

Wolf Management Report and Plan, Game Management Unit 6:

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

Charlotte Westing



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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 Cynthia Wardlow, Management Coordinator for Region II 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 in Unit 6 for the 5 regulatory years 2010–2014 and plans for survey and inventory management activities in the following 5 regulatory years 2015–2019. A regulatory year (RY) 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 it 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) Division of Wildlife Conservation launched this 5-year report to more efficiently report on trends and describe potential changes in data collection activities. It replaces the wolf management report of survey and inventory activities that was previously produced every 3 years.

I. RY10–RY14 Management Report

Management Area

The Unit 6 landscape comprises old-growth forest framed by oceans, mountains, and glaciers (Fig. 1). Unit 6 primarily incorporates Prince William Sound, the Copper River Delta and the Gulf Coast of Alaska and is broken up into 4 subunits (hereinafter referred to as units): 6A, 6B, 6C, and 6D. Unit 6A is referred to as the “lost coast” extending from the Ragged Mountains to Icy Bay. It contains the Bering Glacier, the largest glacier in North America. Unit 6B contains the Martin River and other eastern drainages of the Copper River Delta. Unit 6C contains the west Copper River Delta and Unit 6D comprises Prince William Sound.

Summary of Status, Trend, Management Activities, and History of Wolves in Unit 6

Gray wolves are endemic to the mainland areas of Unit 6. During the early twentieth century, wolves occurred at low densities (Nelson 1934) with unknown distribution. Heller (1910) reported tracks in Nelson Bay in eastern Unit 6D, and locals indicated wolves were present east of Nelson Bay in Unit 6C. Railroad, oil, and coal development projects on the Copper and Bering River deltas during the early 1900s may have reduced or eliminated wolves as human access into these areas increased. Mountain goats were the only ungulate prey available during this period. However, coastal wolves supplement their diet with salmon, beaver, marine mammals (Watts et al. 2010) and other seasonally abundant prey. Carnes (2004) observed that wolves in Unit 6 ate “everything from voles to gray whales.”

The successful introductions of Sitka black-tailed deer and moose brought additional ungulate prey to Unit 6 during the mid-1900s (Paul 2009). Deer were introduced during 1916–1923 to islands of Prince William Sound and subsequently established populations on the mainland of eastern Unit 6D (Nelson 1932). Moose calves were released on the west Copper River Delta in Unit 6C during 1949–1958. The moose herd grew rapidly and expanded eastward into Units 6B and 6A toward Cape Yakataga, creating ideal conditions for wolf colonization. Wolves however,

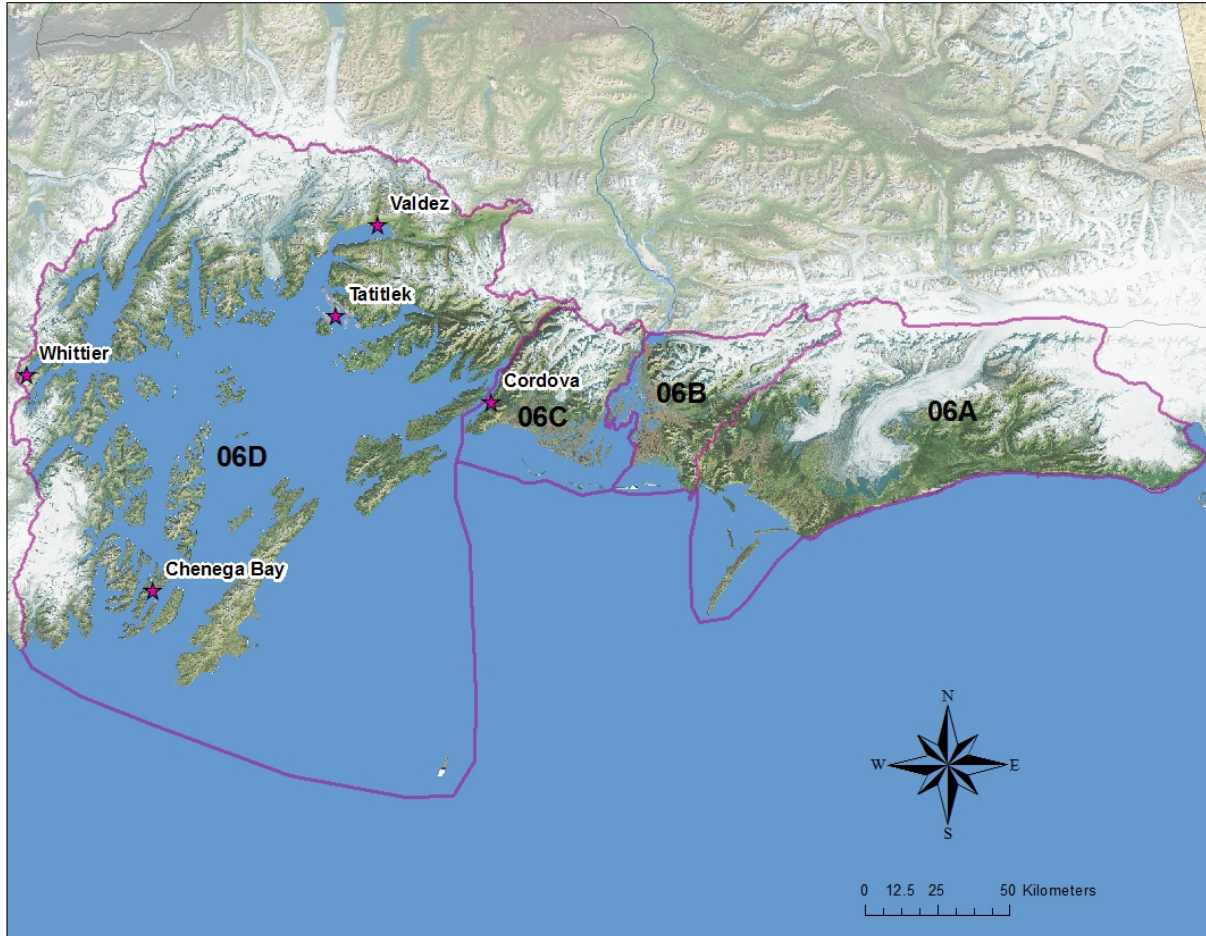


Figure 1. Map of Unit 6, Alaska boundaries.

remained rare to nonexistent in Unit 6 through the 1950s and 1960s (Robards 1955; Reynolds 1973). Federal predator control on interior wolf populations probably contributed to the delay in colonizing Unit 6, as did formidable geographic barriers between interior and coastal wolf habitat (Carnes 2004; Peterson et al. 1984). The first pack was observed in 1972–1973 in northwestern Unit 6B, indicating that the Copper River was the most probable dispersal corridor (Reynolds 1973). Wolves began to increase and disperse during the 1970s in areas of Unit 6 where moose were established. Wolf numbers apparently peaked in the late 1980s (Griese 1990), then declined and stabilized at a lower density during the 1990s (Carnes 2004; Nowlin 1997). Between 1992 and 1997, density estimates by subunit and year ranged 2.3–15.0 wolves per 1,000 km² (Carnes 2004).

Average annual wolf harvest in Unit 6 during the past 30 years was 6 wolves ($\sigma=3.5$). Wolf packs remained and supported harvest although Carnes (2004) reported that during the 1990s the wolf population in Unit 6C was reduced to a nonbreeding sink population as a result of human harvest. Unit 6C hunters and trappers had easy access to a geographically limited wolf range (approximately 1,025 km²), creating a rare situation in which sport harvest and recreational trapping reduced and to date control a wolf population (Carnes 2004).

Management Direction

Wolves in Unit 6 will be managed to provide for human uses and ensure that wolves remain an integral part of 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 uses (ADF&G 2002).

EXISTING WILDLIFE MANAGEMENT PLANS

There are no applicable specific wildlife management plans for wolves in Unit 6 or the species on which they depend. Although deer is a species that is identified as an “intensive management species,” most deer range in Unit 6 does not contain wolves and predation is virtually if not completely nonexistent. Moose are not an intensive management species in Unit 6.

Previously identified management objectives and harvest management strategies for wolves in Unit 6 and changes to those based on public comment, staff recommendations, and Board of Game actions have been reported in the division’s previous species management reports. The plan portion of this report contains the current management plan for wolves in Unit 6.

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

None.

Amounts Reasonably Necessary for Subsistence Uses

Not applicable.

Intensive Management

Not applicable.

MANAGEMENT OBJECTIVES

- Maintain a wolf population in a minimum of 5 packs that will sustain an annual harvest of 10 wolves.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Record observations of wolves seen incidentally during other survey work and anecdotal reports from the public.

Data Needs

Incidental observations are insufficient for estimating the population or detecting changes that would trigger management action. A statistical estimate of the wolf population derived from a sample-based estimator including a measure of the precision is needed to detect change in the population.

Methods

GPS locations, pack size, and characteristics are recorded during aerial survey flights. Most observations occur during moose surveys when sightability is ideal. Anecdotal reports are recorded to the maximum level of detail available.

Results and Discussion

Reports of wolves in Unit 6A have increased dramatically during this reporting period. In most years (since 2000 where records begin), 0–10 wolves were reported. However, in RY14, 24 wolves (independent groups of 8, 9, and 7) were seen, and in RY15, 31 wolves (independent groups of 10, 10 and 11) were seen. About half of these animals were ultimately trapped in both years. Wolves may be more prevalent; however, the area is now receiving the attention of an active trapper, whereas previous harvest was almost entirely incidental to other species during fall hunts. Unit 6B had two anecdotal reports for 11 wolves total (a group of 9 and a pair) in March 2012. Moose surveys focused primarily on Unit 6C during this reporting period where wolves are heavily hunted. Five wolves were observed during the RY13 survey conducted in February 2014. Very few wolves are believed to exist in Unit 6D. Those that do, occur primarily on the Lowe River.

Recommendations for Activity 1.1

Continue.

2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor harvest through sealing records.

Data Needs

Harvest must be assessed to understand the potential impact of wolf harvest on both predator and prey populations.

Methods

We collected harvest data by sealing hides of wolves taken by trappers and hunters. We recorded location and date of harvest, method of take, transportation mode, sex, and observed pack size.

Sealing must occur by ADF&G or an ADF&G- appointed sealer within 30 days of the close of the season. These data are entered into an ADF&G database (WinfoNet). Harvest data were summarized by regulatory year (RY).

Season and Bag Limit

Units and Bag Limits	Resident Open Seasons	Nonresident Open Seasons
<i>Unit 6</i>		
Hunting: 5 wolves	10 Aug–30 Apr	10 Aug–30 Apr
Trapping: No limit	10 Nov–31 Mar	10 Nov–31 Mar

Results and Discussion

Harvest by Hunters-Trappers

Reported annual unitwide harvest during this reporting period was 0–24 wolves (43 total), composed of 33–46% females (Table 1). The RY10 harvest of 7 wolves in Unit 6D was the highest ever reported. Trapping was the most used method (58%) followed by ground shot (42%).

Table 1. Unit 6, Alaska wolf harvest, regulatory years^a 2010–2014.

Year	Reported harvest			Total	Method of take			Successful trappers/hunters
	M	F	(%)		Trap/snare	(%)	Shot	
RY10	6	4	(40)	10	5	(50)	5	6
RY11	0	0	(0)	0	0	(0)	0	0
RY12	2	1	(33)	3	1	(33)	2	2
RY13	3	2	(40)	6 ^b	2	(33)	4	5
RY14	13	11	(46)	24	17	(71)	7	4

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

^b Includes harvested wolves of unknown sex.

Hunter Residency and Success

As in most years, hunters from Unit 6 harvested nearly all wolves taken. (Table 2). A few wolves are shot opportunistically each year by nonresident hunters, primarily in Unit 6A (Table 3). Unit 6A has recently been the focus of a few determined trappers and harvest there is higher than usual as a result. Much of the harvest usually comes from Unit 6C, where access is easiest. Harvest in Unit 6D is almost entirely from the Richardson Highway area near the edge of the boundary and is variable depending on wolf movement.

Table 2. Unit 6, Alaska wolf harvest by residency, regulatory years^a 2010–2014.

Unit	Regulatory year	Local ^b Resident	Nonlocal resident	Non-resident	Total Hunters/trappers
6A	RY10	1	0	1	2
	RY11	0	0	0	0
	RY12	0	0	0	0
	RY13	2	1	1	3
	RY14	14	0	2	3
6B	RY10	0	0	0	0
	RY11	0	0	0	0
	RY12	1	0	0	1
	RY13	0	0	0	0
	RY14	0	0	0	0
6C	RY10	1	0	0	1
	RY11	0	0	0	0
	RY12	2	0	0	1
	RY13	2	0	0	2
	RY14	8	0	0	2
6D	RY10	7	0	0	3
	RY11	0	0	0	0
	RY12	0	0	0	0
	RY13	0	0	0	0
	RY14	0	0	0	0
Unit 6 TOTAL	RY10	9	0	1	6
	RY11	0	0	0	0
	RY12	3	0	0	2
	RY13	4	1	1	5
	RY14	22	0	2	4

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

^b Local residents are residents of Unit 6.

Table 3. Unit 6, Alaska wolf harvest by subunit, regulatory years^a 2010–2014.

Year	Unit 6A	Unit 6B	Unit 6C	Unit 6D	Unit 6 Total
RY10	2	0	1	7	10
RY11	0	0	0	0	0
RY12	0	1	2	0	3
RY13	4	0	2	0	6
RY14	16	0	8	0	24

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

Harvest Chronology

February and March were the most successful months for wolf harvest during this reporting period (Table 4). The last 3 winters were marked with virtually no snow and that may have affected distribution, access, and success more than any other factor. Previously, harvest in September contributed more to the total number of wolves taken but that result is sample size driven.

Table 4. Unit 6, Alaska wolf harvest chronology percent, regulatory years^a 2010–2014.

Year	Harvest periods									<i>n</i>
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
RY10	0	20	0	10	10	10	10	20	20	10
RY11	0	0	0	0	0	0	0	0	0	0
RY12	0	0	0	0	0	0	33	67	0	3
RY13	17	17	0	0	0	17	0	50	0	6
RY14	4	4	0	21	4	17	38	13	0	24

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

Transport Methods

The lack of snow in RY13, RY14, and RY15 is reflected in the transportation statistics for wolf harvest (Table 5). In most years, snowmachine-based harvest is predominant. The last 2 years (RY13–RY14), however, airplane usage was more common. The use of highway vehicles is dependent on wolf distribution. Wolves were present near the highway in RY14 as is evident from the harvest.

Alaska Board of Game Actions and Emergency Orders

The Board of Game met in 2013 and 2015 but had no proposals and took no actions regarding wolves in Unit 6. No emergency orders were issued during this reporting period.

Recommendations for Activity 2.1

Continue.

Table 5. Unit 6, Alaska wolf harvest percent by transport method, regulatory years^a 2010–2014.

Year	Percent of harvest								<i>n</i>
	Airplane	Dogsled/ skis/ snowshoes	Boat	Snow- machine	ATV	ORV	Highway vehicle	Other	
RY10	10	0	10	50	0	0	30	0	10
RY11	0	0	0	0	0	0	0	0	0
RY12	33	0	0	67	0	0	0	0	3
RY13	67	0	0	17	0	0	0	17	6
RY14	63	0	0	0	4	0	33	0	24

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

3. Habitat Assessment-Enhancement

There are currently no habitat related projects for wolves or their prey in Unit 6.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

Data collected during aerial surveys will be recorded on datasheets and transcribed into the wolf observations spreadsheet located on the Cordova server.

Species wildlife management reports and plans and the management operational plan for Wolf – Unit 6 are made available via the ADF&G website:

<http://www.adfg.alaska.gov/index.cfm?adfg=librarypublications.wildlifemanagement>

Memos, data forms, and additional hard copies are stored in the Cordova Area Biologist files in Cordova.

Agreements

None.

Permitting

None.

Conclusions and Management Recommendations

Historical records suggest that few wolves existed south of the Bremner River before the introduction of moose on the Copper River Delta. Those that did venture down were probably food limited and had a diet of salmon and goats (Carnes, 2004). By the 1970s, regular but small harvest was occurring in the Bering River area. In the mid-1980s a pack of about 15 wolves was

observed in Unit 6A West (H. Griese, former ADF&G management biologist, personal communication) No large packs (>10 wolves) existed in the area RY93–RY96 (Carnes 2004). Since at least the mid-2000s, stakeholders have expressed concerns of a growing population of wolves in Unit 6A West. No wolf population estimates exist for this area and harvest has been light. From RY95 to RY13, 0–3 wolves have been taken from Unit 6A West annually. However, in RY14, 16 wolves were sealed from this area. This may represent about 50% of the wolves in that area based on biweekly aerial tracking by a local trapper. Preliminary RY15 harvests were also high. It is unclear if this harvest pressure has affected the wolf population.

Rigorous wolf monitoring has not been identified as a priority in Unit 6. Wolf location data will be collected during aerial surveys for moose and goats. Reports from trappers using the area will be recorded.

Increasing wolf harvests in Unit 6A will be limited by access and travel conditions. Almost all winter access is by plane. Additionally, fur quality has been poor on some animals, likely due to lice or follicular dysplasia and will serve as a deterrent for some participants. Samples of poor quality wolf hides were sent to Dr. Beckmen (ADF&G veterinarian) for assessment. Harvest in Unit 6C is probably unsustainably high to maintain a population of wolves in the subunit. A decreased local wolf population may result in higher numbers of coyotes and a lower likelihood of wolf viewing opportunity.

II. Project Review and RY15–RY19 Plan

Review of Management Direction

MANAGEMENT DIRECTION

The existing management direction and goals appropriately direct management of wolves in Unit 6. The management direction for Unit 6 ensures that wolves will persist as part of the natural ecosystem and ensures continued wolf hunting, trapping, and viewing opportunities. There is no indication that the long-term sustainability of the wolf population or that statewide goals (ADF&G 2002) for human uses cannot be met; therefore, the Unit 6 management direction should continue to be that wolves will be managed in a manner that complements the statewide wolf management goals. There are no area-specific issues in Unit 6 that require a departure from statewide goals for wolf management, and wolves are not currently managed at a subunit scale.

GOALS

Goals will remain as they were RY10–14:

- 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

Codified objectives are not expected to change RY15–RY19

Amounts Reasonably Necessary for Subsistence Uses (ANS)

None.

Intensive Management

Not applicable.

MANAGEMENT OBJECTIVES

The management objective will remain the same as during RY10–14:

- Maintain a viable wolf population that allows for sustainable annual harvest and other nonconsumptive uses.

REVIEW OF MANAGEMENT ACTIVITIES

Activities will remain the same as during RY10–RY14, with slight changes to data needs and other items as recorded below:

1. Population Status and Trend

ACTIVITY 1.1. Record observations of wolves seen incidentally during other survey work and anecdotal reports from the public.

Data Needs

Abundance data are necessary to understand changes in the wolf population and harvest pressure.

Methods

GPS locations, pack size and characteristics will be recorded during aerial survey flights. Most observations occur during moose surveys when sightability is ideal. Anecdotal reports will be recorded to the maximum level of detail available.

2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Monitor harvest through sealing records.

Data Needs

Harvest must be assessed to understand the potential impact of wolf harvest on both predator and prey populations.

Methods

We will collect harvest data by sealing hides of wolves taken by trappers and hunters. We will record location and date of harvest, method of take, transportation mode, sex, and observed pack size. These data will be entered into an ADF&G database (WinfoNet). We will continue to take samples from poor quality wolf hides for disease monitoring.

3. Habitat Assessment-Enhancement

There are currently no habitat related projects for wolves or their prey in Unit 6.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

These are expected to remain the same as during RY10–RY14:

Data Recording and Archiving

Data collected during aerial surveys will be recorded on datasheets and transcribed into the wolf observations spreadsheet located on the Cordova server.

Species wildlife management reports and plans and the management operational plan for Wolf – Unit 6 will be made available via the ADF&G website:

<http://www.adfg.alaska.gov/index.cfm?adfg=librarypublications.wildlifemanagement>. Memos, data forms, and additional hard copies will be stored in the Cordova Area Biologist files in Cordova.

Agreements

None.

Permitting

None.

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