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

Report Period 1 July 2015–30 June 2020, and

Plan Period 1 July 2020–30 June 2025

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Alaska Department of Fish and Game Division of Wildlife Conservation

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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 Jason Caikoski, Management Coordinator for Region III for the Division of Wildlife Conservation.

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Cover Photo: Wolf survey in southern Unit 20D, October 2020. ©2020 ADF&G. Photo by Robert W. Schmidt.

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Purpose of this Report

This report provides a record of survey and inventory management activities for wolves (*Canis lupus*) in Game Management Unit 20D for the 5 regulatory years 2015–2019 and plans for survey and inventory management activities in the next 5 regulatory years, 2020–2025. A regulatory year (RY) runs from 1 July through 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 reports of survey and inventory activities that were previously produced every 3 years.

I. RY15–RY19 Management Report

Management Area

Unit 20D is in Interior Alaska in the central Tanana River Valley and covers approximately 5,637 mi^2. The community of Delta Junction is on the west side of the management unit and is located 100 miles southeast of Fairbanks. The northern portion of the unit consists of the Goodpaster, Volkmar, and Healy river valleys and the Tanana Highlands with elevations ranging from 851–6,444 feet. The southern portion consists of the Tanana River floodplain, the lower Delta River floodplain, the Delta Agricultural Project, the drainages of the Robertson, Johnson, and Gerstle rivers, and the northern mountains and foothills of the Alaska Range with elevations up to 10,278 feet. Lowland vegetation is a mosaic of shrub and early successional dominated forests, climax bogs, and mature black spruce (*Picea mariana*) forest. Vegetation in the hills, foothills, and mountains grades from taiga at lower elevations into shrub dominated communities with alpine tundra at higher elevations. The climate is typical of Interior Alaska where temperatures frequently reach 80° F in summer and -40° F in winter. Snow depths are generally below 32 inches (Western Regional Climate Center 2006). The Delta Junction area, in comparison to other Interior communities, has the unique feature of strong southern Chinook winds that occur often throughout the winter. These winds bring mild temperatures to the mountains and foothill regions of southern Unit 20D. Ridgetops are often blown free of snow throughout the high country in southern Unit 20D. While the southern Chinook winds affect northern Unit 20D less, the area is still occasionally affected by these winds; northern Unit 20D is affected to an even greater extent by the east winds that also occur regularly in the Delta Junction area.

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 mi^2; 13.7–17.1 wolves/1,000 km^2) at that time. Moose populations began to

decline in the mid-1960s, and a wolf reduction program was authorized in 1979 in an effort to increase moose numbers. The 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 in response 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 RY97–RY01, 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 the 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 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 by BOG for 5-year periods in 2004, 2009, and 2014. Wolf control was conducted by permitted private citizens in coordination with and augmented by ADF&G from 2004–2018. Predator control activities in the UYTPCA were suspended in 2018 so that the department could evaluate the effects of predation control on the Fortymile caribou herd and wolves in the area. Wolves continue to be harvested by hunters and trappers (ADF&G 2020).

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 Delta Junction ADF&G office also recognizes that integral to wolf management is the premise that wolf populations are a renewable resource that can be harvested and manipulated to enhance human uses of other resources.

Existing Wildlife Management Plans

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 (Schmidt and White 2018).

GOALS

G1. Ensure long-term conservation of wolves throughout their historic range in Unit 20D in relation to their prey and habitat.

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

G3. Increase public awareness and understanding of uses, conservation, and management of wolves, their prey, and habitat in Alaska.

G4. Ensure wolf harvest does not exceed sustainable rates in Unit 20D.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

C1. Unit 20D has a positive finding for customary and traditional use of wolves. The amounts reasonably necessary (ANS) for subsistence uses for Unit 20D is 90% of the harvestable portion.

Intensive Management

The intensive management (IM) objective is to maintain a minimum of 88–103 wolves in the portion of Unit 20D that is within the Upper Yukon-Tanana Predation Control Area (UYTPCA) in conjunction with the other units that are within the control area (Units 12, 20B, 20E, and 25C; 5AAC 92.113).

This IM regulation is managed out of the Tok area office for Fortymile caribou herd growth. Predation control in this area was active from 2004–2018 and suspended in 2018. Refer to *Wolf Management Report and Plan, Game Management Units 12 and 20E* (Gross *In prep*) for specifics.

MANAGEMENT OBJECTIVES

M1. Manage harvest to maintain a fall population of 15–125 wolves.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Conduct minimum count aerial surveys in Unit 20D to estimate wolf population status and trend (Objective M1).

Data Needs

Unit 20D wolf abundance estimates are needed to evaluate the management objective of 15–125 wolves in the fall population and to calculate wolf density to ensure an adequate balance of prey

to predators in Unit 20D according to IM regulation. The Unit 20D wolf abundance may also be needed to evaluate IM objectives for the Fortymile caribou herd.

Methods

ADF&G staff estimated wolf population size using annual hunter–trapper harvest data and aerial surveys in 2017 and 2018. No survey was conducted in spring 2016 (RY15) due to inadequate survey conditions, and surveys were not conducted in the spring of 2019 and 2020 (RY18 and RY19) due to lack of funding. Unit 20D was subdivided into 2 areas, north and south of the north bank of the Tanana River for calculating population estimates. Aerial surveys were conducted in March by flying and systematically searching for wolf tracks from a Piper PA–18 Super Cub (Gardner and Pamperin 2014). When tracks were located, they were followed until the wolves were observed or until the number of wolves in the pack could be determined. Global Positioning System (GPS) waypoints were taken, and data recorded on a paper data sheet or 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 the spring pack size to estimate the previous fall's pack size prior to hunting and trapping season. In some cases, the fall pack size was known for packs observed during that time period.

Results and Discussion

Population Size

RY15

An aerial wolf survey was not flown in Unit 20D during RY15 because of inadequate tracking conditions throughout the unit (Table 1). Reported harvest by hunters and trappers in southern Unit 20D was 25 wolves (Table 2). In northern Unit 20D, 13 wolves were taken by trappers and hunters, aerial predation control permit holders, and ADF&G staff (Table 2).

Table 1. Fall wolf minimum population and density, Unit 20D, Interior Alaska, regulatory years 2015–2019.

Regulatory year	Minimum number of wolves: Southern Unit 20D[a]	Minimum number of wolves: Northern Unit 20D[b]	Minimum number of wolves: Total	Estimated wolves/1,000 mi^2
2015[c]	–	–	–	–
2016	76	68	144	30
2017	64	67	131	27.3
2018[c]	–	–	–	–
2019[c]	–	–	–	–

Note: Minimum number of wolved derived from minimum count survey and wolf harvest.
[a] Unit 20D south of the Tanana River.
[b] Unit 20D north of the Tanana River.
[c] No data. Incomplete or no survey.

Table 2. Wolf harvest by sex, location, and method of take, Unit 20D, Interior Alaska, regulatory years 2000–2019.

	Reported harvest			Harvest location			Method of take				
Regulatory year	Male	Female	Unknown	North of Tanana River	South of Tanana River	Unknown	Trap/ snare	Shot	SDA[a]	Unknown	Total
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
2016	24	28	1	24	29	0	38	3	12	0	53
2017	16	9	1	12	14	0	20	5	1	0	26
2018	16	13	1	10	20	0	27	3	0	0	30
2019	21	33	0	36	18	0	48	6	0	0	54

[a] 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.

RY16

An aerial wolf survey was flown in Unit 20D throughout March 2017. Southern Unit 20D and a small portion of northern Unit 20D were flown by Delta Junction area staff in 17.5 hours. The majority of northern Unit 20D was surveyed during UYTPCA predator reduction work. Approximately 4,800 mi^2 of wolf habitat was surveyed overall. In southern Unit 20D, we found 47 wolves in 7 packs and 5 singles (Table 1). An additional 29 wolves were reported killed by trappers and hunters during RY16 in southern Unit 20D (Table 2). Therefore, a minimum of 76 wolves were present within southern Unit 20D during fall 2016 (Table 1). In northern Unit 20D we found an estimated 44 wolves in 11 packs during the aerial survey. Reported take by trappers, hunters, and aerial wolf control conducted by ADF&G staff totaled 24 wolves (Table 2), resulting in a fall 2016 northern Unit 20D population estimate of 68 wolves (Table 1). The unitwide RY16 fall population numbered at least 144 wolves in 18 packs (Table 1). This resulted in a density estimate of 30 wolves/1,000 mi^2 (11.6 wolves/1,000 km^2) within 4,800 mi^2 (12,432 km^2) of wolf habitat and exceeded the population objective for wolves in Unit 20D (Table 1).

RY17

An aerial wolf survey was flown during 2–16 March 2018. Southern Unit 20D and a small portion of northern Unit 20D were flown by Delta Junction area staff in 19.5 hours. The majority of northern Unit 20D was surveyed during UYTPCA predator reduction work. Approximately 4,800 mi^2 of wolf habitat was surveyed overall. In southern Unit 20D, we found 50 wolves in 14 packs and 1 single. An additional 14 wolves were reported in harvest by trappers and hunters during RY17 in southern Unit 20D (Table 2). Therefore, a minimum of 64 wolves were present within southern Unit 20D during fall 2017 (Table 1). In northern Unit 20D we found an estimated 55 wolves in 12 packs and 3 singles during the aerial survey. Reported take by trappers, hunters, and aerial wolf control conducted by ADF&G staff totaled 12 wolves (Table 2), resulting in a fall 2017 northern Unit 20D population estimate of 67 wolves (Table 1). The unitwide RY17 fall population numbered at least 131 wolves (Table 1), resulting in a density estimate of 27.3 wolves/1,000 mi^2 (10.5 wolves/1,000 km^2) within the 4,800 mi^2 (12,432 km^2) of wolf habitat and exceeded the population objective (Table 1).

RY18

An aerial wolf survey was not conducted in spring 2019 due to budgetary constraints. Trappers and hunters harvested 20 wolves in southern Unit 20D, and 10 wolves were harvested by trappers and hunters in northern Unit 20D (Table 2). No minimum population or densities were calculated because a survey was not conducted.

RY19

An aerial wolf survey was not conducted in spring 2020 due to budgetary constraints. The reported harvest by trappers and hunters was 18 wolves in southern Unit 20D. In northern Unit 20D, 36 wolves were harvested by trappers and hunters (Table 2). No minimum population or densities were calculated by Delta Junction area staff because a survey was not conducted. However, an intensive aerial wolf survey (Gardner and Pamperin 2014) was conducted within the UYTPCA by Region III research biologists and Tok area staff to evaluate the effects of predator control on the wolf population size. During this survey, 36 wolves were observed and a total of 74 wolves were estimated in the portion of northern Unit 20D within the UYTPCA. This

estimate was calculated using observations of tracks and individuals (Danny Caudill and Jeff Gross, ADF&G Wildlife Biologists, 2020, unpublished data).

Population Composition

Wolf population composition is unknown for Unit 20D. It is not possible to determine males from females during aerial surveys and the ratio of pups to adults was not calculated. Sex data is collected on harvested wolves at the time of sealing, but this data was not used to assume overall population composition.

Distribution and Movements

Wolves occur throughout all of Unit 20D, and surveys were conducted unitwide in RY16 and RY17. Wolves are sometimes sighted from the air during other survey and inventory activities, such as moose or caribou surveys. Sightings are recorded on data sheets and reported in survey memos for those species-specific surveys. No additional distribution or movement data were collected during RY15–RY19.

Recommendations for Activity 1.1

Continue aerial surveys to determine the minimum count of the unitwide spring wolf population. Use the minimum count along with harvest data to generate a unitwide minimum fall 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 through sealing records (Objective M1).

Data Needs

Annual sealing data are needed to track the number of harvested wolves, sex ratio of the harvest, pack size, pelt color, and other metrics that help guide management decisions. These data help supplement survey information to determine if the Unit 20D wolf population is within the population objective range. Harvest data gathered through sealing is often the primary information used to monitor and manage Unit 20D wolves.

Methods

Wolf harvest is monitored through a mandatory sealing regulation. 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.

Season and Bag Limit

During RY15–RY19 the Unit 20D wolf season and bag limit under hunting regulations was 10 wolves during 10 August–31 May for residents and nonresidents. During the March 2020 Region III BOG meeting, the season was changed to 1 August–30 April. This change took effect at the beginning of RY20 (1 July 2020).

During RY15–RY19 the Unit 20D wolf season under trapping regulations was 15 October–30 April for residents and nonresidents. There is no limit to the number of wolves taken under a trapping license during the open trapping season in Unit 20D.

Results and Discussion

Harvest by Hunters–Trappers

Overall, 201 wolves (including 17 taken during predator control by ADF&G staff in UYTPCA) were harvested in Unit 20D during RY15–RY19 (Table 3). Annual wolf harvests varied among regulatory years. During RY15–RY19, overall hunter and trapper effort averaged 36.8 wolves per year (range 25–54; Table 3). These fluctuations were likely related to factors that could not be quantified such as weather, snow conditions, and trapping pressure, rather than variation in annual wolf numbers. Overall, combined harvest efforts from hunters, trappers, and ADF&G staff averaged 40.2 wolves per year during RY15–RY19 (Table 3).

The annual wolf harvest rates (including wolves killed during wolf control) for the reporting period appear to be sustainable due to small variation between annual 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 the early winter population. We calculated the Unit 20D harvest rate based on harvest data and minimum count surveys. This number is considered the maximum harvest rate because we use a minimum count as the population size. The RY16 harvest was 36.8% of the fall population estimate (including 12 wolves taken as part of the predation control program). The RY17 harvest was 19.8% of the fall population estimate. Based on our survey results, these harvest levels appear to be sustainable.

Table 3. Wolf harvest totals and averages, Unit 20D, Interior Alaska, regulatory years 2015–2019.

	Harvest type		
Regulatory year	Predation control	Hunter or trapper	Total
2015	4	34	38
2016	12	41	53
2017	1	25	26
2018	0	30	30
2019	0	54	54
Total	17	184	201
Average	3	37	40

Areawide, the number of successful hunters and trappers ranged from 15 to 19 (Table 4). Annual hunter-trapper success showed little variation among regulatory years (range 1.5–2.8 wolves per successful hunter-trapper; Table 4). The number of wolves taken per successful hunter-trapper during RY15–RY19 averaged 2.3 wolves per year.

Table 4. Wolf harvest success, Unit 20D, Interior Alaska, regulatory years 2015–2019.

	Successful hunters and trappers	
Regulatory year	Number of hunters and trappers	Wolves per person
2015	15	2.3
2016	15	2.7
2017	17	1.5
2018	15	2.0
2019	19	2.8
Total	81	11.3

Harvest Chronology

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

Transport Methods

Areawide, trapping and snaring were the predominant methods of take, followed by ground shooting, and then predation control (Table 2). Therefore, snowmachines were the most common type of transportation used to take wolves (Table 6).

Other Mortality

Portions of Unit 20D were in UYTPCA program for the Fortymile caribou herd: the Goodpaster River drainage upstream from and including the South Fork Goodpaster drainage, and the Healy River, Billy Creek, and Sand Creek drainages. During RY15–RY19, 17 wolves were taken by airborne wolf control (by ADF&G) in this area (Table 3). Wolf harvest in the Unit 20D portion of UYTPCA averaged 3.4 wolves per year (Table 3).

Alaska Board of Game Actions and Emergency Orders

The Board of Game changed the wolf hunting season in Unit 20D to 1 August–30 April at the March 2020 Interior and Northeast Arctic meeting. The change took effect at the beginning of RY20.

Recommendations for Activity 2.1

Continue to monitor harvest through the mandatory sealing of wolves.

Table 5. Wolf harvest chronology by month, Unit 20D, Interior Alaska, regulatory years 2000–2019.

Regulatory year	Number of wolves harvested												
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May[a]	Unknown	Total
2000	0	1	3	1	9	6	5	7	6	3	–	0	41
2001	0	0	0	0	15	12	6	11	4	1	–	1	50
2002	0	0	6	0	1	3	7	2	4	2	–	0	25
2003	0	1	1	0	4	11	6	6	5	0	–	0	34
2004	0	1	3	0	6	3	5	5	3	0	–	3	29
2005	0	1	3	1	12	10	14	6	3	0	–	0	50
2006	0	0	2	1	18	10	9	4	8	1	0	0	53
2007	0	0	0	0	4	6	3	6	3	0	0	0	22
2008	0	0	1	0	2	2	2	21	25[b]	0	0	0	53
2009	0	6	3	1	3	8	3	12	4	0	0	0	40
2010	0	1	3	1	9	10	8	4	2	0	1	0	39
2011	0	4	1	0	4	4	0	2	12[c]	0	0	0	27
2012	0	0	2	1	6	3	3	1	12[d]	0	0	0	28
2013	0	1	1	0	5	1	4	3	7[e]	0	0	0	22
2014	0	0	3	0	3	7	8	4	1	1	0	0	27
2015	0	0	2	0	0	4	14	11	7[f]	0	0	0	38
2016	0	2	1	1	1	16	11	5	16[g]	0	0	0	53
2017	0	1	1	1	2	6	8	2	5[h]	0	0	0	26
2018	0	0	3	0	8	3	9	5	2	0	0	0	30
2019	0	1	2	0	5	15	14	10	7	0	0	0	54

[a] The month of May was not within the Unit 20D wolf hunting season until regulatory year 2006.
[b] 25 wolves taken from helicopters by the Alaska Department of Fish and Game (ADF&G) in the airborne wolf control program in the Upper Yukon–Tanana Predation Control Area (UYTPCA).
[c] Includes 11 wolves taken by ADF&G in UYTPCA.
[d] Includes 10 wolves taken by ADF&G in UYTPCA.
[e] Includes 1 wolf taken by ADF&G in UYTPCA.
[f] Includes 4 wolves taken by ADF&G in UYTPCA.
[g] Includes 12 wolves taken by ADF&G in UYTPCA.
[h] Includes 1 wolf taken by ADF&G in UYTPCA.

Table 6. Wolf harvest by transport method, Unit 20D, Interior Alaska, regulatory years 2000–2019.

Regulatory year	Number of wolves harvested									
	Airplane	Dogsled or horse	Boat	3- or 4-wheeler	Snowmachine	ORV[a]	Highway vehicle	Ski or walk	Unknown	Total
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[b]	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[b]	0	0	0	9	0	2	2	1	27
2012	9[b]	0	2	0	9	0	7	0	1	28
2013	3[b]	0	0	1	17	0	1	0	0	22
2014	12	0	0	1	9	0	5	0	0	27
2015	7[b]	0	1	4	16	0	10	0	0	38
2016	13[b]	0	0	0	29	3	8	0	0	53
2017	2[b]	0	0	0	19	0	3	2	0	26
2018	4	0	2	3	7	0	14	0	0	30
2019	3	0	0	0	43	0	8	0	0	54

[a] ORV stands for off-road vehicles.

[b] 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.

3. Habitat Assessment–Enhancement

No habitat assessment or enhancement activities for the benefit of wolves occurred in Unit 20D during RY15–RY19.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Harvest data are stored on ADF&G's Wildlife Information Network (WinfoNet) (https://winfonet.alaska.gov/index.cfm).
- All other electronic data and files such as survey memos and reports are stored on the ADF&G Delta Junction area biologist's computer home drive and archived in WinfoNet, 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.

Conclusions and Management Recommendations

During RY16 and RY17, the areawide estimated wolf population of 131 and 144 wolves (27.3 and 30 wolves per 1,000 mi^2; 10.5 and 11.6 wolves per 1,000 km^2) exceeded the management objective of a fall population of 15–125 wolves (3.1–26 per 1,000 mi^2; 1.2–10 wolves per 1,000 km^2). Removal rates did not exceed sustainable levels throughout Unit 20D, even with the additional take of 17 wolves by ADF&G staff in the predation control program. Although no surveys were conducted during RY15 and RY18–RY19, the population objective was likely met or exceeded.

No regulatory changes are recommended for Unit 20D wolf management. We recommend continuing to evaluate harvest trends and hunter-trapper effort under the current regulations.

II. Project Review and RY20–RY24 Plan

Review of Management Direction

ADF&G will manage wolf populations to provide for human uses and to ensure that wolves remain an integral part of Unit 20D ecosystem. 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 Delta Junction ADF&G office also recognizes that integral to wolf management is the premise that wolf populations are a renewable resource that can be harvested and manipulated to enhance human uses of other resources.

GOALS

G1. Ensure long-term conservation of wolves throughout their historic range in Alaska in relation to their prey and habitat.

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

G3. Increase public awareness and understanding of uses, conservation and management of wolves, their prey, and habitat in Alaska.

G4. Ensure wolf harvest does not exceed sustainable rates in Unit 20D.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

C1. Unit 20D has a positive finding for customary and traditional use of wolves. The ANS for Unit 20D is 90% of the harvestable portion.

Intensive Management

The Upper Yukon-Tanana Predation Control Program to benefit the Fortymile caribou herd was not active at the time of publication of this report, but the regulation remains in codified objectives and could be reactivated if needed during this plan period. The plan calls for maintaining a minimum of 88–103 wolves in the portion of Unit 20D that is within the Upper Yukon-Tanana Predation Control Area (UYTPCA) in conjunction with the other units that are within the control area (Units 12, 20B, 20E, and 25C; 5AAC 92.113).

This IM regulation is managed out of the Tok area office. Predation control in this area was active from 2004–2018 and was suspended in 2018. Refer to *Wolf Management Report and Plan, Game Management Units 12 and 20E* (Gross *In prep*) for specifics.

MANAGEMENT OBJECTIVES

M1. 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 count aerial surveys in Unit 20D to estimate wolf population status and trend (Objective M1).

Data Needs

Unit 20D abundance estimates are occasionally needed to evaluate the management objective of 15–125 wolves in the fall population and to calculate wolf density to ensure an adequate balance of prey to predators in Unit 20D according to intensive management (IM) regulation. Unit 20D wolf abundance may also be needed to evaluate IM objectives for the Fortymile caribou herd.

Methods

Same as RY15–RY19 report period.

2. Mortality, Harvest Monitoring, and Regulations

ACTIVITY 2.1. Monitor harvest through sealing (Objective M1).

Data Needs

Annual sealing data are needed to track the number of harvested wolves, sex ratio of the harvest, pack size, pelt color, and other metrics that help guide management decisions. These data help supplement survey data to determine if the Unit 20D wolf population is within the population objective range. Harvest data gathered through sealing is often the primary information used to monitor and manage wolved in Unit 20D.

Methods

Same as RY15–RY19 report period.

3. Habitat Assessment and Enhancement

No habitat assessment or enhancement activities for the benefit of wolves are planned for Unit 20D during RY20–RY24.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Harvest data will be stored on ADF&G's WinfoNet.
- All other electronic data and files such as survey memos and reports will be stored on the ADF&G Delta Junction area biologist's computer home drive and archived in WinfoNet Data, Project Title: Unit 20D Wolf.
- Field data sheets, paper files, hard copies, etc. will be stored in the file cabinet located in the ADF&G Delta Junction area biologist's office.

Agreements

None.

Permitting

None.

References Cited

Adams, L. G., R. O. Stephenson, B. W. Dale, R. T. Ahgook, and D. J. Demma. 2008. Population dynamics and harvest characteristics of wolves in the central Brooks Range, Alaska. Wildlife Monographs 170(1):1-25. https://doi.org/10.2193/2008-012

Alaska Department of Fish and Game. 2002. Strategic plan. Division of Wildlife Conservation, Juneau.

Alaska Department of Fish and Game. 2020. Annual report to the Alaska Board of Game on intensive management for Fortymile caribou with wolf predation control in the upper Yukon–Tanana predation control area of Game Management Units 12, 20B, 20D, 20E and 25C. Division of Wildlife Conservation, Juneau.

Ballard, W. B., J. S. Whitman, and C. L. Gardner. 1987. Ecology of an exploited wolf population in South-central Alaska. Wildlife Monographs 98.

Boertje, R. D., and C. L. Gardner. 2003. Reducing mortality on the Fortymile caribou herd, 1 July 1997–30 June 2003. Alaska Department of Fish and Game, Division of Wildlife Conservation, Federal Aid in Wildlife Restoration Project 3.43, Juneau.

Crain, E. B. 1985. Wolf survey-inventory progress report, Game Management Unit 20. Pages 29–32 [*In*] B. Townsend, editor. Annual report of survey-inventory activities 1 July 1983–30 June 1984: Part XV wolf. Alaska Department of Fish and Game, Division of Game, Federal Aid in Wildlife Restoration Job 14.0, Juneau.

Gardner, C.L., and N. J. Pamperin. 2014. Intensive aerial wolf survey operations manual for Interior Alaska. Alaska Department of Fish and Game, Wildlife Special Publication ADF&G/DWC/WSP-2014-01, Juneau.

Gross, J. A. 2006. Unit 20E wolf. Pages 176–187 [*In*] P. Harper, editor. Wolf management report of survey-inventory activities 1 July 2002–30 June 2005. Alaska Department of Fish and Game, Division of Wildlife Conservation, Federal Aid in Wildlife Restoration Project 14.0, Juneau.

Gross, J. A. 2025. (*In prep*) Wolf management report and plan, Game Management Units 12 and 20E: Report period 1 July 2015–30 June 2019, and plan period 1 July 2020–30 June 2025. Alaska Department of Fish and Game, Species Management Report and Plan ADF&G/DWC/SMR&P-2025, Juneau.

National Research Council. 1997. Wolves, bears, and their prey in Alaska: Biological and social challenges in wildlife management. National Academy Press, Washington D.C.

Schmidt, R. W., and C. R. White. 2018. 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. Alaska Department of Fish and Game, Species Management Report and Plan ADF&G/DWC/SMR&P-2018-28, Juneau.

Western Regional Climate Center. 2006. Period of record monthly climate summary. https://wrcc.dri.edu/summary/Climsmak.html (Accessed 14 March 2019).


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