limit

Unit and Bag Limits	Resident Open Seasons	Nonresident Open Seasons
Unit 17		
Hunting: 10 wolves per day.	1 Aug–30 Apr	1 Aug–30 Apr
Trapping: No limit.	10 Nov–30 Apr	10 Nov–30 Apr

Harvest by Hunters–Trappers

During RY10–RY14 the reported annual wolf harvest by hunters and trappers in Unit 17 ranged from 6 to 105 with a mean annual harvest of 47 (Table 1). Hunting and trapping harvests are influenced by weather conditions; therefore there is the potential for very erratic harvests levels year to year. The ability for hunters and trappers to get out onto the landscape with snowmachines is the largest determining factor in harvest success.

Travel conditions and access to hunting and trapping areas were particularly poor during this reporting period except for periods during RY11 and RY12 when snow accumulation led to much improved access and extended season length.

Table 1. Unit 17 wolf harvest, Southwest Alaska, regulatory years[a] 2010–2014.

Regulatory year	Unit				Total
	17A	17B	17C	17Z	
2010	2	30	40		72
2011	11	53	41		105
2012	2	13	15		30
2013	0	8	13		21
2014	0	1	5		6
Total	15	105	114		234

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

Results and Discussion

BOG authorized IM programs for wolf control in portions of Units 17B and 17C to increase survival of caribou in the Mulchatna herd. This program permitted the aerial hunting of wolves

under the "same-day-airborne" practice that allowed permitted pilots to shoot from aircraft, or to shoot wolves immediately after landing rather than waiting until the next day. This IM effort accounted for 11 and 4 wolves in RY11 and RY12 respectively when snow cover allowed for the successful hunting and tracking of wolves. During RY13–RY14 the lack of snow prevented any opportunity for aerial hunters under this program to be successful.

Recommendations for Activity 2.1

Continue monitoring harvest.

ACTIVITY 2.2. Monitor wolf abundance, distribution and demographics through incidental observations by department staff, discussions with trappers, hunters, pilots, hunting guides, and by evaluation of sealing documents to evaluate harvest.

Data Needs

Information from hunters, trappers, guides, pilots, and other outdoor recreationalists can provide useful insight into wolf populations. This is especially true for people who have a long history in an area allowing for comparison over time.

Methods

Informal discussions with hunters, trappers, etc. are conducted when the opportunity presents itself. Trappers are interviewed during the sealing process on trapping effort, numbers of wolves taken, location of trapping effort, pack sizes observed, condition of wolves, and other observations they noted.

Results and Discussion

Harvest by Hunters–Trappers

During this reporting period, hunters and trappers reported harvesting an average of 47 wolves per year, with a range of 6–105 (Table 1). The harvest extremes are largely due to winter weather that dictates access via snowmachines. In years with adequate snowfall for access, wolf harvest is high, while in years without good snow cover, the harvest can be very low as seen in RY14. Harvest associated with the SDA program accounted for 11 wolves in RY11 and 4 in RY12, no wolves were taken under this program in the remaining years.

Harvest Methods

The method of harvest during this reporting period was dominated by ground shooting (76%), while trapping–snaring accounted for 18%, and unknown the remaining 6% (Table 2). Much of Unit 17B where the majority of the harvest occurs is open tundra habitat, so when snow conditions allow, hunters can effectively track wolves by snowmachine and shoot them, which is more time efficient than setting traps and snares for the same animals.

Table 2. Unit 17 wolf harvest by method, Southwest Alaska, regulatory years[a] 2010–2014.

Regulatory year	Reported harvest				Method of take			
	M	F	Unk	Total	Trap–Snare	Shot	SDA[b]	Unk
2010	38	32	2	72	15	45	0	12
2011	58	47	0	105	20	74	11	0
2012	15	13	2	30	1	25	4	0
2013	9	9	3	21	6	15	0	0
2014	5	1	0	6	1	5	0	0

[a] A regulatory year begins 1 July and ends 30 June, e.g., regulatory year 2010 = 1 July 2010–30 June 2011.
[b] SDA = same-day-airborne. SDA represents harvest by permitted pilots participating in predator control.

Transport Methods

Snowmachines were by far the most important mode of transportation used for harvesting wolves, accounting for an annual average of 69% of wolves taken during the reporting period (Table 3). Aircraft were the second most commonly used transportation followed by boats after which there were a few harvesters using skis–snowshoes and a small portion of unknown transportation.

Harvest Chronology

January, February, and March were nearly equal in the number of wolves taken during each of these months during the reporting period (Table 4). This is reflective of the longer daylight hours along with the consistency of snow being better for snowmachine travel at that time of year. August–October and December are the next most popular harvest periods, with the April being slightly lower.

Recommendations for Activity 2.2

Continue with informal discussions with avid outdoor enthusiasts to gain their insight into wolf population characteristics and trends in wolf abundance.

3. Habitat Assessment–Enhancement

Assessment

Wolf habitat in Unit 17 supports a diverse and moderately abundant prey base. These include ungulates (caribou and moose), beaver, snowshoe and Alaska hares, salmon, and beached marine mammals for those coastal areas. Caribou from the Mulchatna caribou herd numbered an estimated 27,000 animals as of July 2016, while moose are widely distributed across most of Unit 17, and number between 6,000 and 7,000 animals. Beaver are abundant and widely distributed across the unit as are salmon during the summer and early fall months.

Enhancement

We did not attempt any habitat enhancement for wolves during the reporting period. Protecting the habitat that is available for the prey base of the wolves is the most important factor in having a healthy wolf population.

Table 3. Unit 17 wolf harvest percent by transportation method, Southwest Alaska, regulatory years[a] 2010–2014.

Regulatory year	Airplane	Dogsled, Skis, Snowshoes	Boat	ATV[b]	Snowmachine	ORV[c]	Highway vehicle	Unk	n
2010	4	0	3	0	75	0	0	18	72
2011	18	2	3	0	76	0	0	1	105
2012	10	0	0	0	90	0	0	0	30
2013	5	0	9	0	86	0	0	0	21
2014	17	16	50	0	17	0	0	0	6

[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 vehicles.
[c] ORV = off-road vehicles.

Table 4. Unit 17 wolf harvest percent chronology by month, Southwest Alaska, regulatory years[a] 2010–2014.

Regulatory year	Aug–Oct	Nov	Dec	Jan	Feb	Mar	Apr	n
2010	10	0	7	29	38	10	6	72
2011	8	1	21	23	16	24	7	105
2012	10	0	3	7	27	36	17	30
2013	14	0	10	29	5	42	0	21
2014	33	0	0	0	17	0	50	6

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

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Wolf harvest data and digital copies of sealing forms are stored on an internal database housed on a server (http://winfonet.alaska.gov/index.cfm).

- Hard copies of telemetry data sheets are stored in the "Wolf" file cabinet in the ADF&G-Dillingham area wildlife biologist's office.

- Additional information related to wolf management in Unit 17 will be stored electronically on the Dillingham shared drive (O:\Wildlife\DWC\Wolf).

Agreements

None.

Permitting

None.

Conclusions and Management Recommendations

During RY11, the wolf harvest in Unit 17 was the third highest in the past 25 years. This was followed by 3 of the lowest recorded harvests during RY12–RY14. Although the lower wolf harvest may have been related to the previous high harvests, the lack of snow and access by hunters and trappers was probably the major limiting factor. The wolf population most likely increased during the last 3 years of this reporting period due to low snow and limited access by hunters and trappers to get to wolves. The effectiveness of the SDA program associated with the MCHPMA suffered from lack of snow as well, resulting in very few wolves being taken under this program (ADF&G 2016; Table 3).

To this point we have been unable to conduct wolf surveys in Unit 17 to determine population size or changes in population levels. Our insight into the wolf population is dependent almost entirely on incidental observations by department staff, discussions with hunters and trappers during the sealing process, and observations by pilots, hunting guides, and other outdoor enthusiasts we encounter during routine department duties. We therefore recommend adding the activity of deploying radio collars on wolf packs within and adjacent to MCHPMA to assess wolf population parameters and abundance. Although the success of this activity would be enhanced with good snow cover, it is not completely dependent on this factor as are the standard abundance estimate surveys.

Although the SDA program has been relatively ineffective to date, we believe this program can be successful and contribute to wolf harvest and therefore caribou calf survival under good snow conditions. Therefore we recommend this program continue into the next reporting period.

II. Project Review and RY15–RY19 Plan

Review of Management Direction

MANAGEMENT DIRECTION

Based on observations by biologists and other outdoor enthusiasts such as hunters, trappers, hunting guides etc., and the distribution and amount of harvest over time, it appears the existing management direction with associated objectives and goals provides for sound management of wolves in Unit 17. This management strategy is meant to ensure that wolves will persist as part of the natural ecosystem and continue to provide wolf hunting, trapping, and viewing opportunities. In recent years, low snow winters have inhibited our ability to accrue wolf density and abundance estimate which are important aspects of wolf management, but we will continue to strive to gather these data. Additionally, our recent efforts in deploying radio collars on wolves in Unit 17 have been successful, and will provide important data on wolf demographics, distribution, habitat use, and other parameters that will aid in our management of wolves in Unit 17. This important information will help to ensure the long-term sustainability of the wolf population and that statewide goals (ADF&G 2002) for human uses can be met.

GOALS

- Ensure the long-term conservation of wolves in Unit 17.
- Provide for a broad range of human uses and values of wolves.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

Although there is a positive customary and traditional use finding for wolves in Unit 17, the Board has not set an ANS level.

Intensive Management

The intensive management (IM) program for the Mulchatna caribou herd predation management area (MCHPMA) includes portions of Units 9B, 17B, and 17C (adopted in 2011), and Units 19A and 19B (adopted in 2012) were approved by BOG (ADF&G 2016). Although this report is generally specific to Unit 17, the IM programs in the adjacent units of Units 9B, 19A, and 19B are part of the overall effort to improve survival and recruitment of Mulchatna herd caribou, and thus referenced here.

Intensive Management Wolf Population Objective for Mulchatna Caribou Herd Predation Management Area

- ➢ Annually reduce the number of wolves within the wolf predation control area to a level that results in increased calf survival in caribou calving areas within Units 9B, 17B, 17C, 19A, and 19B.

> ➤ The IM plan was initially approved for six years and scheduled to end in 2017; however, due to most of the IM objectives not yet being met by 2017, the department requested that the board reauthorize this program for an additional 6 years, extending through to 2024 which coincides with the region's three-year board cycle. This plan authorizes the department to issue permits to public pilot/gunner teams to take wolves on the same-day-airborne (SDA). These permits allow for land-and-shoot taking of wolves and/or aerial shooting by a backseat gunner.

MANAGEMENT OBJECTIVES

Maintain a wolf population in Unit 17 that will sustain an annual harvest of at least 25 wolves. This objective is reasonable, though the environmental conditions that affect winter travel and thus harvest success often dictate whether this objective is met, independent of wolf abundance. The level of wolf harvest in relation to this objective should be scrutinized with the help of other information associated with access and effort to provide the necessary insight when interpreting harvest levels. However, with the environmental conditions limiting our ability to conduct routine surveys to estimate abundance or density, this harvest-based objective is the most practical approach. The historical levels of harvest suggest that wolf abundance in Unit 17 can easily sustain this level of harvest annually.

The IM objective of reducing wolves within MCHPMA that results in increased calf survival has been a hard objective to meet. The aerial predator control program is entirely dependent on good snow cover for tracking and hunting, and these conditions were almost nonexistent during the last reporting period. It was only in RY11 that conditions allowed for successful removal of wolves, but even then, the success was due mostly to local hunters and trappers rather than to the aerial predator control program. Some thought should be given toward ways to enhance this wolf removal program, whether by expanding the wolf removal area to provide more opportunity and allow permitted pilots to have a longer season or have department staff involved in the removal process.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Conduct SUPE (Becker et al. 1998, 2004), intensive aerial wolf survey (Gardner and Pamperin 2014) surveys, territory mapping using radiotelemetry (Adams et al. 2008), or minimum counts to estimate wolf abundance within MCHPMA in Units 17B, 17C, 9B, 19A, and 19B.

With recent trends in weather tending toward low snow years, it is becoming unrealistic to expect to conduct wolf surveys using snow tracking-based methodology on a regular basis, let alone every year. Although we have hoped for sufficient weather conditions to conduct SUPEs, or other track surveys, this may be unrealistic given the changing weather patterns that do not allow for good and consistent snow conditions.

Data Needs

An estimate of wolf abundance is needed to evaluate the success of wolf removal in MCHPMA, and to determine the level of wolf removal required to improve calf survival sufficiently to meet IM objectives for fall recruitment and population and harvest objectives.

Methods

Conduct aerial surveys when snow conditions are sufficient for tracking and estimating wolf abundance.

Capture and radiocollar wolves to collect data on wolf demography, pack size, distribution, seasonal range in relation to caribou movements and calving locations, and other biologically important factors to help us assess the characteristics of wolves in Unit 17. Additionally, collared wolves will be used to derive density and/or abundance estimates of wolves in portions of MCHPMA. An important part of a successful IM program is to monitor the change in density of predators relative to wolf harvest to measure success of the program, and to help interpret changes in prey survival and abundance.

2. Mortality–Harvest Monitoring

ACTIVITY 2.1. Monitor the wolf harvest through field observations, fur sealing reports, trapper questionnaires, and contact with trappers and hunters.

Data Needs

Monitoring, collecting, and analyzing harvest data are critical for sustained yield management, and determining combined harvest from IM programs, hunters, and trappers. Harvest distribution also indicates minimum distribution of wolves across the unit. Harvest data are used to verify that the wolf population is sufficient to sustain a harvest of 25 wolves per year. In lieu of consistent survey data for estimating wolf abundance, harvest information does provide some insight into the distribution and abundance of wolves.

Methods

Hunters–trappers are required to seal harvested wolves within 30 days of season end, to allow the department to monitor the wolf harvest in a timely manner. These data include pack size, color of wolves harvested, harvest location and month, hunter–trapper method of harvest, and transportation used. These data are compiled and stored in databases accessible through WinfoNet. Harvest is reported and compiled by regulatory year.

3. Habitat Assessment–Enhancement

See Management Report explanation under this activity heading.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Wolf harvest data and digital copies of sealing forms are stored on an internal database housed on a server (http://winfonet.alaska.gov/index.cfm).

- Hard copies of telemetry data sheets are stored in the "Wolf" file cabinet in the ADF&G-Dillingham area wildlife biologist's office.

- Additional information related to wolf management in Unit 17 will be stored electronically on the Dillingham shared drive (O:\Wildlife\DWC\Wolf).

Agreements

None.

Permitting

None.

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