

Wolf Management Report and Plan, Game Management Units 21B, 21C, and 21D:

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

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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 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 wolves (*Canis lupus*) in Game Management Units 21B, 21C, and 21D 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 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 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.

I. RY15–RY19 Management Report

Management Area

Units 21B, 21C, and 21D (total area = 25,083 mi²) are located in western Interior Alaska and encompass the Yukon River drainage upstream from Paimiut to the Tozitna River, including Koyukuk River up to Dulbi Slough and the Nowitna River drainage. Portions of 4 ecoregions found in Units 21B, 21C, and 21D include the Kuskokwim Mountains, Nulato Hills, Ray Mountains, and Yukon River lowlands (Nowacki et al. 2001). Current maps for Unit 21B, 21C, and 21D 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 Units 21B, 21C, and 21D

Wolves occur throughout Units 21B, 21C, and 21D in all habitat types. Primary prey species in this area are moose (*Alces alces*) and caribou (*Rangifer tarandus*). Wolves are an important furbearer and big game species in Unit 21. Not all harvest is accounted for each year as some wolves are taken for personal use and not sealed; therefore, actual harvest is likely higher than reported on sealing certificates. Personal use includes, among other things, making wolf parka ruffs that local families gift to others at traditional potlatches. Population surveys for wolves are rarely done in these units and current population trends are unknown. Aerial surveys have not been conducted in Unit 21B since 2001 and Unit 21C has never been surveyed (Pamperin 2012). Unit 21D was surveyed in 2019, but prior to that, had not been surveyed since 1999.

Management Direction

EXISTING WILDLIFE MANAGEMENT PLANS

Presently there are no management plans specific to wolves in Units 21B, 21C, or 21D. Direction in the Alaska wildlife management plans for Interior Alaska (ADF&G 1976) has been modified by Alaska Board of Game regulatory actions over the years.

GOALS

- G1. Provide a sustained opportunity to participate in hunting and trapping wolves.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

- C1. Units 21B, 21C, and 21D have a positive customary and traditional use finding for wolves, as determined by the Alaska Board of Game, with amounts necessary for subsistence uses of 90% of the harvestable portion.

Intensive Management

None.

MANAGEMENT OBJECTIVES

- M1. Maintain a combined average annual harvest of at least 40 wolves from Units 21B, 21C, and 21D.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Monitor wolf numbers and population characteristics through interviews with trappers, hunters, pilots, and by evaluation of sealing documents.

Data Needs

A minimum wolf count (MWC) would determine the minimum number of wolves on the landscape available for harvest (M1).

Methods

On 19–23 March 2019, an aerial MWC was conducted in an 8,752 mi² portion of Unit 21D (12,093.6 mi² total) to estimate the minimum number of wolves in all of Unit 21D. The inventory area included 547 sample units (SUs) of approximately 16 mi² (4 × 4 miles). Using 3 fixed-wing aircraft (e.g., Super Cub and Bellanca Scout), pilots began searching the inventory area on 19 March 2019. One transect was flown through the middle of all 547 selected SUs and another was

flown between each row of sample units; the distance between transects was approximately 2 miles. Because the search intensities were less than 0.8 min/mi² and transects were greater than 1.5 miles apart, this survey was determined to be a minimum wolf count. (Gardner and Pamperin 2014). Throughout the count, if tracks were observed, pilots would follow the tracks until wolves were found, which increased search intensity in some areas. Combined, the 3 planes logged 102.8 hours of search time. Search intensity was approximately 0.70 min/mi² for the total count. Pilots logged flight paths and waypoints of wolf observations.

Results and discussion

A total of 107 wolves, approximately 12.2 wolves per 1,000 mi² (4.7 wolves per 1,000 km²), were observed. The largest packs (10 wolves and 12 wolves) were located north of Galena in Three Day Slough. There were 12 single and 8 double wolf observations which suggested spring dispersal had occurred. Additionally, there were tracks observed from two packs that were not included in the minimum count because the tracks were not in the inventory area. West of SU 428, which is north of Koyukuk and west of the Koyukuk River, tracks from an estimated pack of 6 wolves were recorded. Tracks were also recorded 10 miles east of Ruby, from an estimated pack of 4 wolves.

Based on Gasaway et al. 1983; Ballard et al. 1987; and Hayes et al. 2003, wolf harvest rates of approximately 30% annually is consistent with literature values for sustainable wolf harvest. Applying that harvest rate in the surveyed portion of Unit 21D (107 wolves observed), there were a minimum of 32 wolves available for harvest in that area. Unit 21B was last surveyed in 2001 with an estimated wolf density of 56–96 wolves; applying a 30% harvest rate, there were a minimum of 17 wolves available for harvest in that area. Therefore, there were at least 49 wolves available for harvest within the 18,063 mi² portion (Unit 21B = 9,311 mi²; Unit 21D survey block = 8,752 mi²) of the total report area (25,083 mi²).

Recommendations for Activity 1.1

Continue to conduct MWC surveys when funding is available. In addition to MWC surveys, ADF&G biologists will rely on harvest data and contact with users to monitor any significant changes or trends in the population.

2. Mortality–Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor harvest through sealing records.

Data Needs

Harvest and sealing data are needed to assess whether harvest objectives are being met.

Methods

Queries of fur sealing records in the harvest database, accessible through ADF&G's Wildlife Information Network (WinfoNet), were used to construct summaries of reported harvest.

Season and Bag Limit

Seasons and bag limits for residents and nonresidents are identical.

| Method of take | Season | Bag limit |
|----------------|---------------------|-----------|
| Hunting | 10 August–30 April | 10 wolves |
| Trapping | 1 November–30 April | No limit |

Results and discussion

Wolf harvest rates of approximately 30% annually are consistent with literature values for sustainable wolf harvest (Gasaway et al. 1983, Ballard et al. 1987, and Hayes et al. 2003).

Harvest by Hunters

Total reported harvest for Units 21B, 21C, and 21D averaged 29 wolves (range = 22–39) per year during RY15–RY19. Estimated unreported harvest was 20 wolves per year total from Units 21B, 21C, and 21D (Pamperin 2012).

Harvest Chronology

Wolves are generally taken in December (11%), January (16%), February (24%), and March (18%) during the trapping season. April (10%) and May (2%) make up very little of the harvest, likely due to diminishing pelt quality. There was no harvest in June or July because the trapping and hunting seasons are closed to the taking of wolves during that time. Wolves taken in August (1%) and September (13%) are taken during the hunting season. There was no harvest of wolves in October. November (5%) makes up very little of the harvest due to limited accessibility to traplines early in the season.

Transport Methods

Most wolves were taken using snowmachines (56%) for transportation during RY15–RY19. Planes (29%) and boats (14%) were also used. Off-road vehicles and going on foot were used less than 1% of the time.

Alaska Board of Game Actions and Emergency Orders

None.

Recommendations for Activity 2.1

Continue to monitor harvest through sealing records.

3. Habitat Assessment-Enhancement

No activities for wolf habitat assessment or enhancement were conducted.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

Harvest data and electronic copies of reports are stored in WinfoNet | Data Archive | Wolf Management Program Units 21B, 21C, and 21D (<http://winfonet.alaska.gov/index.cfm>).

Agreements

None.

Permitting

None.

Conclusions and Management Recommendations

The management goal to provide a sustained opportunity to participate in hunting and trapping wolves was achieved. Wolf hunting and trapping regulations were liberal and did not restrict opportunity. Although reported harvest averaged only 29 wolves during RY15–RY19, the management objective of maintaining an average annual harvest of at least 40 wolves from Units 21B, 21C, and 21D during RY15–RY19 was met because the harvestable surplus within a 18,063 mi² portion of the report area was at least 49 wolves. The recommendation is to continue the approach of monitoring annual reported harvest through sealing records and being attentive to public concerns.

II. Project Review and RY20–RY24 Plan

Review of Management Direction

MANAGEMENT DIRECTION

There are no major changes in management direction. Annual harvest will continue to be monitored and public concerns will be addressed should any arise. The goals, objectives, and activities will be as follows:

GOALS

- G1. Provide a sustained opportunity to participate in hunting and trapping wolves.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

- C1. Units 21B, 21C, and 21D have a positive customary and traditional use finding for wolves, as determined the Alaska Board of Game, with amounts necessary for subsistence uses 90% of the harvestable portion.

Intensive Management

None.

MANAGEMENT OBJECTIVE

- M1. Maintain a combined average annual harvest of at least 40 wolves from Units 21B, 21C, and 21D.
- a. This management objective will be continued. This range of wolf harvest is consistent with literature values for sustainable wolf harvest rates of approximately 30% annually (Gasaway et al. 1983; Ballard et al. 1987; Hayes et al. 2003).

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Monitor wolf numbers and population characteristics through interviews with trappers, hunters, pilots, and by evaluation of sealing documents. (M1)

Data Needs

No change from RY15–RY19 report.

Methods

No change from RY15–RY19 report.

2. Mortality-Harvest Monitoring

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

Data Needs

No change from RY15–RY19 report.

Methods

No change from RY15–RY19 report.

3. Habitat Assessment-Enhancement

No activities for wolf habitat assessment or enhancement are expected.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

No change from RY15–RY19.

Agreements

None.

Permitting

None.

References Cited

- Alaska Department of Fish and Game (ADF&G). 1976. Alaska wildlife management plans: A public proposal for the management of Alaska's wildlife: Interior Alaska. Draft proposal subsequently approved by the Alaska Board of Game. Division of Game, Federal Aid in Wildlife Restoration Project W-17-R, Juneau.
- Ballard, W. B., J. S. Whitman, and G. L. Gardner. 1987. Ecology of an exploited wolf population in South-central Alaska. *Wildlife Monographs* 98.
- 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.
- Gasaway, W. C., R. O. Stephenson, J. L. Davis, P. E. K. Shepherd, and O. E. Burris. 1983. Interrelationships of wolves, prey, and man in Interior Alaska. *Wildlife Monographs* 84.
- Hayes, R. D., R. Farnell, R. M. P. Ward, J. Cary, M. Dehn, G. W. Kuzyk, A. M. Baer, C. L. Gardner, and M. O'Donoghue. 2003. Experimental reduction of wolves in the Yukon: Ungulate responses and management implication. *Wildlife Monographs* 152.
- Nowacki, G., P. Spencer, T. Brock, M. Fleming, and T. Jorgenson. 2001. Ecoregions of Alaska and neighboring territory. USGS, Reston, Virginia.
<https://agdc.usgs.gov/data/projects/fhm/> (Accessed 14 April 2021).
- Pamperin, N. J. 2012. Units 21B, 21C and 21D wolf. Pages 212–219 [In] P. Harper, editor. Wolf management report of survey–inventory activities 1 July 2008–30 June 2011. Alaska Department of Fish and Game, Species Management Report ADF&G/DWC/SMR-2012-4, Juneau.

