

## **Wolf Management Report and Plan, Game Management Units 21A and 21E:**

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

**Jonathan S. Barton**





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Plan Period 1 July 2020–30 June 2025

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This species management report and plan was reviewed and approved for publication by Jason Caikoski, Management Coordinator for Region III 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 (*Canis lupus*) in Game Management Units 21A and 21E for the 5 regulatory years 2015–2019 and plans for survey and inventory management activities in the next 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 more efficiently on trends 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 2 years.

## I. RY15–RY19 Management Report

### Management Area

Units 21A and 21E include drainages of the Yukon River from the community of Paimiut upstream to, but not including, the Blackburn Creek drainage and the Innoko River. Units 21A and 21E total approximately 18,792 mi<sup>2</sup>. The Innoko National Wildlife Refuge is primarily located in the western portion of Unit 21A and eastern portions of Unit 21E, which include large areas of riparian habitat ideal for moose (*Alces alces*) populations.

### Summary of Status, Trend, Management Activities, and History of Wolves in Units 21A and 21E

Wolves are prevalent throughout Units 21A and 21E. There are no communities located in Unit 21A, and the remote setting limits interactions with wolves to hunters and trappers. There is a stable moose population along riparian habitats located throughout Unit 21A, which supports healthy wolf populations. Small herds of caribou (*Rangifer tarandus*) are located in Unit 21A, which also add to a viable food source for wolves both in open low country habitats and mountainous terrain. Wolf harvest in Unit 21A consists of opportunistic harvest during moose hunting and trapping conducted by residents of Unit 19D communities.

In Unit 21E, many local residents consider wolves to be a competitor for moose resources. These views were clearly expressed during an extensive public planning process during 2005 that resulted in the Yukon–Innoko Moose Management Plan (YIMMP; ADF&G and Yukon–Innoko Moose Management Working Group [YIWG] 2006). This document, endorsed by the Alaska Board of Game (board) and the Federal Subsistence Board, directs ADF&G to manage wolves in this area so that they do not depress moose populations. Wolf predation plays a significant role in the population dynamics of moose (Gasaway et al. 1992), and there is considerable interest in wolf control among residents of Unit 21E. Historically, wolf harvest has been low in these areas. The number of wolves taken through harvest is inadequate to regulate wolf numbers and promote a reduction in predation rates. The Operational Plan for Intensive Management of Moose in Unit 21E (ADF&G 2017) identifies a wolf control focus area (WCFA) and a bear control focus area

(BCFA; Fig. 1). The WCFA encompasses approximately 4,126 mi<sup>2</sup>, and the BCFA encompasses approximately 556 mi<sup>2</sup>.

The purpose of the WCFA and BCFA is to focus Intensive Management activities, including predation control and habitat management, in a relatively small area near communities where moose are most accessible to hunters. Currently, intensive management is not active in Unit 21E but will be implemented if ungulate population thresholds fall below objectives outlined in this report and the Unit 21E Operational Plans for Intensive Management of Moose (ADF&G 2017, 2024).

During RY15–RY19, locals in Unit 21E expressed concern over increasing wolf populations and poor pelt quality due to lice or follicular dysplasia.

## **Management Direction**

The intent of ADF&G management is to ensure the long-term conservation of wolves throughout their historic range in Alaska in relation to their prey and habitat. In addition, wolves will be managed to provide for the broadest possible range of human uses and values of wolves and their prey populations that meet wildlife conservation principles, and which reflect the public's interest. We will work to increase public awareness and understanding of the uses, conservation, and management of wolves, their prey, and habitat in Alaska.

## **EXISTING WILDLIFE MANAGEMENT PLANS**

The previous wolf management survey and inventory report for Units 21A and 21E (Barton 2020) describes the management plan for RY10–RY14 and goals for RY15–RY19.

An intensive management plan (ADF&G 2017) includes predation control to benefit moose populations and provides guidance on wolf management decisions in Unit 21E. This plan was reauthorized by the board in RY17 and is found in 5AAC 92.124.

## **GOALS**

G1. Ensure the long-term conservation of wolves throughout their historic range in Units 21A and 21E in relation to their prey and habitat.

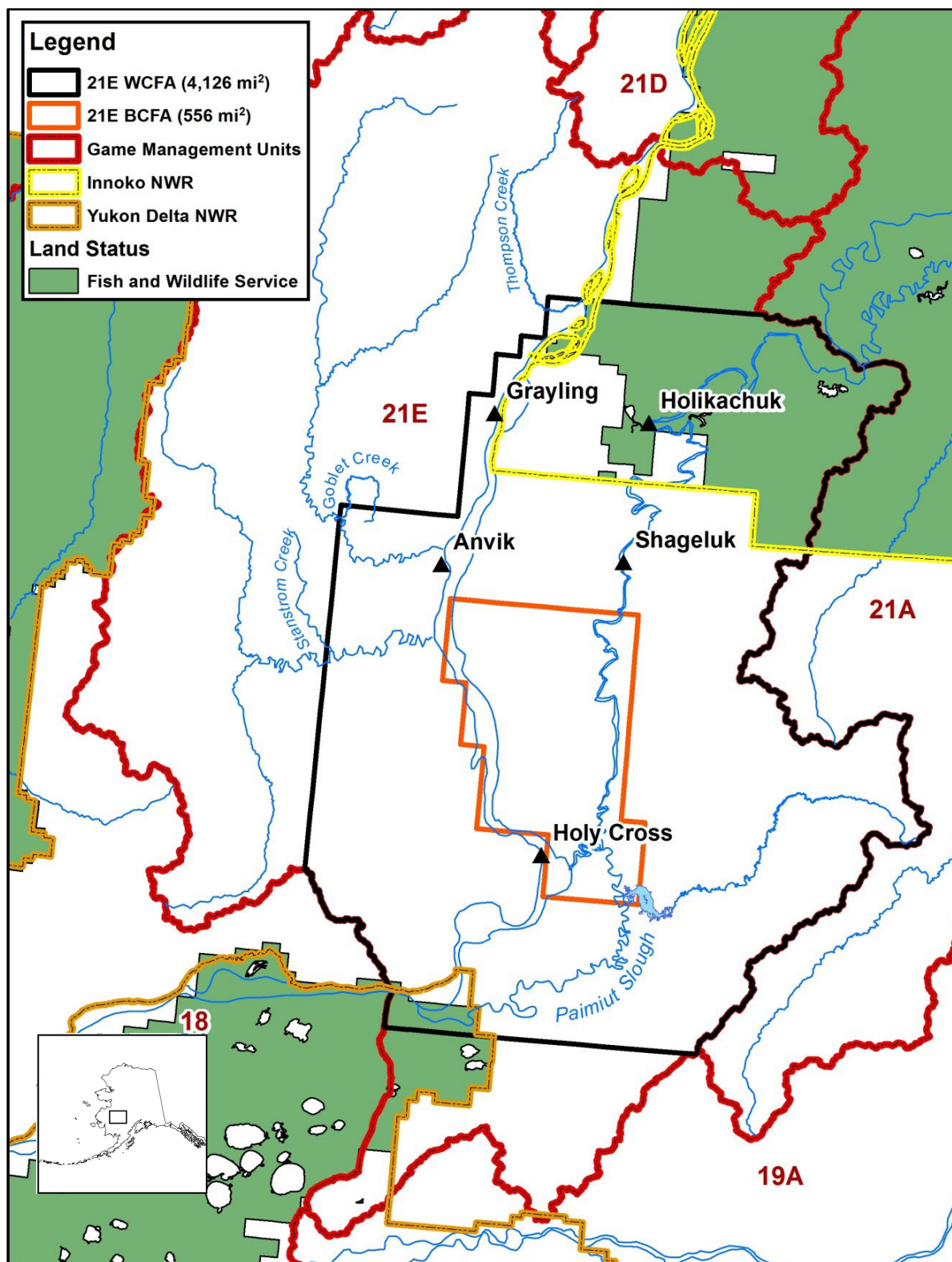
G2. Provide for a broad range of human uses and values of wolves and their prey populations that meet wildlife conservation principles, and which reflect the public's interest.

## **CODIFIED OBJECTIVES**

### Amounts Reasonably Necessary for Subsistence Uses

C1. Units 21A and 21E have a positive finding for customary and traditional uses of wolves. Amounts reasonably necessary for subsistence uses (ANS) have not been determined by the board for hunting.





**Figure 1. Unit 21E wolf control focus area (WCFA), bear control focus area (BCFA), National Wildlife Refuge (NWR) lands, and U.S. Fish and Wildlife Service lands, regulatory years 2015–2019, Alaska.**

## Intensive Management

C2. If wolf control becomes active in the Unit 21E WCFA (Fig. 1), attempts will be made to reduce the wolf population by at least 60–80% from the precontrol estimate of 80 wolves (ADF&G 2017).

C3. In all of Unit 21E, maintain a minimum population of 30 wolves after wolf control in the WCFA.

## **MANAGEMENT OBJECTIVES**

M1. Maintain at least 100 wolves in Units 21A and 21E, unless directed otherwise by the commissioner and the board as part of a predation control program.

M2. Maintain a 3-year average harvest of at least 25% of the estimated wolf population in Units 21A and 21E combined.

## **MANAGEMENT ACTIVITIES**

### 1. Population Status and Trend

ACTIVITY 1.1. Conduct wolf population estimates when priorities, conditions, budgets, and time permit (objectives C2, C3, M1, and M2).

#### *Data Needs*

Aerial survey data, sealing data, and supplemental information from the public allowed ADF&G staff to refine our wolf population and trend estimates from RY10–RY14. We used this refined data to determine whether management objectives for that period were met. Further, this information would have provided data for wolf population reduction objectives if intensive management had been initiated.

#### *Methods*

In Units 21A and 21E, wolf populations were estimated using a combination of data sources, including data from similar areas (Unit 19D east surveys and Unit 20A wolf research data), harvest records, wolf observations made during surveys for other species, previous estimates, and hunter and trapper interviews and questionnaires.

Sealing by an ADF&G representative or an appointed fur sealer is required for wolves taken in Alaska; therefore, we obtained harvest statistics primarily from these sealing certificates. During the sealing process, information was collected on specific location and method of take, date, sex, color of pelt, estimated size of the wolf pack, and method of transportation. Harvest data were summarized by RY.

Intensive aerial wolf surveys (IAWS; Stephenson 1978, Hayes and Harestad 2000, Gardner and Pamperin 2014, Keech et al. 2011) were conducted to estimate wolf populations when feasible.

### *Results and Discussion*

Extrapolations from previous IAWS conducted in Unit 21E in 2009 and Unit 19D in 2017, in conjunction with sealing documents, suggested the wolf populations for Units 21A and 21E were between 300–400 individuals.

IAWS were not initiated during RY15–RY19. If predator control is implemented in the future, such surveys will be attempted to determine a precontrol population estimate.

### *Recommendations for Activity 1.1*

Continue. While IAWS were not conducted during this report period, they should continue to be used when possible.

ACTIVITY 1.2. Conduct wolf predation control programs as directed by the commissioner and the board (objectives M1, M2, C2, and C3).

### *Data Needs*

The decision-making framework to initiate or suspend predator control was based upon estimates of the moose density in the WCFA and moose twinning rates in the BCFA.

If a Geospatial Population Estimate in the WCFA is lower than the objective of 1.0 moose/mi<sup>2</sup>, corrected for sightability (approximately 4,125 moose), and twinning rates are >20%, wolf control may be initiated. The twinning rate nutritional index ensures that the habitat can support an increased moose density.

### *Methods*

If wolf control is initiated, the objective within the WCFA will be to temporarily reduce wolf numbers to the lowest level possible. The precontrol estimate for all of Unit 21E is 150 wolves with 80 in the WCFA. Alaska residents with a permit from ADF&G will be authorized to use fixed-wing aircraft to shoot wolves within the WCFA either while airborne or after landing. If public permittees are unable to successfully remove at least 60–80% of wolves from the WCFA, the department will consider a removal effort by employees using helicopters to supplement public efforts. ADF&G will manage hunting and trapping seasons and wolf control to maintain a minimum of 30 wolves in all of Unit 21E. Based on information from previous wolf and moose surveys, the current size of the WCFA ensures 30 wolves will remain in Unit 21E even if all wolves within the WCFA are removed.

### *Results and Discussion*

There were no intensive management activities conducted during RY15–RY19.

### *Recommendations for Activity 1.2*

Continue to monitor moose populations and implement intensive management as described in 5 AAC 92.124.

## 2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor harvest through fur sealing (objectives M1 and M2).

### *Data Needs*

Fur sealing data from ADF&G's Wildlife Information Network (WinfoNet) were needed annually to assess harvest.

### *Methods*

Wolves harvested by trappers and hunters were sealed to monitor harvest. Harvest data were archived in WinfoNet and were reported by RY. Information recorded for each wolf included date of kill, name of person harvesting wolf, location, method of take, transportation, sex of the wolf, color of the wolf, and number of wolves remaining in the pack. A locking U.S. CITES (Convention on International Trade in Endangered Species<sup>1</sup>) tag was placed on the hides of all wolves sealed.

### *Season and Bag Limit*

RY15–RY19 wolf hunting and trapping seasons for residents and nonresidents in Units 21A and 21E.

Unit	Activity	Bag limit	Open season
Unit 21A	Hunting	10 wolves	10 August–31 May
	Trapping	No limit	1 October–30 April
Unit 21E	Hunting	10 wolves	10 August–31 May
	Trapping	No limit	1 November–30 April

*Note:* Wolves taken under a hunting license must have hides sealed within 30 days of harvest.

### *Results and Discussion*

#### Harvest by Hunter-Trappers

During RY15–RY19, harvest was variable, with incremental increases and decreases over short periods. Reported harvest has included 36 wolves in Unit 21A and 35 wolves in Unit 21E, for a total of 71 wolves. Snaring was the primary method of take in Unit 21A, and shooting was most common in Unit 21E (Table 1). Trappers from communities in neighboring Unit 19D often have traplines that extend into Unit 21A, which accounted for most of the snaring and trapping that occurred in Unit 21A. In Unit 21E, there was some trapping from locals in communities located on the Yukon River, but most of that take (63%) occurred by ground shooting, often conducted opportunistically while the hunter or trapper was engaged in other activities such as moose hunting or winter travel.

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<sup>1</sup> For more information on U.S. CITES tags, visit <https://www.fws.gov/international-affairs/cites>.

## Hunter Residency and Success

During RY15–RY19, 25 resident hunters harvested 56 wolves, and 13 nonresident hunters harvested 15 wolves (Table 2). Overall, residents accounted for 79% ( $n = 56$ ) of the total harvest during the report period. Most wolves taken by nonresidents were harvested opportunistically while engaged in moose hunting activities.

**Table 1. Units 21A and 21E wolf harvest and harvest method, regulatory years 2015–2019, Alaska.**

Regulatory year	Unit 21A					Unit 21E				
	Shoot	Trap	Snare	Other or unknown	Total	Shoot	Trap	Snare	Other or unknown	Total
2015	1	2	1	0	4	5	1	0	0	6
2016	3	0	10	0	13	8	6	0	0	14
2017	0	1	4	0	5	5	6	0	0	11
2018	0	1	1	0	2	0	0	0	0	0
2019	3	3	6	0	12	4	0	0	0	4
Total	7	7	22	0	36	22	13	0	0	35
Percent of total	19	19	61	0	100	63	37	0	0	100
5-year average	1.4	1.4	4.4	0.0	7.2	4.4	2.6	0.0	0.0	7.0

**Table 2. Units 21A and 21E wolf harvest by residency, regulatory years 2015–2019, Alaska.**

Regulatory year	Unit	Number residents <sup>a</sup>	Resident <sup>a</sup> take	Number nonresidents <sup>b</sup>	Nonresident <sup>b</sup> take	Unknown <sup>c</sup>	Total take
2015	21A	1	2	2	2	0	4
	21E	2	5	1	1	0	6
2016	21A	2	12	1	1	0	13
	21E	7	10	4	4	0	14
2017	21A	2	3	1	2	0	5
	21E	5	9	1	2	0	11
2018	21A	1	2	0	0	0	2
	21E	0	0	0	0	0	0
2019	21A	2	10	2	2	0	12
	21E	3	3	1	1	0	4
Total		25	56	13	15	0	71

<sup>a</sup> Resident refers to residents of Alaska.

<sup>b</sup> Nonresident refers to U.S. residents who do not live in Alaska.

<sup>c</sup> Unknown refers to total take by hunters of unknown residential status.

## Harvest Chronology

During RY15–RY19, 68% of the wolf harvest in Units 21A and 21E occurred during the trapping season of November through March, with 25% occurring during September, when many residents and nonresidents were engaged in moose hunting (Table 3).

**Table 3. Wolf percent harvest chronology by month, regulatory years 2015–2019, Units 21A and 21E, Alaska.**

Regulatory year	Percent harvest chronology by month ( <i>n</i> )												Total harvest ( <i>n</i> )
	August	September	October	November	December	January	February	March	April				
2015	0 (0)	20 (2)	0 (0)	10 (1)	10 (1)	10 (1)	40 (4)	10 (1)	0 (0)	(10)			
2016	4 (1)	30 (8)	0 (0)	30 (8)	0 (0)	4 (1)	11 (3)	22 (6)	0 (0)	(27)			
2017	0 (0)	13 (2)	13 (2)	13 (2)	18 (3)	18 (3)	6 (1)	6 (1)	13 (2)	(16)			
2018	0 (0)	0 (0)	0 (0)	0 (0)	50 (1)	0 (0)	50 (1)	0 (0)	0 (0)	(2)			
2019	0 (0)	38 (6)	0 (0)	6 (1)	19 (3)	0 (0)	31 (5)	6 (1)	0 (0)	(16)			
Total ( <i>n</i> )	– (1)	– (18)	– (2)	– (12)	– (8)	– (5)	– (14)	– (9)	– (2)	(71)			
Percent of total	1 –	25 –	3 –	17 –	11 –	7 –	20 –	13 –	3 –	–			

Note: en dash indicates not applicable.

**Table 4. Units 21A and 21E wolf percent harvest by transport method, regulatory years 2015–2019, Alaska.**

Regulatory year	Percent harvest by transport method ( <i>n</i> )								Total ( <i>n</i> )
	Aircraft		Boat		Snowmachine		Other <sup>a</sup>		
2015	0	(0)	20	(2)	80	(8)	0	(0)	(10)
2016	7	(2)	19	(5)	41	(11)	33	(9)	(27)
2017	13	(2)	0	(0)	75	(12)	13	(2)	(16)
2018	0	(0)	0	(0)	100	(2)	0	(0)	(2)
2019	25	(4)	13	(2)	62	(10)	0	(0)	(16)
Total ( <i>n</i> )	–	(8)	–	(9)	–	(43)	–	(11)	(71)

Note: en dash indicates not applicable.

<sup>a</sup> Other includes 4-wheelers, snowshoes, and foot.

## Transport Methods

During RY15–RY19, snowmachine was the primary (61%) mode of transportation of successful hunters and trappers (Table 4).

### *Other Mortality*

No other wolf mortality data was available for RY15–RY19.

### *Alaska Board of Game Actions and Emergency Orders*

In RY17, the board reauthorized The Operational Plan for Intensive Management of Moose in Unit 21E (ADF&G 2017). Future changes in wolf management direction and regulations may occur if the moose population declines below 1.0 observable moose/mi<sup>2</sup> within the WCFA. This plan will expire at the end of RY22.

### *Recommendations for Activity 2.1*

Continue. Harvest records, such as sealing certificates, provided the department with the most accurate measure of harvest. Trapper questionnaires and trapper interviews also provided the department with supplemental information and observations that allowed area biologists to remain engaged with various user groups.

## 3. Habitat Assessment-Enhancement

No habitat assessment or enhancement activities occurred for wolves in Units 21A or 21E during RY15–RY19.

## 4. Wolf Management with Public Participation and Outreach

ACTIVITY 4.1. Conduct wolf trapping and snaring clinics in communities that have expressed interest in the program, as agreed in the YIMMP (objectives C1, C2, M1, and M2).

### *Data Needs*

None.

### *Methods*

Organize trapper education clinics. Department personnel and volunteers would provide information on building wolf snares, effective sets, snare locations that minimize incidental catch of moose, wolf and moose biology, and regulations.

### *Results and Discussion*

There were no trapper education clinics conducted within RY15–RY19.

### *Recommendations for Activity 4.1.*

Continue. Public outreach would contribute to wolf harvest and management.

## **NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS**

Hair loss due to follicular dysplasia and lice is becoming an increasingly common occurrence in Unit 21E. Trappers and hunters have expressed concerns regarding pelt quality due to these causes. Since wolf hides are not always available for department personnel to handle and seal due to the remote nature of communities in Unit 21E, the prevalence of lice or follicular dysplasia in harvested wolves is not clearly understood. The department will continue to monitor this issue to the extent possible with available resources.

Unit 21E communities are remote and often difficult to travel to. This makes it challenging to interact with the public and to observe hides brought in by trappers and hunters. There is often supplemental information and other observations regarding wolf behavior and sightings communicated by the hunter or trapper to DWC personnel that can be useful during the sealing process. However, as staff is not always able to be present in these remote areas, this information may not be relayed to managers effectively.

### **Data Recording and Archiving**

- Wolf harvest (fur sealing) data were archived in WinfoNet.
- Electronic data and files such as survey memos and reports were stored in WinfoNet.  
Project Title: McGrath Area Office. Primary Region: Region III
- Hard copies of survey field sheets and files such as survey memos and reports were also stored in files in the McGrath Area Office.

### **Agreements**

The YIMMP (ADF&G 2006, ADF&G and YIWG 2006) guides wolf and moose management in Units 21A and 21E (Seavoy 2009). The plan's management objective is to proactively prevent a moose population decline, as recovery from this would be difficult. This objective was the guiding principle for the board in adopting a predation control implementation plan for Units 21A and 21E in 2017. This 2017 plan allows wolf control if moose population estimates fall below threshold levels.

### **Permitting**

No permits were needed to conduct wolf management activities in Unit 21A and 21E during RY15–RY19.

## **Conclusions and Management Recommendations**

The objective to maintain a viable wolf population of at least 100 wolves (M1) was met. The objective to maintain a 3-year average harvest of at least 25% of the estimated wolf population in Units 21A and 21E (M2) was not met. During RY15–RY19, the 5-year average harvest of 14 wolves was approximately 4% of the estimated population of 300–400 wolves.



ADF&G staff accomplished most management activities as intended during RY15–RY19. Using the best data available, we estimated wolf populations and monitored harvest. We presented a predation control implementation plan (ADF&G 2017) to the board that was adopted during their March 2017 meeting.

Collecting survey and inventory information on wolf populations is a challenge faced by wildlife managers, particularly in remote areas of Alaska such as Units 21A and 21E. Population estimates are especially difficult to obtain because they require adequate search conditions, which occur infrequently and for short durations. When favorable conditions do occur, there is an additional challenge of positioning experienced pilot-observer teams to begin surveys.

Past harvest trends have been low in these units, and consequently there were no concerns over wolf populations during the report period. There are healthy, viable wolf populations in both Units 21A and 21E that show no metrics of decline based on DWC analysis.

We were unable to conduct trapping clinics during the report period, but we will keep this as an activity to accomplish at a date when time, resources, and local interests allow. It is often difficult to sponsor such an event in remote communities as weather and travel distances add further difficulties to implementation.

## **II. Project Review and RY20–RY24 Plan**

### **Review of Management Direction**

#### **MANAGEMENT DIRECTION**

We recommend no changes to wolf management goals or objectives for RY20–RY24.

#### **GOALS**

G1. Ensure the long-term conservation of wolves throughout their historic range in Units 21A and 21E in relation to their prey and habitat.

G2. Provide for a broad range of human uses and values of wolves and their prey populations that meet wildlife conservation principles and which reflect the public's interest.

#### **CODIFIED OBJECTIVES**

##### **Amounts Reasonably Necessary for Subsistence Uses**

C1. Units 21A and 21E have a positive finding for customary and traditional uses of wolves. ANS have not been determined by the board for hunting.

##### **Intensive Management**

C2. If wolf control becomes active in the Unit 21E WCFA (Fig. 1), we will attempt to reduce the wolf population by at least 60–80% from the precontrol estimate of 80 wolves.

C3. In all of Unit 21E, maintain a minimum population of 30 wolves after wolf control in the WCFA.

## **MANAGEMENT OBJECTIVES**

M1. Maintain at least 100 wolves in Units 21A and 21E, unless directed otherwise by the commissioner and the board as part of a predation control program.

M2. Maintain a 3-year average harvest of at least 25% of the estimated wolf population in Units 21A and 21E combined.

## **REVIEW OF MANAGEMENT ACTIVITIES**

### **1. Population Status and Trend**

ACTIVITY 1.1. Conduct wolf population estimates when priorities, conditions, budgets, and time permit (objectives C2, C3, M1, and M2).

#### *Data Needs*

Aerial survey data, sealing data, and supplemental information from the public will allow ADF&G biologists to refine our wolf population and trend estimates from RY15–RY19 and determine whether management objectives were met. Further, this information will provide data for wolf population reduction objectives if intensive management is initiated.

#### *Methods*

In Units 21A and 21E, wolf populations will be estimated using a combination of data sources, including wolf population data from similar areas (Unit 19D East surveys and Unit 20A wolf research data), harvest records, wolf observations made during surveys for other species, previous estimates, and hunter and trapper interviews and questionnaires.

Sealing by an ADF&G representative or an appointed fur sealer will be required for wolves taken in Alaska, and the department will obtain harvest statistics primarily from these sealing certificates. During the sealing process, information will be collected on specific location and method of take, date, sex, color of pelt, estimated size of the wolf pack, and method of transportation. Harvest data will be summarized by regulatory year.

IAWS (Stephenson 1978, Hayes and Harestad 2000, Gardner and Pamperin 2014, Keech et al. 2011) will be conducted to estimate wolf populations when feasible.

ACTIVITY 1.2. Conduct wolf predation control programs as directed by the commissioner and the board (objectives M1, M2, and C2).

#### *Data Needs*

The decision-making framework to initiate or suspend predator control will be based upon estimates of the moose density in the WCFA and moose twinning rates in the BCFA.

If a Geospatial Population Estimate in the WCFA is lower than the objective of 1.0 moose/mi<sup>2</sup> corrected for sightability (approximately 4,125 moose), and twinning rates are >20%, wolf control may be initiated. The twinning rate nutritional index ensures that the habitat can support an increased moose density.

#### *Methods*

If wolf control is initiated, the objective within the WCFA will be to temporarily reduce wolf numbers to the lowest level possible. The precontrol estimate for all of Unit 21E is 150 wolves with 80 in the WCFA. Alaska residents with a permit from ADF&G will be authorized to use fixed-wing aircraft to shoot wolves within the WCFA either while airborne or after landing. If public permittees are unable to successfully remove at least 60–80% of wolves from the WCFA, the department will consider a removal effort by employees using helicopters to supplement public efforts. ADF&G will manage hunting and trapping seasons and wolf control to maintain a minimum of 30 wolves in all of Unit 21E. Based on information from previous wolf and moose surveys, the current size of the WCFA ensures 30 wolves will remain in Unit 21E even if all wolves within the WCFA are removed.

## 2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Monitor harvest through fur sealing (objectives M1 and M2).

#### *Data Needs*

Fur sealing data from WinfoNet will be needed annually to assess harvest.

#### *Methods*

Wolves harvested by trappers and hunters will be sealed to monitor harvest. Harvest data will be archived in WinfoNet and reported by RY. Information recorded for each wolf will include date of kill, name of person harvesting wolf, location, method of take, transportation, sex of the wolf, color of the wolf, and number of wolves remaining in the pack. A locking U.S. CITES tag will be placed on the hides of all wolves sealed.

## 3. Habitat Assessment-Enhancement

ACTIVITY 3.1.

No activities for wolf habitat assessment or enhancement are expected in Units 21A and 21E during RY20–RY24.

## 4. Wolf Management with Public Participation and Outreach

ACTIVITY 4.1. Conduct wolf trapping and snaring clinics in communities that have expressed interest in the program, as agreed in the YIMMP (objectives C2, M1, M2).

#### *Data Needs*

None.

### *Methods*

The department will organize trapper education clinics. Department personnel and volunteers will provide information on building wolf snares, effective sets, snare locations that minimize incidental catch of moose, wolf and moose biology, and regulations.

### **NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS**

The department will continue to monitor pelt quality and conditions of sealed wolves as available. Reports of lice and follicular dysplasia are increasingly common in Units 21A and 21E. Unit 21E locals have reported increased sightings over the last 5 years of wolves with deteriorating hide quality.

### Data Recording and Archiving

- Wolf harvest (fur sealing) data will be archived in WinfoNet.
- Electronic data and files such as survey memos and reports will be stored in WinfoNet. Project Title: McGrath Area Office. Primary Region: Region III.
- Hard copies of survey field sheets and files such as survey memos and reports will also be stored in files in the McGrath Area Office.

### Agreements

The YIMMP (ADF&G 2006, ADF&G and YIWG 2006) guides wolf and moose management in Units 21A and 21E (Seavoy 2009). The plan's management objective is to proactively prevent a moose population decline, as recovery from this would be difficult. This objective was the guiding principle for the board in adopting a predation control implementation plan for Units 21A and 21E in 2017. This 2017 plan allows wolf control if moose population estimates fall below threshold levels.

### Permitting

No permits are expected in RY20–RY24.

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