

Wolf Management Report and Plan, Game Management Unit 20D:

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

Robert W. Schmidt
Connor R. White



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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 Doreen I. Parker McNeill, Region III Management Coordinator for the Division of Wildlife Conservation, Fairbanks.

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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 20D 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

The Delta Junction Area (5,637 mi²) is located in eastern Interior Alaska and encompasses the central Tanana River Valley which includes the Tanana hills and lowlands, the eastern Alaska Range, private agricultural lands, and military training lands. Maps for the Delta Junction Area boundaries and special management areas are found at <http://www.adfg.alaska.gov/index.cfm?adfg=maps.main>

Summary of Status, Trend, Management Activities, and History of Wolves in Unit 20D

Wolves are present throughout Unit 20D where their primary prey is moose (*Alces alces*), caribou (*Rangifer tarandus*), and Dall sheep (*Ovis dalli*). Wolf and prey numbers were high in Unit 20D during the 1960s. The population was an estimated 200–250 wolves (35.5–44.3 wolves/1,000 mi²; 13.7–17.1 wolves/1,000 km²) at that time. Moose populations began to decline in the mid-1960s, and a wolf reduction program was authorized in 1979 to increase moose numbers. That program included aerial shooting permits issued to the public. From fall 1979 to spring 1983, 105 wolves were killed by trappers, ADF&G staff, and members of the public who had permits for aerial shooting. Most wolves were taken in southern and eastern Unit 20D. The wolf control program was terminated in November 1983 due to public demand (Crain 1985).

During 1983–2005, wolves continued to be harvested by hunters and trappers, but no wolf reduction programs occurred in Unit 20D. In 1995, the Alaska Board of Game (BOG) determined that the preferred use of moose and caribou in Unit 20D was for human consumption and found these populations to be below population and harvest objectives. In response, BOG adopted a 5-year wolf control implementation plan. Although this plan authorized ADF&G to conduct a wolf population reduction or regulation program in Unit 20D except on Fort Greely Military Reservation and within the Fortymile nonlethal predation control area during

1 July 1997–30 June 2002, the program was not conducted and no wolves were taken. However, 2 wolf packs in northeastern Unit 20D were reduced to 2 sterilized wolves during 1996–2001 as part of the Fortymile nonlethal predation control program (Boertje and Gardner 2003).

Wolf population reduction and regulation in northern Unit 20D was reinitiated in 2004 with adoption of the upper Yukon–Tanana predation control area (UYTPCA; Gross 2006). The objective was to increase the Fortymile caribou herd and the Unit 20E moose population. In Unit 20D, UYTPCA encompasses the portion of Unit 20D in the Goodpaster river drainage upstream from and including the South Fork Goodpaster river drainage, and within the Healy River, Billy Creek, and Sand Creek drainages. The wolf predation control program within UYTPCA was authorized for 5-year periods by BOG in 2004, 2009, and 2014. This program is currently ongoing and is conducted by permitted private citizens in coordination with and augmented by ADF&G (ADF&G 2016).

Management Direction

ADF&G will manage wolf populations to provide for human uses and to ensure that wolves remain an integral part of Interior Alaska's ecosystems. Compatible human uses include hunting and trapping (both for personal use and commercial sale of furs), photography, viewing, listening, and scientific and educational purposes (ADF&G 2002). The aesthetic value of being aware of or observing wolves in their natural environment is also recognized as an important human use of wolves.

We also recognize that integral to wolf management is the premise that wolf populations are renewable resources that can be harvested and manipulated to enhance human uses of other resources. Management may include both the manipulation of wolf population size and total protection of wolves from human influence.

EXISTING WILDLIFE MANAGEMENT PLANS

- None presently specific to wolves. Direction in *Alaska Wildlife Management Plans: Interior Alaska* (ADF&G 1976) has been modified by BOG regulatory actions over the years.

GOALS

- Ensure long-term conservation of wolves throughout their historic range in Alaska in relation to their prey and habitat.
- 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.
- Increase public awareness and understanding of uses, conservation and management of wolves, their prey, and habitat in Alaska.

CODIFIED OBJECTIVES

Maintain a minimum of 88–103 wolves in the portion of Unit 20D that is within UYTPCA in conjunction with the other units that are within the control area, Units 12, 20B, 20E, and 25C (5AAC 92.113).

Amounts Reasonably Necessary for Subsistence Uses

Unit 20D has a positive customary and traditional use finding, with an amount necessary for subsistence uses (ANS) of 90% of the harvestable portion.

Intensive Management

A portion of Unit 20D is within UYTPCA in conjunction with Units 12, 20B, 20E, and 25C. This IM regulation is managed out of the Tok Area office for Fortymile caribou herd growth. Refer to the Tok area wolf management report and plan for specifics.

MANAGEMENT OBJECTIVE

- Manage harvest to maintain a fall population of 15–125 wolves.

MANAGEMENT ACTIVITIES

- Monitor wolf population trends, distribution, and annual harvest.
- Conduct wolf predation control programs as directed by the commissioner and BOG.

1. Population Status and Trend

ACTIVITY 1.1. Conduct minimum count aerial survey in Unit 20D to estimate wolf population status and trend (objective 1).

Data Needs

- Unit 20D abundance estimate to evaluate management objective of 15–125 wolves and calculate density (wolves/1,000 mi²; wolves/1,000 km²) to compare to other studies.
- Unit 20D - Wolf abundance in relation to intensive management (IM) of Fortymile caribou.

Methods

ADF&G staff estimated wolf population size using annual hunter–trapper harvests and aerial surveys in 2011 and 2012. Due to inadequate survey conditions only 1 day of aerial surveys was conducted in 2013. No survey was conducted in RY14 due to reassignment of Delta Area staff during the survey time period and no survey was conducted in RY15 due to inadequate survey conditions. Unit 20D was subdivided into 2 areas, north and south of the Tanana River for calculating population estimates. Aerial surveys were conducted during February–April by flying and systematically searching for wolf tracks from a Piper PA–18 Super Cub. When tracks were

located, they were followed until the wolves were observed or until the number of wolves in the pack could be determined. Survey information was recorded on topographic maps. We supplemented survey data with information from interviews with knowledgeable local pilots, hunters, and trappers to determine pack size. Wolves harvested during the winter were added to spring pack size if known, to estimate fall pack size prior to hunting and trapping season. In some cases, fall pack size was known for packs observed during that time period.

Wolf harvest is monitored through a mandatory sealing program. All wolves harvested in Alaska must be presented to ADF&G or to a department designee to be sealed with a locking tag. Harvest information collected include date of kill, name of trapper or hunter, kill location (unit and specific location), method of take and transportation, sex of the wolf, pelt color, and estimated pack size. Harvest data were summarized by regulatory year.

Results and Discussion

Population Size

RY11 – An aerial wolf survey was flown in Unit 20D during 15 March–4 April 2012 for 40 hours of flight time, resulting in a search intensity of 0.5 min/mi² within 4,800 mi² of wolf habitat. In southern Unit 20D, we found 25 wolves in 4 packs and 2 singles (Table 1). An additional 7 wolves were reported killed by trappers and hunters during RY11 in southern Unit 20D (Table 2). Therefore, a minimum of 32 wolves were present within southern Unit 20D during fall 2011 (Table 1).

In northern Unit 20D we found 51 wolves in 10 packs during the aerial survey (Table 1). Reported take by trappers, hunters, and aerial wolf control conducted by ADF&G staff totaled 20 wolves (Table 2), resulting in a fall 2011 northern Unit 20D population estimate of 71 wolves (Table 1).

The unit wide RY11 fall population numbered at least 105 wolves in 14 packs (Table 1). This results in a density estimate of 21.9 wolves/1,000 mi² (8.4 wolves/1,000 km²) within 4,800 mi² (12,432 km²) of wolf habitat and meets the population objective (Table 1).

Table 1. Unit 20D fall wolf minimum population and density, Interior Alaska, regulatory years^a 2011–2015.

Area	Minimum number of wolves in Unit 20D derived from minimum count survey and wolf harvest by regulatory year				
	2011	2012	2013	2014	2015
Southern Unit 20D ^b	32	31	– ^c	– ^c	– ^c
Northern Unit 20D ^d	71	42	– ^c	– ^c	– ^c
Unit 20D total	105	73	– ^c	– ^c	– ^c
Estimated wolves/1,000 mi ²	21.9	15.2	– ^c	– ^c	– ^c

^a A regulatory year begins 1 July and ends 30 June, e.g., regulatory year 2011 = 1 July 2011–30 June 2012.

^b Unit 20D south of the Tanana River.

^c No data. Incomplete or no survey.

^d Unit 20D north of the Tanana River.

Table 2. Unit 20D wolf harvest per sex, location, and method of take, Interior Alaska, regulatory years^a 1985–2015.

Regulatory year	Reported harvest			Harvest location			Method of take				Total
	M	F	Unk	North of Tanana River	South of Tanana River	Unk	Trap–snare	Shot	SDA ^b	Unk	
1985	17	10	1	0	0		19	0	9	0	28
1986	11	7	0	0	0		18	0	0	0	18
1987	5	7	0	0	0		11	1	0	0	12
1988	5	12	4	0	0		20	1	0	0	21
1989	2	4	0	0	0		4	2	0	0	6
1990	8	13	2	0	0		6	4	13	0	23
1991	4	3	2	0	0		3	5	1	0	9
1992	8	9	5	0	0		16	6	0	0	22
1993	17	27	4	0	0		37	10	0	1	48
1994	16	9	0	0	0		24	1	0	0	25
1995	16	24	1	0	0		39	1	0	1	41
1996	17	10	1	10	18	0	22	6	0	0	28 ^b
1997	22	15	4	17	24	0	37	3	0	1	41 ^c
1998	14	9	2	12	13	0	24	1	0	0	25 ^d
1999	19	19	4	13	28	1	34	8	0	0	42
2000	21	16	4	12	29	0	33	8	0	0	41
2001	27	22	1	18	32	0	49	1	0	0	50
2002	16	8	1	9	16	0	18	6	0	1	25
2003	20	14	0	5	29	0	30	4	0	0	34
2004	10	18	1	16	13	0	20	6	0	3	29
2005	19	30	1	24	26	0	43	5	0	2	50
2006	25	27	1	25	28	0	48	3	1	1	53
2007	13	7	2	9	13	0	22	0	0	0	22
2008	30	23	0	43	10	0	26	2	25	0	53
2009	17	18	5	12	28	0	29	11	0	0	40
2010	23	15	1	7	32	0	31	8	0	0	39
2011	16	11	0	20	7	0	11	5	11	0	27
2012	15	13	0	16	12	0	15	4	9	0	28
2013	13	9	0	13	9	0	19	2	1	0	22
2014	11	15	1	6	21	0	23	4	0	0	27
2015	17	21	0	13	25	0	32	2	4	0	38

^a A regulatory year begins 1 July and ends 30 June, e.g., regulatory year 1985 = 1 July 1985–30 June 1986.

^b SDA refers to same-day-airborne take. These are wolves taken from aircraft by permitted pilots or by Alaska Department of Fish and Game staff.

RY12 – An aerial wolf survey was flown during 3–18 March 2013 for 34.5 hours of flight time resulting in a search intensity of 0.4 min/mi² of wolf habitat (4,800 mi²). We found 42 wolves in 10 packs (Table 1).

The spring 2013 southern Unit 20D minimum count was 19 wolves in 4 packs (Table 1). Trappers and hunters killed 12 wolves in southern Unit 20D, resulting in a minimum of 31 wolves within southern Unit 20D in fall 2012 (Tables 1 and 2). The spring survey in northern Unit 20D resulted in 26 wolves observed in 6 packs (Table 1). Trappers and ADF&G staff reported killing 16 wolves resulting in a minimum of 42 wolves within northern Unit 20D in fall 2012 (Tables 1 and 2).

The Unit 20D *RY12* fall population numbered at least 73 wolves (Table 1), resulting in a density estimate of 15.2 wolves/1,000 mi² (5.9 wolves/1,000 km²) within the 4,800 mi² (12,432 km²) of wolf habitat and meets the population objective (Table 1).

RY13 – Two hours and 56 minutes of aerial wolf survey was flown in Unit 20D on 11 April 2014. We found 2 wolves and 10 sets of wolf tracks in 3 packs and 1 single (Table 1).

Trappers and hunters killed 9 wolves in southern Unit 20D, and 13 wolves were reported killed by trappers and hunters and ADF&G staff in northern Unit 20D (Table 2).

No minimum population or densities were calculated due to an incomplete survey.

RY14 – An aerial wolf survey was not flown in Unit 20D during *RY14* due to reassignment of Delta Area staff during the survey time period. Trappers and hunters killed 21 wolves in southern Unit 20D (Table 2). In northern Unit 20D, 6 wolves were reported killed by trappers, hunters, ADF&G staff, and aerial predation control permit holders (Table 2).

RY15 – An aerial wolf survey was not flown in Unit 20D during *RY15* because of inadequate tracking conditions throughout Unit 20D. Trappers and hunters killed 25 wolves in southern Unit 20D (Table 2). In northern Unit 20D, 13 wolves were reported killed by trappers–hunters, aerial predation control permit holders, and ADF&G staff (Table 2).

Distribution and Movements

Wolves occur throughout all of Unit 20D and surveys were conducted unitwide in *RY11* and *RY12*.

There were 3 different wolf sightings on the Tanana River and 1 sighting on the Robertson River during the single day of surveying in *RY13*.

No additional distribution or movement data were collected during *RY11*–*RY15*.

Recommendations for Activity 1.1

Continue aerial surveys to determine minimum count of the unitwide spring wolf population. Utilize minimum count and harvest data to generate a minimum unitwide spring wolf population number to ensure the Unit 20D wolf population is within the population objective range.

2. Mortality–Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor harvest (objective 1).

Data Needs

Access wolf database annually through ADF&G’s Wildlife Information Network (WinfoNet) and query wolf fur sealing data for Unit 20D. We will use WinfoNet harvest database queries to construct summaries of reported harvest from fur sealing records.

Methods

Wolves harvested by ADF&G staff, trappers, and hunters were sealed to monitor harvest. Harvest data are archived in databases accessible through WinfoNet. Harvest is reported by regulatory year. Information recorded for each wolf included date of kill, name of trapper or hunter, specific location of kill, method of take and transportation, sex of the wolf, color of the pelt, and the number of other wolves thought to be in the pack.

Season and Bag Limit

<u>Unit/Bag Limit/ Special Restrictions</u>	<u>Resident Open Seasons</u>	<u>Nonresident Open Seasons</u>
<i>Unit 20D</i>		
HUNTING: Ten wolves. No wolf hunting same-day-airborne.	10 Aug–31 May	10 Aug–31 May
TRAPPING: No limit. No same-day-airborne shooting of wolves, except wolves caught in a trap or snare. No trapping with a steel trap or with a snare smaller than 3/32" in diameter during April or October.	15 Oct–30 Apr	15 Oct–30 Apr

Results and Discussion

Harvest by Hunters–Trappers

Overall, 142 wolves (including 25 killed by ADF&G staff in UYTPCA) were harvested in Unit 20D during RY11–RY15 (Table 3). Annual wolf harvests varied among years. ADF&G staff averaged a harvest of 5 wolves per year (Table 3). During RY11–RY15, overall hunter and trapper effort averaged 23.4 wolves per year (range 16–34) (Table 3). These fluctuations were likely related to unidentified factors that affected trappers (e.g., weather, snow conditions, trapping pressure), rather than instabilities in wolf numbers. Overall, combined harvest efforts from ADF&G staff, hunters, and trappers averaged 28.4 wolves per year during RY11–RY15 (Table 3).

The estimated wolf harvest rates (including wolves killed during wolf control) for the reporting period appear to be sustainable due to minimal variation in minimum count surveys. The National Research Council (1997) reported that determining sustainable levels of wolf harvest is difficult; estimates of sustainable rates of harvest vary from 29% (Adams et al. 2008) to 40%

(Ballard et al. 1987) of early winter populations. Based on our survey results, the harvest level appeared to be sustainable.

Areawide, the number of successful hunters–trappers ranged 7–15 (Table 4) during RY11–RY15. Annual hunter–trapper success showed little variation among years (average of 1.5–3.0 wolves taken per successful hunter–trapper each year). The accumulative number of wolves taken per successful hunter–trapper from RY11–RY15 averaged 2.1 wolves/hunter–trapper (Table 4).

Table 3. Unit 20D wolf harvest totals and averages, Interior Alaska, regulatory years^a 2011–2015.

Regulatory year	Harvest type		Total
	Predation control	Hunter–trapper	
2011	11	16	27
2012	9	19	28
2013	1	21	22
2014	0	27	27
2015	4	34	38
Total	25	117	142
Average	5	23.4	28.4

^a A regulatory year begins 1 July and ends 30 June, e.g., regulatory year 2011 = 1 July 2011–30 June 2012.

Table 4. Unit 20D wolf harvest success, Interior Alaska, regulatory years^a 2011–2015.

Regulatory year	Successful hunters and trappers	
	No. of trappers and hunters	Wolves/person
2011	11	1.5
2012	10	1.9
2013	7	3
2014	15	1.8
2015	15	2.3
Total	58	2.1

^a A regulatory year begins 1 July and ends 30 June, e.g., regulatory year 2011 = 1 July 2011–30 June 2012.

Other Mortality

Portions of Unit 20D, within the Goodpaster River drainage upstream from and including the South Fork Goodpaster drainage, and within the Healy River, and Billy and Sand Creek drainages, were in UYTPCA for the Fortymile caribou herd. During RY11–RY15, 25 (by ADF&G) wolves were reported taken by aerial wolf control in this area (Table 3). Wolf harvest in the Unit 20D portion of UYTPCA averaged 5 wolves per year (Table 3).

Harvest Chronology

Areawide, most wolves were harvested during November–March (Table 5). The remainder of the harvest was during April and August–October (Table 5).

Transport Methods

Areawide, trapping–snaring continued as the leading methods of take, followed by predation control (Table 2). The snowmachine has been the most common type of transportation used to take wolves (Table 6).

Recommendations for Activity 2.1

Continue to monitor harvest through mandatory sealing of wolves.

3. Habitat Assessment–Enhancement

None.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Harvest data are stored on ADF&G’s internal database housed on a server (<https://winfonet.alaska.gov/index.cfm>).
- All other electronic data and files such as survey memos and reports are located on the ADF&G-Delta Area Biologist’s computer; bwschmidt Home Drive (H:) Wolf and archived in WinfoNet Data Archive, Project Title ‘Unit 20D Wolf.’
- Field data sheets, paper files, hard copies, etc. are located in the file cabinet located in the ADF&G-Delta Junction Area Biologist’s office.

Agreements

None.

Permitting

None.

Table 5. Unit 20D wolf harvest chronology by month, Interior Alaska, regulatory years^a 1985–2015.

Regulatory year	Harvest chronology by month											Unk	<i>n</i>
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May ^b		
1985		0	0	0	4	3	4	5	8	2		2	28
1986		0	0	0	0	2	8	2	6	0		0	18
1987			1	0	4	0	1	6	0	0		0	12
1988			0	0	0	5	5	10	0	1		0	21
1989			0	1	0	3	0	0	2	0		0	6
1990			0	0	2	2	0	3	16	0		0	23
1991			0	2	0	2	1	1	3	0		0	9
1992			1	1	0	2	8	4	3	2		1	22
1993			0	5	0	6	11	6	4	16		0	48
1994			0	1	0	0	3	6	8	6		1	25
1995				0	0	9	7	8	7	9		1	41
1996	0		2	2	1	6	4	4	7	1		0	27
1997	1		0	1	0	9	9	8	3	9		1	41
1998	0		0	0	0	6	8	4	5	2		0	25
1999	0		0	2	0	5	7	9	6	11		2	42
2000	0		1	3	1	9	6	5	7	6		3	41
2001	0		0	0	0	15	12	6	11	4		1	50
2002	0		0	6	0	1	3	7	2	4		2	25
2003	0		1	1	0	4	11	6	6	5		0	34
2004	0		1	3	0	6	3	5	5	3		0	29
2005	0		1	3	1	12	10	14	6	3		0	50
2006	0		0	2	1	18	10	9	4	8		1	53
2007	0		0	0	0	4	6	3	6	3		0	22
2008	0		0	1	0	2	2	2	21	25 ^c		0	53
2009	0		6	3	1	3	8	3	12	4		0	40
2010	0		1	3	1	9	10	8	4	2		0	39
2011	0		4	1	0	4	4	0	2	12 ^d		0	27
2012	0		0	2	1	6	3	3	1	12 ^e		0	28
2013	0		1	1	0	5	1	4	3	7 ^f		0	22
2014	0		0	3	0	3	7	8	4	1		1	27
2015	0		0	2	0	0	4	14	11	7 ^g		0	38

^a A regulatory year begins 1 July and ends 30 June, e.g., regulatory year 1985 = 1 July 1985–30 June 1986.

^b The month of May was not within the Unit 20D wolf hunting season until regulatory year 2006.

^c Wolves taken from helicopters by the Alaska Department of Fish and Game (ADF&G) in the aerial wolf control program in the upper Yukon–Tanana predation control area (UYTPCA).

^d Includes 11 wolves taken by ADF&G in UYTPCA.

^e Includes 10 wolves taken by ADF&G in UYTPCA.

^f Includes 1 wolf taken by ADF&G in UYTPCA.

^g Includes 4 wolves taken by ADF&G in UYTPCA.

Table 6. Unit 20D wolf harvest by transport method, Interior Alaska, regulatory years^a 1985–2015.

Regulatory year	Harvest by transport method									<i>n</i>
	Airplane	Dogsled–Horse	Boat	3- or 4-wheeler	Snowmachine	ORV ^b	Highway vehicle	Ski–Walk	Unk	
1985	10	0	0	0	16	0	1		1	28
1986	1	1	0	0	16	0	0		0	18
1987	1	5	0	0	4	0	1		1	12
1988	0	0	0	0	21	0	0		0	21
1989	0	0	0	0	4	1	0		1	6
1990	15	0	0	0	4	1	3		0	23
1991	1	0	0	0	6	0	2		0	9
1992	10	0	0	1	8	1	0		2	22
1993	7	0	0	0	34	0	5		2	48
1994	0	1	0	0	17	0	6		1	25
1995	1	2	0	2	22	1	13		0	41
1996	1	2	0	1	13	1	8		1	27
1997	0	4	0	0	22	0	6	9	0	41
1998	0	3	0	1	11	0	10	0	0	25
1999	0	0	1	2	26	2	7	4	0	42
2000	1	0	1	1	27	1	8	2	0	41
2001	0	0	0	0	40	0	9	1	0	50
2002	3	2	0	1	14	0	3	2	0	25
2003	0	0	0	1	24	1	8	0	0	34
2004	3	0	0	2	19	0	2	3	0	29
2005	4	0	0	0	30	1	10	5	0	50
2006	4	0	0	0	39	1	9	0	0	53
2007	1	0	0	0	18	0	0	3	0	22
2008	26 ^c	2	1	0	21	0	3	0	0	53
2009	4	1	0	2	21	0	1	11	0	40
2010	0	1	1	2	26	0	2	7	0	39
2011	13 ^c	0	0	0	9	0	2	2	1	27
2012	9 ^c	0	2	0	9	0	7	0	1	28
2013	3 ^c	0	0	1	17	0	1	0	0	22
2014	12	0	0	1	9	0	5	0	0	27
2015	7 ^c	0	1	4	16	0	10	0	0	38

^a A regulatory year begins 1 July and ends 30 June, e.g., regulatory year 1985 = 1 July 1985–30 June 1986.

^b ORV = off-road vehicles.

^c Includes wolves taken from helicopters by the Alaska Department of Fish and Game in the aerial wolf control program in the upper Yukon-Tanana predation control area.

Conclusions and Management Recommendations

During RY11–RY12, the areawide estimated wolf population of 73–105 wolves (15.2–21.9 wolves/1,000 mi²; 5.9–8.4 wolves/1,000 km²) met the management objective of a fall population of 15 to 125 wolves (3.1–26 /1,000 mi²; 1.2–10 wolves/1,000 km²). Removal rates did not exceed sustainable levels throughout Unit 20D, even with the additional take of 25 wolves by ADF&G staff and aerial shooting permittees in the predation control program. Although no surveys were conducted during RY13–RY15, the population objective was likely met.

No regulatory changes are recommended for Unit 20D wolf management. We recommend continuing to evaluate harvest trends under current regulations and harvest effort and to refine management goals to include maintenance of a viable wolf population in Unit 20D while managing wolves to aid in achieving Fortymile caribou intensive management population and harvest objectives.

II. Project Review and RY15–RY19 Plan

Review of Management Direction

MANAGEMENT DIRECTION

ADF&G will manage wolf populations to provide for human uses and to ensure that wolves remain an integral part of Interior Alaska's ecosystems. Compatible human uses include hunting and trapping (both for personal use and commercial sale of furs), photography, viewing, listening, and scientific and educational purposes (ADF&G 2002). The aesthetic value of being aware of or observing wolves in their natural environment is also recognized as an important human use of wolves.

We also recognize that integral to wolf management is the premise that wolf populations are renewable resources that can be harvested and manipulated to enhance human uses of other resources. Management may include both the manipulation of wolf population size and total protection of wolves from human influence.

GOALS

- Ensure long-term conservation of wolves throughout their historic range in Alaska in relation to their prey and habitat.
- 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.
- Increase public awareness and understanding of uses, conservation and management of wolves, their prey, and habitat in Alaska.
- Ensure wolf harvest does not exceed sustainable rates in Unit 20D.

CODIFIED OBJECTIVE

- Maintain a minimum of 88–103 wolves in the portion of Unit 20D that is within UYTPCA in conjunction with the other units that are within the control area, Units 12, 20B, 20E, and 25C (5 AAC 92.113).

Amounts Reasonably Necessary for Subsistence Uses

- Unit 20D has a positive customary and traditional use finding, with an amount necessary for subsistence uses (ANS) of 90% of the harvestable portion.

Intensive Management

A portion of Unit 20D is within UYTPCA in conjunction with Units 12, 20B, 20E, and 25C. This IM regulation is managed out of the Tok Area office for Fortymile caribou herd growth. Refer to the Tok area wolf management report and plan for specifics.

MANAGEMENT OBJECTIVES

- Manage harvest to maintain a fall population of 15–125 wolves.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Conduct minimum wolf count aerial survey in Unit 20D to estimate wolf population status and trend (objective 1).

Data Needs

- Unit 20D abundance estimate to evaluate management objective of 15–125 wolves (3.1–26 wolves/1,000 mi²; 1.2–10 wolves/1,000 km²).
- Unit 20D - Wolf abundance in relation to IM of Fortymile caribou.

Methods

ADF&G staff will estimate wolf population size using annual hunter–trapper harvests and minimum wolf count aerial surveys. Unit 20D will be subdivided into 2 areas, north and south of the Tanana River for calculating population estimates. Aerial surveys will be conducted during February–April by flying and systematically searching for wolf tracks from a Piper PA–18 Super Cub. Minimum wolf counts will be used to confirm the wolf population is within the management objective. Local harvest and control data will be used to identify areas where wolves are likely to occur and in what numbers. When tracks are located, they will be followed until the wolves are observed or until the number of wolves in the pack can be determined. Survey information will be recorded on topographic maps. The department will supplement survey data with information from interviews with knowledgeable local pilots, hunters, and trappers to determine pack size. Wolves harvested during the winter will be added to spring pack

size if known, to estimate fall pack size prior to hunting and trapping season. In some cases, fall pack size will be known for packs observed during that time period.

Wolf harvest is monitored through a mandatory sealing program. All wolves harvested in Alaska must be presented to ADF&G or to a department designee to be sealed with a locking tag. Harvest information collected include date of kill, name of trapper or hunter, kill location (unit and specific location), method of take and transportation, sex of the wolf, pelt color, and estimated pack size. Harvest data were summarized by regulatory year. These data will be accounted for when estimating population size of wolves within Unit 20D.

2. Mortality–Harvest Monitoring

ACTIVITY 1.1. Monitor harvest through sealing records (objective 1).

Data Needs

Access wolf database annually through WinfoNet and query wolf fur sealing data for Unit 20D.

Methods

- RY16–RY20 – Wolves harvested by trappers and hunters will continue to be sealed to monitor harvest.
- If minimum_harvest (to put the wolf population below 125 wolves) is not met for 5 years in a row, current ungulate population estimates or minimum counts will be compared to their population objectives. If the wolf population is above 125 for 5 years in a row, and if ungulate population estimates–minimum counts are below objective for 5 years in a row, modifications to regulations, designed to increase harvest and within the frameworks of BOG authorization and state of Alaska regulations, will be considered.
- RY16–RY17 – Continue to conduct private and department wolf control in UYTPCA for the next 2 regulatory years. Reassessment will be made if necessary after RY17.

3. Habitat Assessment–Enhancement

None.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

None.

Data Recording and Archiving

- Harvest data are stored on an internal database housed on ADF&G’s server (<http://winfonet.alaska.gov/index.cfm>).
- All other electronic data and files such as survey memos and reports are located on the ADF&G-Delta Area Biologist’s computer; bwschmidt Home Drive (H:) Wolf and archived in WinfoNet Data Archive, Project Title ‘Unit 20D Wolf.’

- Field data sheets, paper files, hard copies, etc. are located in the file cabinet located in ADF&G-Delta Junction Area Biologist's office.

Agreements

None.

Permitting

None.

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