Species Management Report and Plan ADF&G/DWC/SMR&P–2021–44

Furbearer Management Report and Plan, Game Management Units 11 and 13:

Report Period 1 July 2012–30 June 2017, and

Plan Period 1 July 2017–30 June 2022

W. Frank Robbins

Joelle D. Hepler

Photo by Matt Kynoch.

2021

Alaska Department of Fish and Game Division of Wildlife Conservation

Species Management Report and Plan ADF&G/DWC/SMR&P-2021-44

Furbearer Management Report and Plan, Game Management Units 11 and 13:

Report Period 1 July 2012–30 June 2017, and

Plan Period 1 July 2017–30 June 2022

PREPARED BY:

W. Frank Robbins
Area Wildlife Biologist

Joelle Hepler
Assistant Area Wildlife Biologist

APPROVED BY:

Todd Rinaldi
Management Coordinator

PUBLISHED BY:

Sky M. Guritz
Technical Reports Editor

Alaska Department of Fish and Game
Division of Wildlife Conservation
PO Box 115526
Juneau, AK 99811-5526

Hunters are important founders of the modern wildlife conservation movement. They, along with trappers and sport shooters, provided funding for this publication through payment of federal taxes on firearms, ammunition, and archery equipment, and through state hunting license and tag fees. These taxes and fees fund the federal Wildlife Restoration Program and the State of Alaska's Fish and Game Fund, which provided funding for the work reported on in this publication.

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 Todd A. Rinaldi, Management Coordinator for the Division of Wildlife Conservation.

Species management reports and plans are available via the Alaska Department of Fish and Game's public website (www.adfg.alaska.gov) or by contacting Alaska Department of Fish and Game's Division of Wildlife Conservation, PO Box 115526, Juneau, AK 99811-5526; phone: (907) 465-4190; email: dfg.dwc.publications@alaska.gov. The report may also be accessed through most libraries, via interlibrary loan from the Alaska State Library or the Alaska Resources Library and Information Services (www.arlis.org). To subscribe to email announcements regarding new technical publications from the Alaska Department of Fish and Game, Division of Wildlife Conservation please use the following link: http://list.state.ak.us/mailman/listinfo/adfgwildlifereport.

This document, published in PDF format only, should be cited as:

Robbins, W. F., and J. Hepler 2021. Furbearer management report and plan, Game Management Units 11 and 13: Report period 1 July 2012–30 June 2017, and plan period 1 July 2017–30 June 2022. Alaska Department of Fish and Game, Species Management Report and Plan ADF&G/DWC/SMR&P-2021-44, Juneau.

Please contact the authors or the Division of Wildlife Conservation at (907) 465-4190 if you have questions about the content of this report.

Cover Photo: Riparian lynx along the Dietrich river, Alaska. Photo by Matt Kynoch.

Contents

List of Figures

List of Tables

Purpose of this Report

This report provides a record of survey and inventory management activities for furbearers in Units 11 and 13 for the previous 5 regulatory years 2012–2016 and plans for survey and inventory management activities in the following 5 regulatory years, 2017–2021. A regulatory year (RY) begins 1 July and ends 30 June (e.g., RY14 = 1 July 2014–30 June 2015). 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 more efficiently report on trends and to describe potential changes in data collection activities over the next 5 years. It replaces the furbearer management report of survey and inventory activities that was previously produced every 3 years.

I. RY12–RY16 Management Report

Management Area

Unit 11 (12,784 mi^2) consists of that area draining into the headwaters of the Copper River south of Suslota Creek, the area drained by all tributaries into the east bank of the Copper River between the confluence of Suslota Creek with the Slana River, and Miles Glacier (Fig. 1). Most of Unit 11 is included in the Wrangell-Saint Elias National Park and Preserve. Unit 11 includes portions of 3 of Alaska's 32 ecoregions: the Wrangell Mountains, the Chugach-St. Elias Mountains, and the Copper River Basin (Fig. 1). Glaciers cover 35% of the parklands and the surrounding habitat consists of mixed spruce, aspen, and balsam poplar forest, as well as muskeg and tussocks.

Unit 13 includes portions of 3 of Alaska's 32 ecoregions: the Alaska Range, the Chugach-St. Elias Mountains, and the Copper River Basin (ADF&G [n.d.]). Unit 13 encompasses 23,368 mi^2 and consists of that area westerly of the east bank of the Copper River, drained by all tributaries into the west bank of the Copper River from Miles Glacier, including the Slana River drainages north of Suslota Creek; the drainages into the Delta River upstream from Falls Creek and Black Rapids Glacier; the drainages into the Nenana River upstream from the southeast corner of Denali National Park; the drainage into the Susitna River upstream from its junction with the Chulitna River; the drainage into the east bank of the Chulitna River upstream to its confluence with the Tokositna River; the drainages of the Chulitna River (south of Denali National Park) upstream from its confluence with the Tokositna River; the drainages into the north bank of the Tokositna River upstream to the base of the Tokositna Glacier; the drainages into the Tokositna Glacier; the drainages into the east bank of the Susitna River between its confluences with the Talkeetna and Chulitna Rivers; the drainages into the north and east bank of the Talkeetna River, including the Talkeetna River to its confluence with Clear Creek, the eastside drainages of a line up the south bank of Clear Creek to the first unnamed creek on the south, then up that unnamed creek to Lake 4408, along the northeast shore of Lake 4408, then southeast in a straight line to the northernmost fork of the Chickaloon River; the drainages into the east bank of the Chickaloon River below the line from Lake 4408; the drainages of the Matanuska River above its confluence with the Chickaloon River (Fig. 2).

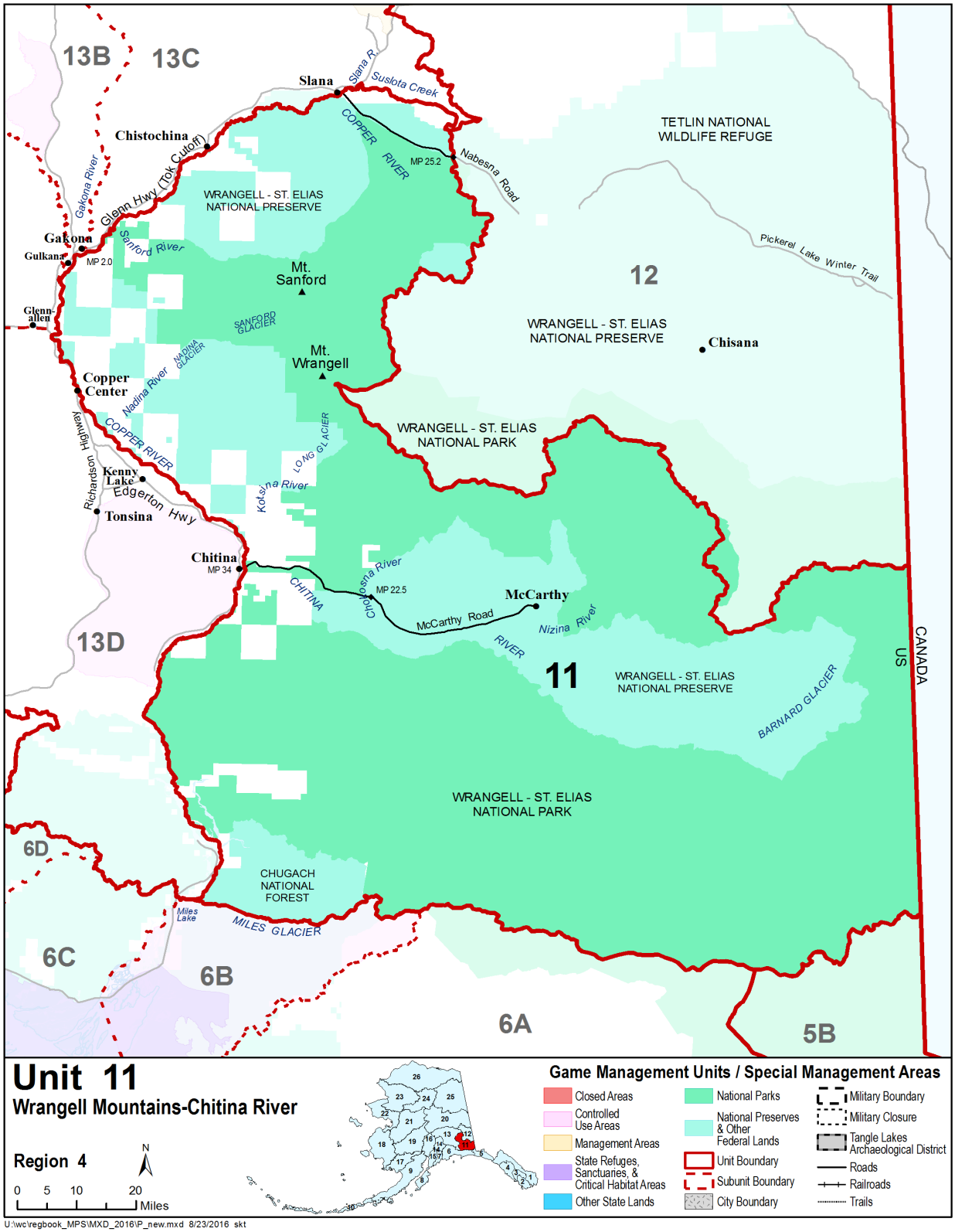

Figure 1. Map of Unit 11 in Southcentral Alaska as shown in Alaska Hunting Regulations.

Additional maps describing the boundaries and special management areas in Units 11 and 13 can be found at: http://www.adfg.alaska.gov/index.cfm?adfg=maps.main.

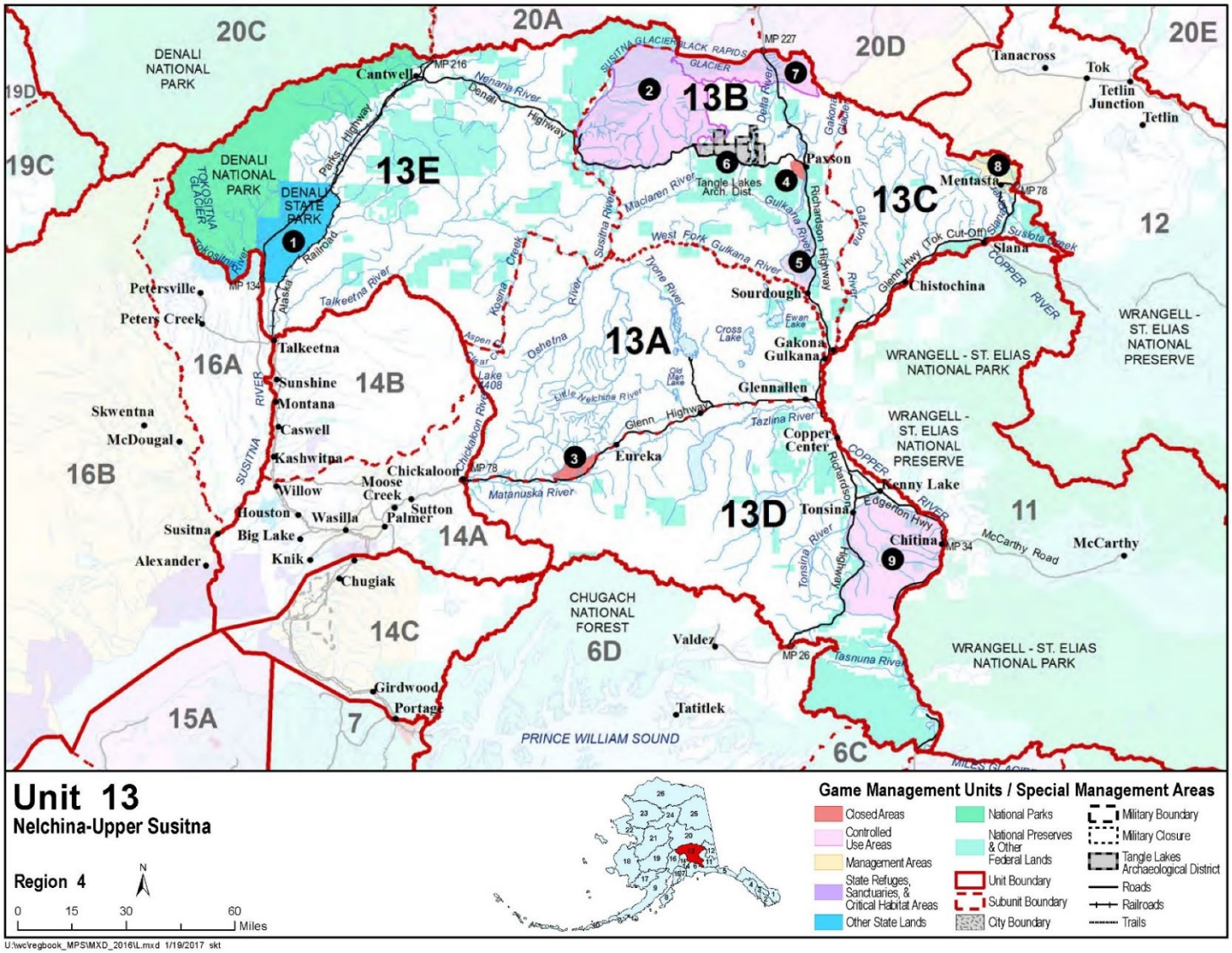

Figure 2. Map showing Unit 13 boundaries, Special Management Areas, and federal lands; including state refuges, sanctuaries, and critical habitat areas (black numbered circles), in Southcentral Alaska as shown in Alaska Hunting Regulations.

Summary of Status, Trend, Distribution, Movement, Management Activities, and History of Furbearers in Units 11 and 13

Historic harvest data are limited for furbearers in Units 11 and 13 prior to the initiation of sealing requirements. Wolverine and beaver sealing became mandatory in 1971, followed by lynx and river otter in 1977. Before sealing began, fur buyer reports gave minimal information on harvests, and bounty records only provided harvest data for wolverines. Little research on furbearer populations has been conducted in either unit, and as a result, data pertaining to population densities, movements, and distribution of furbearers are limited. Harvest records, reports by hunters and trappers, and field observations by department personnel are the main unit-specific historic sources of information concerning furbearer abundance.

Beavers are considered relatively abundant in both Units 11 and 13. Beaver cache surveys were not flown, though frequent field observations of beaver ponds and food caches along roadways as well as those made during aerial big game surveys suggest beaver numbers remain high. Trappers responding to the trapper questionnaire considered beavers and river otters to be common on their lines and indicated that current population levels are similar to those reported in previous years (Parr 2018).

Based on harvest sealing records and field observations, lynx numbers have decreased notably in Units 11 and 13 from a high in 2010–2011. The lynx population appears to follow a 9- to 10-year cycle; peaks in this cycle occurred in 1972, 1982, 1991, 2000, and 2010. Harvest data indicate that the peak in 2010 was the highest in recent history. Even though the lynx trapping season was closed for 3 years, between 1987 and 1990, the next peak (1991–1992) was only moderate at best in Unit 11, and never fully developed in Unit 13. One likely factor was the low amplitude snowshoe hare peak. Through the next low (1993–1995), the lynx trapping season remained open annually for 30–45 days. Low lynx prices aided in keeping trapping pressure at a minimum. Based on the historic cycle, the snowshoe hare population was not expected to increase until 1997; instead, numbers began to increase between 1994 and 1995, boosting lynx reproduction. Between the 1995–1996 and 2000–2001 seasons, the lynx population steadily increased, and the combined harvest for both units increased nearly 8-fold. Minimal lynx track surveys were flown between 1998 and 2001, though the population likely peaked in 1999 or 2000. Lynx numbers declined again in 2002, rebounding in 2010, when a record of 1,297 lynx were sealed from Unit 13, a 30-fold increase from 2002.

Lynx distribution follows the spruce forest habitat in both units. Lynx harvests have consistently been highest in Units 13A, 13B, and 13C along the Copper, Gulkana, Gakona, and Chistochina rivers; and in 13D along the Klutina and Tonsina river drainages. Harvest remains low in Unit 13E, and only occurs on the west side of the unit where habitat is suitable and easily accessible. Trappers on the east side of 13E are often unable to reach their traplines until the end of lynx season due to open rivers.

The capture of collared lynx in Unit 13 from both the Kenai Peninsula and Yukon Territory demonstrates their ability to disperse over long distances. It has also been observed, and supported by harvest data, that lynx numbers first increase in interior areas of the state, followed by increases in southcentral areas. Many lynx carcasses observed during population lows have

abundant fat deposits, indicating the ability certain lynx possess to persist during adverse foraging conditions (T. Rinaldi, Management Coordinator, ADF&G, Palmer, personal communication). It is likely that long-distance movement and dispersal of these lynx is an integral part of the lynx population cycle in Units 11 and 13.

In Units 11 and 13, snowshoe hares have historically followed an approximate 10-year cycle that has varied in localized amplitude. Hare peak amplitude was very high during the 1972 high, and lower during subsequent peaks, with the lowest peaks in 1989 and 1990. The peak between 1999 and 2001 was the highest since that observed in the early 1970s, as indicated by snowshoe hare pellet transect surveys conducted in Unit 11 by National Park Service staff (Judy Putera, Wildlife Biologist, unpublished data) and subsequent lynx harvest. Pellet transect surveys have shown that the hare population declined to a low phase by 2002 and 2003. The hare population began to increase substantially in 2004. Hare numbers declined again, starting in 2010, with numbers remaining low, until 2016 when increases in localized populations were noted. Snowshoe hare numbers (followed by lynx harvest) generally increase first in northern portions of Units 11 and 13, and then gradually increase in the southwest direction across both units.

Wolverines are considered common in the more remote, mountainous regions of Units 11 and 13, and remain relatively scarce at lower elevations. Between 1987 and 1995, density estimates within favorable wolverine habitat in moderate to high elevation areas of Units 13A and 13D ranged 4.7–5.2 wolverine/1,000 km^2 (Gardner and Becker 1991, Golden 1996). Trappers responding to the trapper questionnaire in 2012 considered wolverines to be scarce, though recent staff observations indicate increasing numbers in moderately-high elevation areas of Units 11 and 13. A Sample-Unit Population Estimator (SUPE) survey was conducted in portions of Units 13A and 13E in 2015, finding a higher density of 9.48 ± 1.35 wolverines/1,000 km^2 (Colson 2015).

Long-distance dispersal of radiocollared wolverines in Unit 13 has been reported by Gardner (1985) and Golden (1996). Gardner (1985) observed that movements declined during the fall but increased again in February with the dispersal of juveniles into vacant habitat. Wolverines are most abundant in mountainous habitats of the Chugach, Talkeetna, and Alaska ranges in Unit 13, and the Chugach and Wrangell mountains in Unit 11. Prior to the late 1970s, wolverines were reportedly more numerous near settlements and on the Lake Louise Flats.

Marten numbers increased in both Units 11 and 13 during the mid-1980s, appeared to peak around 1988, and have been fluctuating annually since. Marten trappers considered the species to be “abundant” in 1995, “common” between 1997 and 2008, and “scarce” in 2011 and 2013. Yearly fluctuations in marten numbers are thought to represent changes in production and/or survival of young due to food availability and stochastic weather events, though trends are not fully understood. Field observations in 2001 and 2002 showed an abundance of red-backed voles, a common food source for marten, throughout the Copper River Valley; although the following summer of 2003 was very dry, and observations dropped off. While marten tracks were common during the winter of 2006–2007, they have declined substantially since then. Red-backed vole observations increased again between 2014 and 2015, though a subsequent increase in marten numbers was not detected. Most trappers indicate a relative absence of marten in areas where lynx are abundant; however, a cause-and-effect relationship between the existence of these species has not been documented, this is an area for future potential research.

Another consideration in the complexities of predator and prey dynamics is the increase in numbers of birds of prey during snowshoe hare population highs, their impact on the vole population, and the subsequent presence/absence of marten. Young dispersing marten may also be susceptible to predation by birds of prey.

Coyotes are commonly found in river bottoms and creek drainages and are relatively abundant throughout both Units 11 and 13. Coyote families and other small groups have been observed throughout both units, dispersing into areas generally considered to be wolf habitat. Small groups have been seen from valley bottoms, such as the Copper River, as well as along the West Fork of the Gulkana River, to higher elevation areas within sheep country in Units 13D and 11. Coyote population trends are difficult to ascertain as there is no sealing requirement, though numbers are expected to increase due to increased wolf harvest to fulfill the moose intensive management plan in Unit 13. A shift in the abundance of coyote was noted in trapper questionnaires, from "common" in 2002 to "abundant" in the 2013 trapper questionnaire.

Red foxes are found in both Units 11 and 13, from forested lowlands to alpine tundra. Trappers reported that fox numbers increased during the late 1990s and were considered abundant until 2000. Red fox were considered common in 2001 and 2002, but then scarce in 2003. Since then, fox numbers have increased along with snowshoe hares, a popular prey item. Annual variations in brood survival of spruce grouse, limited numbers of ruffed and sharp-tailed grouse, and ptarmigan population levels also likely impact fox abundance. Early winter temperatures can also impact survival of young fox.

Muskrats were abundant during the early 1980s in Units 11 and 13, but their numbers declined only a few years later. Trappers considered muskrats either not present or scarce during the mid-1990s. Since 1998, trappers have considered muskrats relatively common. The winter of 2002–2003 had the highest muskrat population in over 20 years based on the number of houses and push-ups in many lakes and marshes, although it only seemed to last a single year.

Mink are common to abundant across the low-lying lake and marsh areas within Units 11 and 13, and numbers seem to be stable.

Management Direction

Existing Wildlife Management Plans

Greater Alaska Furbearer Management Plan in 1976 Species Management Plan (ADF&G 1976).

Goals

Provide for an optimal harvest of furbearers consistent with sustained yield principles.

Codified Objectives

Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game has made a positive subsistence finding for furbearers in Units 11 and 13, with a harvestable surplus to be 90% of the harvestable portion (5 AAC 99.025(13)).

Intensive Management

There is currently an Intensive Management (IM) program for moose in Unit 13. The IM predation control program implemented for moose in Unit 13 may also influence the abundance of canid furbearers.

MANAGEMENT OBJECTIVES

- Maintain accurate annual harvest records based on sealing documents.
- Maintain indices of population trends using trapper questionnaires and track surveys.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Record observations of furbearers 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. Statistical estimates of furbearers derived from a sample-based estimator including a measure of the precision would be needed to detect change in the population.

Methods

GPS locations and characteristics are recorded for any furbearers observed during other field work. Anecdotal reports are recorded to the maximum level of detail available.

Results and Discussion

None.

Recommendations for Activity 1.1.

Continue to actively seek information from trappers and others that observe furbearers.

2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor harvest through sealing records.

Data Needs

Harvest must be assessed to determine trends in use and availability of furbearers.

Methods

ADF&G collected harvest data by sealing the hides of beaver, otter, lynx, and wolverine taken by trappers and hunters. Sealers recorded location, date of harvest, method of take, transportation method, and sex (except beaver and lynx). Lynx, otter, and beaver hides were measured at the

time of sealing. Sealing is required to be done by either authorized ADF&G staff or a state-appointed sealer within 30 days of the close of the season. These data are entered into ADF&G's Wildlife Information Network (WinfoNet). Harvest data were summarized by regulatory year.

Seasons and Bag Limit

Table 1. Units 11 and 13 hunting seasons and bag limits during regulatory years 2012–2016, Alaska.

Species	Season	Bag limit
Beaver	No open season	–
Coyote	No closed season	No limit
Fox, red[1]	1 Sep–15 Mar	10 foxes
Lynx	10 Nov–31 Mar	2 lynx
Wolverine	1 Sep–31 Jan	1 wolverine

[1] No more than 2 foxes may be taken before 1 October.

Table 2. Units 11 and 13 trapping seasons and bag limits during regulatory years 2012–2016, Alaska.

Species	Season	Bag limit
Beaver	25 Sep–31 May	No limit
Coyote	15 Oct–30 Apr	No limit
Fox, red	10 Nov–28 Feb	No limit
Lynx	10 Nov–28 Feb	No limit
Marten	10 Nov–28 Feb	No limit
Mink	10 Nov–28 Feb	No limit
Muskrat	25 Sep–10 Jun	No limit
River otter	10 Nov–31 Mar	No limit
Wolverine	10 Nov–15 Feb	No limit

Results and Discussion

Harvest by Hunters-Trappers

BEAVER

Beaver harvest in Unit 11 fluctuated from 3–31 animals from RY06–RY16, with a seemingly downward trend during RY12–RY16 (Table 3). Historically, the highest harvest was 56 beaver taken in 1985, but harvests have fluctuated appreciably between years. An average of 2 trappers harvested beaver annually in Unit 11 during RY12–RY16, with an average annual harvest of 11 beavers.

Table 3. Unit 11 beaver harvest and method of take during regulatory years 2012–2016, Alaska.

Regulatory	Reported harvest					Method of take				
year	Adult	Juv[a]	(%)[a]	Unknown	Total	Trap/snare	(%)	Shot	(%)	Unknown
2012	15	1	6	0	16	16	100	0	–	0
2013	15	5	25	0	20	20	100	0	–	0
2014	5	2	29	0	7	7	100	0	–	0
2015	8	1	11	0	9	6	100	0	–	3
2016	3	0	–	0	3	3	100	0	–	0

[a] Beaver <52 inches.

The beaver harvest in Unit 13 over the past decade (RY06–RY16) has been fairly stable. Beaver harvest averaged 157 animals per year during RY12–RY16 (Table 4). The harvest of 360 beavers in 2002 was the highest annual harvest recorded. The previous historic peak harvest was 333 beaver in RY86. The percentage of kits (animals measured at <52 inches at the time of sealing) in the harvest ranged from 16% to 27% during RY12–RY16.

Table 4. Unit 13 beaver harvest and method of take during regulatory years 2012–2016, Alaska.

Regulatory	Reported harvest					Method of take				
year	Adult	Juv[a]	(%)[a]	Unknown	Total	Trap/snare	(%)	Shot	(%)	Unknown
2012	151	30	17	7	188	182	98	4	2	2
2013	160	30	16	4	194	193	99	1	1	0
2014	121	46	28	6	173	162	94	11	6	0
2015	61	23	27	6	90	78	92	7	8	5
2016	105	29	22	8	142	137	97	4	3	1

[a] Juvenile beavers (kits) measured at <52 inches at the time of sealing.

While beaver harvests under summer federal subsistence hunting seasons[1] on federal lands are low in Units 11 and 13, they are incorporated into state harvest records due to state sealing requirements.

In Alaska, average beaver prices fluctuated between $10.04 and $32.56 between 2012 and 2016 (Parr 2016). Despite low prices, trappers still trap beaver for a variety of reasons. Some trappers have found markets for carcasses, and sometimes for skulls. Beaver trapping continues to be an educational tool for young people as well. Beaver populations are considered healthy across both Units 11 and 13. Trapping is not concentrated, apart from some highly visible roadside beaver colonies. Current harvest rates are considered sustainable.

[1] Federal subsistence hunting seasons: Unit 11: 1 June–10 October, limit 1 per day, 1 in possession; Unit 13: 15 June–10 September, limit 1 per day, 1 in possession.

MUSKRAT

Though muskrats are not sealed in Units 11 or 13, trapping pressure is variable year to year based on winter conditions and fur prices. During RY12–RY16 muskrat numbers were variable, depending on locality, but the overall population remains well below numbers seen in the 1980s. The season was extended 45 days in Unit 13 in 2003 to add additional opportunity to take muskrats during the fall, though the harvest has not likely increased significantly from that change.

Average prices paid by the 2 largest fur buyers in 2012 were $12.53 for muskrat, $27.90 for mink, and $3.43 for weasel. Prices decreased by 2016 to $3.89 for muskrat, $10.44 for mink, and $2.72 for weasel (Parr 2017).

RIVER OTTER

River otter harvests in Unit 11 are very low and ranged from 1 to 6 during RY12–RY16 (Table 5). River otter harvests in this unit have historically been low, averaging fewer than 4 animals per year (range 0–12) since 1977.

Table 5. Unit 11 river otter harvest, regulatory years 2012–2016, Alaska.

Regulatory	Reported harvest					Method of take				
year	Males	(%)	Females	Unknown	Total	Trap/snare	(%)	Shot	(%)	Unknown
2012	2	67	1	2	5	5	100	0	–	0
2013	0	–	0	1	1	1	100	0	–	0
2014	4	100	0	0	4	4	100	0	–	0
2015	4	67	2	0	6	6	100	0	–	0
2016	1	100	0	0	1	1	100	0	–	0

In Unit 13, the average reported harvest during RY12–RY16 was 39 otters (Table 6), which increased from the previous 5-year (RY07–RY11) average of 34 otters per year. Since 1977, the annual average harvest has been about 32 river otters (ranging 5–68 otters) for Unit 13.

During RY12–RY16 prices for river otter pelts declined from $100.75 in 2012 to $20.00 in 2015, averaging $48.43 (Parr 2016).

Table 6. Unit 13 river otter harvest, regulatory years 2012–2016, Alaska.

Regulatory	Reported harvest					Method of take				
year	Males	(%)	Females	Unknown	Total	Trap/snare	(%)	Shot	(%)	Unknown
2012	22	67	11	23	56	51	91	5	9	0
2013	24	69	11	8	43	42	98	1	2	0
2014	15	63	9	6	30	30	100	0	–	0
2015	24	63	14	5	43	42	98	1	2	0
2016	11	52	10	0	21	20	95	1	5	0

LYNX

During the lynx population peak in 2000, the annual combined lynx harvest in Units 11 and 13 was 693 animals. In 2010, the most recent lynx peak, the combined harvest of lynx for Units 11 and 13 was 1,583 animals, which was the highest recorded harvest in 30 years.

In Unit 11, during the last low between 2002 and 2004, the average take was only 4 lynx, with an average of 3 trappers annually. Harvest started to increase rapidly in 2005 as the number of lynx increased, reaching a peak of 350 lynx harvested in 2008. The number of successful lynx trappers in Unit 11 went from 2 in 2003 up to 25 successful trappers in 2008. The lynx harvest began a notable decline in 2011 with 100 fewer lynx sealed from the previous year. The number of lynx sealed continued to decline in subsequent years. During RY12–RY16 the Unit 11 lynx harvest ranged from 9 to 63 (Table 7). The percentage of kittens in the Unit 11 harvest has been variable since 1982, averaging 21%. During RY12–RY16 the percentage of kittens was 7%, which is representative of a low in the population cycle.

Table 7. Unit 11 lynx harvest, regulatory years 2012–2016, Alaska.

Regulatory	Reported harvest					Method of take				
year	Adult	Juvenile[a]	(%)[a]	Unknown	Total	Trap/snare	(%)	Shot	(%)	Unknown
2012	61	2	3	0	63	51	81	12	19	0
2013	10	0	–	0	10	10	100	0	–	0
2014	8	1	11	0	9	9	100	0	–	0
2015	15	1	6	0	16	9	56	7	44	0
2016	21	4	16	6	31	28	97	1	3	2

[a] Juvenile lynx measured at ≤35 inches in length at the time of sealing.

In Unit 13, kitten harvest peaked at 43% of harvest in 1997. Following this peak, kitten harvest decreased steadily until 2001 when the kitten harvest was 12%, just 1 year after the peak lynx harvest. Harvest of all lynx was the lowest in 2002. From there, the percentage of kittens increased steadily until they reached 31% in 2005. The following year the number of kittens harvested dropped to 11%, even though harvest of lynx continued to steadily climb. Kittens in the harvest peaked at 29% in 2008, dropped to 23% in 2009, then dropped significantly to 1% in 2011. In 2010 1,297 lynx were harvested in Unit 13, the highest recorded in the past 30 years. In 2011 almost 500 fewer lynx were sealed from Unit 13. The number of lynx reported as harvested continued to decline each year, reaching a low of 69 in 2015 (Table 8). Observations during 2010 suggested that the snowshoe hare population had started to decline, and reports suggested that snowshoe hare numbers continued to decline until 2016.

Table 8. Unit 13 lynx harvest, regulatory years 2012–2016, Alaska.

Regulatory	Reported harvest					Method of take				
year	Adult	Juvenile[a]	(%)[a]	Unknown	Total	Trap/snare	(%)	Shot	(%)	Unknown
2012	346	41	11	20	407	359	88	48	12	0
2013	104	5	5	15	124	101	81	23	19	0
2014	66	14	18	6	86	73	85	13	15	0
2015	50	12	19	7	69	58	85	10	15	1
2016	75	15	17	10	100	85	92	7	8	8

[a] Juvenile lynx measured at ≤35 inches in length at the time of sealing.

WOLVERINE

Wolverine harvest in Unit 11 remains relatively low in relation to the amount of wolverine habitat available. From 1971 to 1984 the average harvest was 28 wolverines per year. Between 1985 and 1991, the average harvest dropped to 10 per year, 34% of which were females. Since 1992, the average harvest since then has been 10 per year, 32% of which have been females. During RY12–RY16 an average of 9 wolverines were harvested annually in Unit 11 (Table 9).

Table 9. Unit 11 wolverine harvest during regulatory years 2012–2016, Alaska.

Regulatory	Reported harvest					Method of take				
year	Male	(%)	Female	Unknown	Total	Trap/snare	(%)	Shot	(%)	Unknown
2012	3	60	2	0	5	5	100	0	–	0
2013	5	56	4	2	11	11	100	0	–	0
2014	2	67	1	1	4	4	100	0	–	0
2015	10	63	6	0	16	16	100	0	–	0
2016	7	78	2	0	9	9	100	0	–	0

While there is better access and more wolverine trappers in Unit 13, like Unit 11, the wolverine harvest has remained stable since 1985. The Unit 13 harvest averaged 40 wolverine per year over the last 30 years, ranging from 16 to 79 wolverine, in 1988 and 2015, respectively. During RY12–RY16, the annual harvest averaged 59 wolverines (Table 10), an increase from the previous 5-year (RY07–RY11) average of 45 wolverine. Males have consistently accounted for the majority of the harvest in Unit 13. The harvest was 38% female during RY12–RY16.

Table 10. Unit 13 wolverine harvest, regulatory years 2012–2016, Alaska.

Regulatory	Reported harvest					Method of take				
year	Males	(%)	Females	Unknown	Total	Trap/snare	(%)	Shot	(%)	Unknown
2012	32	60	21	3	56	47	85	8	15	1
2013	32	60	21	6	59	52	90	6	10	1
2014	34	69	15	5	54	51	94	3	6	0
2015	43	61	28	8	79	77	97	2	3	0
2016	29	62	18	1	48	48	100	0	–	0

Harvest locations from Units 11 and 13 indicated that most wolverines are harvested from the foothills of the Chugach, Talkeetna, Alaska, and Wrangell Mountain ranges. There appears to be large areas of refugia between harvest locations, particularly in Unit 11.

MARTEN

Harvest data are not directly available for marten in Units 11 and 13 due to the absence of sealing requirements. Sealing of marten was required between 1992 and 2002 in Unit 13E but has since been discontinued. The price paid by Alaskan fur buyers decreased considerably for most furs in 1997, including marten. Lower prices led to declines in the number of marten purchased by Alaskan fur buyers as well as exported by individual Alaska trappers statewide (Kephart 2001). The price for marten remained low until 2004 when prices more than doubled. Higher prices held up for a couple of years but declined in 2009 before doubling again in 2011. Marten have historically been the most economically important furbearer in Units 11 and 13. During RY12–RY16, prices for marten were highly variable, ranging from $46.51 to $143.81 (Parr 2016). Despite lower numbers during RY12–RY16, trappers continue to report that marten is the most targeted furbearer species in Units 11 and 13.

Hunter Residency and Success

BEAVER

Interest in beaver trapping in Unit 11 has remained low; 1–2 trappers reported taking beaver annually during RY12–RY16. Historically, most beaver trapping pressure was in the mid-1980s; 13 trappers reported taking 56 beaver in 1985. In Unit 11 trapping and snaring were the most reported methods of take during RY12–RY16 (Table 3). Interest in trapping beaver in Unit 13 has varied year to year, though the number of successful trappers averaged 32 during RY12–RY16, with trapping and snaring being the most reported methods of take (Table 4).

RIVER OTTER

During RY12–RY16 an average of 3 otters were harvested annually from Unit 11 by 1 to 2 trappers (Table 5). The harvest and number of successful river otter trappers in Unit 13 peaked in 1983 (68 otters were taken by 24 trappers), then again in 1994 (61 otters were taken by 26 trappers). An average of 15 trappers successfully harvested river otter annually during RY12–RY16 in Unit 13, which is similar to the previous 5-year (RY07–RY11) average of 17 otters. The average successful trapper caught between 2 and 3 river otters annually during RY12–RY16. Trapping and snaring were the most reported methods of take for river otters in Unit 11 and 13 (Tables 5 and 6).

LYNX

In Unit 11 the number of successful lynx trappers dropped to only 2 during the low in 2002 and 2003, reflecting the lack of effort when lynx are scarce. When the lynx population again increased in 2008, the number of successful lynx trappers increased to 25. During that year trappers harvested an average of 14 lynx per person, for a total record catch of 350. Trapper effort and success declined again during RY12–RY16, with an average 7 trappers harvesting 26

lynx annually (Table 7). In 2014, 5 trappers reported harvesting 9 lynx. Similar to the other trapped species, nearly all lynx harvested in Unit 11 were taken by local residents.

In Unit 13, trapping effort is slightly more consistent, even during the lynx lows. During the last low in 2002, 27 trappers reported taking an average of 2 lynx per person in Unit 13. This number increased to 119 successful trappers in 2009, each catching an average of 11 lynx for a total take of 1,257 lynx. The number of successful trappers declined to 59 in 2013 and again to 35 in 2016, reflecting the current low in the lynx population cycle. Between 2012 and 2016 an average of 58 trappers reported harvesting and average of 157 lynx in Unit 13 (Table 8).

During RY12–RY16, the most commonly reported method of take for lynx in both Units 11 and 13 was trapping (Tables 7 and 8), accounting for 72% and 74% of all lynx taken, respectively. Snaring is also another commonly used method for taking lynx in these units.

WOLVERINE

During RY12–RY16, an average of 9 trappers harvested an average of 5 wolverines each per year in Unit 11. The total annual take in Unit 11 ranged from 4 to 16 wolverines (Table 9). The number of trappers harvesting wolverine in Unit 11 has been relatively stable, averaging 6 per year since 1982. The average successful wolverine trapper in Unit 13 takes 2 wolverines per year; however, there are more trappers in Unit 13 due to better access. An average of 33 trappers successfully harvested wolverine each year during RY12–RY16. The most common method of take for wolverine in both units has been trapping and snaring (Tables 9 and 10). While ground shooting is uncommon for wolverine in Unit 11 (Table 9), an average of 4 wolverines per year were shot in Unit 13 during RY12–RY16 (Table 10).

Harvest Chronology

In Unit 11, beaver harvests have been low and chronology highly variable. In 2007 the season opening was moved earlier to 25 September to allow more open water trapping opportunity. During RY12–RY16, 3 beavers were harvested in September in Unit 11, and none were harvested in October (Table 11).

Table 11. Unit 11 beaver harvest chronology percent by month during regulatory years 2012–2016, Alaska.

Regulatory	Harvest periods								
year	September	October	November	December	January	February	March	April	*n*
2012	0	0	19	0	0	0	81	0	16
2013	0	0	0	25	0	25	35	15	20
2014	0	0	0	43	29	0	29	0	7
2015	33	0	0	67	0	0	0	0	9
2016	0	0	100	0	0	0	0	0	3

In 2001 the opening of the season was shifted earlier to 25 September which has afforded trappers a longer open water season. In Unit 13 most beaver are taken early in the season as

trapping through the ice is difficult in December and February (Table 12). Open water trapping has been popular and is used by those collecting beaver meat for trapping bait and sled dog food. In Unit 13, 51% of beaver were taken during September and October. The September 25 opening for the federal subsistence season has likewise added additional early season opportunity. During RY12–RY16, 27% of the total beaver harvest occurred during August and September. Much of the remaining harvest was in October. Harvest generally increases again during the spring months reflecting the longer days, moderating temperatures, and increasing pelt quality.

Table 12. Unit 13 beaver harvest chronology percent by month, regulatory years 2012–2016, Alaska.

Regulatory year	Harvest periods											
	Jul[a]	Aug[a]	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	*n*
2012	1	2	33	35	14	3	1	3	1	5	5	188
2013	0	0	31	25	20	13	3	0	4	3	2	194
2014	1	8	23	12	11	18	9	0	8	4	7	173
2015	0	6	20	24	1	11	4	2	12	9	10	90
2016	3	0	9	48	15	6	3	2	0	0	16	142

[a] All beavers harvested in July and August were taken under beaver depredation permits issued by ADF&G.

Like beaver, the otter harvest in Unit 11 is generally low and chronologically highly variable (Table 13).

Table 13. Unit 11 river otter harvest chronology percent by month, regulatory years 2012–2016, Alaska.

Regulatory year	Harvest periods						
	November	December	January	February	March	April	*n*
2012	40	0	0	60	0	0	5
2013	0	0	0	100	0	0	1
2014	0	25	75	0	0	0	0
2015	0	0	50	17	33	0	6
2016	100	0	0	0	0	0	1

In Unit 13, December through February continues to be popular for river otter trapping (Table 14). During years of late freeze-up and continual open water, the harvest chronology is more variable, with February becoming a more important month.

Table 14. Unit 13 river otter harvest chronology percent by month, regulatory years 2012–2016, Alaska.

Regulatory	Harvest periods						
year	November	December	January	February	March	April	*n*
2012	29	21	27	11	13	0	56
2013	9	42	33	9	7	0	43
2014	0	33	23	37	7	0	30
2015	14	21	30	19	16	0	43
2016	10	14	43	29	5	0	21

Harvest chronology data for lynx in Units 11 and 13 are included in Tables 15 and 16, respectively. Lynx harvest chronology data for both units generally reflect the limitations of season dates. While Unit 13 trappers utilize the entire season length, in Unit 11 the late freeze-up of large rivers such as the Copper and Chitina can prevent trappers from accessing their lines until midwinter. The harvest chronology reflects this access problem.

Table 15. Unit 11 lynx harvest chronology percent by month, regulatory years 2012–2016, Alaska.

Regulatory	Harvest periods				
year	November	December	January	February	*n*
2012	6	30	40	24	63
2013	0	40	50	10	10
2014	0	33	67	0	9
2015	0	56	19	25	16
2016	0	23	52	26	31

Table 16. Unit 13 lynx harvest chronology percent by month, regulatory years 2012–2016, Alaska.

Regulatory	Harvest periods					
year	November	December	January	February	March	*n*
2012	17	41	29	14	0	407
2013	7	39	36	18	0	124
2014	16	34	27	23	0	86
2015	19	29	32	19	1	69
2016	6	31	44	19	0	100

Harvest chronology data for wolverine in Units 11 and 13 are included in Tables 17 and 18, respectively. Because the season is so short, the timing of the wolverine harvest generally reflects season dates and trapping conditions more than differences in trapping preference. Although the seasons open 10 November, and traps are often set at that time, wolverine trappers often go 2–3 weeks between checks, particularly when using Conibear style traps. Often times

the first trapline checks are done in early December; therefore, few wolverine are recorded being caught in November.

Table 17. Unit 11 wolverine harvest chronology percent by month, regulatory years 2012–2016, Alaska.

Regulatory year	Harvest periods					*n*
	November	December	January	February	March	
2012	0	20	20	60	0	5
2013	18	46	36	0	0	11
2014	0	50	50	0	0	4
2015	0	0	38	63	0	16
2016	0	33	33	33	0	9

Table 18. Unit 13 wolverine harvest chronology percent by month, regulatory years 2012–2016, Alaska.

Regulatory year	Harvest periods							*n*
	September	October	November	December	January	February	March	
2012	7	2	4	32	45	11	0	56
2013	5	0	9	39	46	2	0	59
2014	6	0	11	44	37	2	0	54
2015	1	0	5	32	62	0	0	79
2016	0	0	4	19	75	0	2	48

Transport Methods

Transportation methods are reported in Tables 19 through 26. The transport method most used by successful trappers during RY12–RY16 was snowmachine. Beaver trappers in Unit 13, however, used a wide variety of transportation methods due to the extended season dates and accessibility (Table 19). During RY12–RY16 an increase in the use of airplanes to trap wolverine was reported in Unit 13. Other common transport methods reported in RY12–RY16 were dogsleds, snowshoes, skis, and highway vehicles.

Table 19. Unit 11 beaver harvest percent by transport method, regulatory years 2012–2016, Alaska.

Regulatory year	Percent of harvest							
	Airplane	Dogsled, skis, or snowshoes	Boat	ATV	Snowmachine	ORV	Highway vehicle	*n*
2012	0	0	0	0	100	0	0	16
2013	0	15	0	0	85	0	0	20
2014	0	29	0	0	71	0	0	7
2015	0	100	0	0	0	0	0	9
2016	0	0	0	0	0	100	0	3

Note: ATV is defined as for all-terrain vehicle. ORV is defined as off-road vehicle.

Table 20. Unit 13 beaver harvest percent by transport method, regulatory years 2012–2016, Alaska.

Regulatory year	Percent of harvest							
	Airplane	Dogsled, skis, or snowshoes	Boat	ATV	Snowmachine	ORV	Highway vehicle	*n*
2012	2	6	1	15	14	0	62	187
2013	0	7	3	16	36	0	39	194
2014	5	23	7	17	12	1	36	172
2015	0	14	13	44	15	0	15	88
2016	0	20	6	25	18	0	31	142

Note: ATV is defined as for all-terrain vehicle. ORV is defined as off-road vehicle.

Table 21. Unit 11 otter harvest percent by transport method, regulatory years 2012–2016, Alaska.

Regulatory year	Percent of harvest							
	Airplane	Dogsled, skis, or snowshoes	Boat	ATV	Snowmachine	ORV	Highway vehicle	*n*
2012	0	0	0	0	100	0	0	5
2013	0	0	0	0	100	0	0	1
2014	0	75	0	0	25	0	0	4
2015	0	0	0	0	100	0	0	6
2016	0	0	0	0	100	0	0	1

Note: ATV is defined as for all-terrain vehicle. ORV is defined as off-road vehicle.

Table 22. Unit 13 otter harvest percent by transport method, regulatory years 2012–2016, Alaska.

Regulatory year	Percent of harvest							
	Airplane	Dogsled, skis, or snowshoes	Boat	ATV	Snowmachine	ORV	Highway vehicle	*n*
2012	0	5	0	0	73	0	21	56
2013	0	5	0	0	91	0	5	43
2014	0	10	0	0	90	0	0	30
2015	0	9	0	2	88	0	0	43
2016	0	0	5	0	91	0	5	21

Note: ATV is defined as for all-terrain vehicle. ORV is defined as off-road vehicle.

Table 23. Unit 11 lynx harvest percent by transport method, regulatory years 2012–2016, Alaska.

Regulatory year	Percent of harvest							
	Airplane	Dogsled, ski, or snowshoes	Boat	ATV	Snowmachine	ORV	Highway vehicle	*n*
2012	2	3	0	0	84	0	11	63
2013	0	0	0	0	100	0	0	10
2014	0	11	0	0	86	0	0	9
2015	0	0	0	0	38	0	63	16
2016	0	3	0	0	90	0	7	29

Note: ATV is defined as for all-terrain vehicle. ORV is defined as off-road vehicle.

Table 24. Unit 13 lynx harvest percent by transport method, regulatory years 2012–2016, Alaska.

Regulatory year	Percent of harvest							
	Airplane	Dogsled, ski, or snowshoes	Boat	ATV	Snowmachine	ORV	Highway vehicle	*n*
2012	0	7	1	4	65	0	22	407
2013	0	6	1	0	75	0	19	122
2014	0	7	0	8	67	0	17	86
2015	0	13	0	1	55	0	30	69
2016	1	5	0	0	78	0	15	92

Note: ATV is defined as for all-terrain vehicle. ORV is defined as off-road vehicle.

Table 25. Unit 11 wolverine harvest percent by transport method, regulatory years 2012–2016, Alaska.

Regulatory year	Percent of harvest							
	Airplane	Dogsled, skis, or snowshoes	Boat	ATV	Snowmachine	ORV	Highway vehicle	*n*
2012	0	0	0	20	80	0	0	5
2013	9	0	0	0	91	0	0	11
2014	0	0	0	0	100	0	0	4
2015	0	0	0	6	94	0	0	16
2016	0	0	0	0	100	0	0	9

Note: ATV is defined as for all-terrain vehicle. ORV is defined as off-road vehicle.

Table 26. Unit 13 wolverine harvest percent by transport method, regulatory years 2012–2016, Alaska.

Regulatory year	Percent of harvest							
	Airplane	Dogsled, skis, or snowshoes	Boat	ATV	Snowmachine	ORV	Highway vehicle	*n*
2012	5	9	0	0	63	0	23	56
2013	24	2	2	5	55	0	12	58
2014	22	0	0	7	69	0	2	54
2015	8	4	0	1	85	0	3	79
2016	0	10	0	0	85	0	4	48

Note: ATV is defined as for all-terrain vehicle. ORV is defined as off-road vehicle.

Other Mortality

There are natural sources of mortality for these species; however, we do not monitor them. Incidental mortality, such as vehicle collisions, is known in some species like lynx; however, it is uncommon and does not significantly impact populations.

Alaska Board of Game Actions and Emergency Orders

There were no Board of Game actions or emergency orders for furbearers during regulatory years 2012–2016.

Recommendations for Activity 2.1

Continue to monitor harvest through sealing records.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Data sheets are scanned and stored on the Glennallen ADF&G server (O:\DWC\BGDIF\Fur).
- Original datasheets are stored in file folders located in the Glennallen in the area biologist's office or the assistant area biologist's office.
- Fur Sealing data is stored in ADF&G's Wildlife Information Network (WinfoNet).

Agreements

None.

Permitting

None.

Conclusions and Management Recommendations

Trapping in Southcentral Alaska has become more of a weekend recreational activity, compared to the long-line commercial activity seen during the 1970s and 1980s. Fur prices affect trapping effort less each year. While the steep drop in prices during the mid-1990s reduced trapping effort for a few years, the average number of weeks spent trapping increased by 1998 and has averaged about 10 weeks since.

Furbearer populations in Units 11 and 13 are considered healthy and are experiencing normal fluctuations. The beaver harvest in Unit 13 increased in 2002 following the adoption of a fall open-water trapping period. The addition of 2 weeks in late May in 2003 had no effect. After 2002, the harvest dropped back to the average observed prior to these changes, then increased again in 2010 and 2011. The seasons have been lengthened in Unit 11 as well, although trapping pressure is so low the additional opportunity has had little effect.

Otter harvests in Unit 13 have fluctuated over the past 20 years, perhaps in part related to prices paid for pelts. As with other furs, there was a decline in harvest and price paid for otter during the late 1990s, though in the intervening years harvest has risen slightly and the price of otter increased. Otter harvest in Unit 11 is extremely low, similar to beaver. Trapper reports and field observations suggest that current otter harvests are sustainable.

Since the peak in the early 1970s, lynx population highs in this area have had decreasing amplitudes until the early 2000s. In 2001, the peak was comparable to that in the early 1970s. For 2009, the population appeared to be twice what it was in 2000. It is unknown whether the high amplitude of the most recent peak was due strictly to the hare cycle, environmental conditions, or a combination of both. Regardless, the lynx population appeared healthy, and the cycle on track. A sharp decline in the lynx harvest occurred in 2011 and continued until 2015. An increase in the lynx harvest during regulatory years 2017–2021 is expected, concurrent with the increase in the hare population observed in 2016.

Trapper observations suggest that wolverine are common in mountainous areas of Units 11 and 13; however, numbers remain relatively low in forested habitats at lower elevations. Management actions during the early 1990s included shortening the season and setting a bag limit of 2 to increase wolverine numbers at lower elevations. No change has been detected since in harvest or observation trends. The bag limit was eliminated in 1997, though the season has remained short. The wolverine harvest in Unit 13 has been stable and appears sustainable; no changes are recommended at this time. In Unit 11, with the federal subsistence season recently being lengthened to the end of February, local wolverine trappers now have some additional opportunity to take wolverine. The lack of access, the low harvest, and the high percentage of males being taken by relatively few trappers suggest this longer season should be sustainable in Unit 11.

Marten will continue to be the most important furbearer to individuals trapping in Units 11 and 13, even though many shifted to lynx between 2008 and 2010 due the lynx cycle high. Though pelt prices dropped by over 50% during the 1990s, they recovered somewhat in the following years. The season across Unit 13 was aligned and lengthened in 2003, making some interior habitats accessible to trappers late in the season. Current harvest levels for marten are considered to be sustainable and are largely dependent on localized trapping effort and the size of refugia between active traplines.

With recent reduced wolf numbers across Unit 13 due to an active wolf control program, there is a possibility that coyotes have been moving into new areas as a result. The potential of expanding coyote populations has been a cause for concern among hunters and trappers, particularly in reference to the effects on Dall Sheep. Coyote predation is difficult to monitor, and high coyote populations are even more difficult to reduce. Extended hunting and trapping seasons allow for ample opportunities to take coyotes, although take is considered negligible. Between the difficulty in trapping/snaring coyotes, the reluctance of sheep hunters to shoot coyotes, and the low value of their pelts, the statewide coyote harvest is low and has been declining. As with lynx, a sharp decline in the productivity of both fox and coyotes was noted during RY12–RY16, likely a result of the recent drop in the population of snowshoe hares. This decline in productivity will likely persist until the next upswing in the hare cycle. We anticipate an increase in both fox and coyotes during RY17–RY21 as the snowshoe hare population again peaks, and possibly because of renewed wolf control activities.

There were no overall population trends detected other than annual fluctuations in abundance of muskrat, mink, or weasel. While muskrat, mink, and weasels are common in Units 11 and 13, the harvest of all 3 continues to be low and largely dependent on individual trapping efforts. Pelt prices generally declined over the period of this report. There were no overall population trends detected other than annual fluctuations in abundance for these species.

In Southcentral much of the trapping effort occurs along the roadside. This type of trapping does not allow for line establishment, and often results in trapper conflicts. The questionnaire respondents also indicated a growing number of unethical trappers in the field. The most common complaint reported related to new trappers moving into areas that have previously been used by established trappers. While some of this activity is unintentional, most new trappers have limited time and are drawn to established trails, seismic lines, rivers, and pond edges, which are often already considered part of another person’s trapline. These problems are exacerbated when

trappers let their lines sit vacant for a year or 2, or poor snow conditions early in the season preclude setting during the first few days of the season.

Trapping continues to be an important recreational activity in the Copper River Basin and is still used by some to supplement annual income. Many trappers in Units 11 and 13 begin to pull their sets in late January as recreational snowmachine activity increases. Competition for available roadside trapping areas and existing trails will continue to be an issue for trappers in Unit 13. Responses to the trapper questionnaire indicate that trapping is still a popular activity in Southcentral, though many trappers have growing concerns with overcrowding. With more weekend trappers in the field now than in the past, trappers will need to be increasingly aware of others to avoid conflicts.

II. Project Review and RY17–RY21 Plan

Review of Management Direction

MANAGEMENT DIRECTION

The existing management direction and goals appropriately direct management of furbearers in Units 11 and 13. The management direction for these units ensures that furbearers will persist as part of the natural ecosystem and ensures continued trapping (on applicable species) and viewing opportunities. There is no indication that the long-term sustainability of the furbearer populations or that statewide goals (ADF&G 1976) for human uses cannot be met; therefore, Units 11 and 13 management direction should continue to be that furbearers will be managed in a manner that complements the statewide furbearer management goals. There are no area-specific issues in these units that require a departure from statewide goals for furbearer management, and furbearers are currently managed at a unitwide scale.

GOALS

1. To provide for an optimum harvest of furbearers.

2. To provide the greatest opportunity to participate in hunting and trapping furbearers.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game has made a positive subsistence finding for furbearers in all units, including Units 11 and 13, with a harvestable surplus to be 90% of the harvestable portion (5 AAC 99.025(13)).

Intensive Management

There is currently an Intensive Management (IM) program for moose in Unit 13. The IM predation control program implemented for moose in Unit 13 may also influence the abundance of canid furbearers.

MANAGEMENT OBJECTIVES

- Maintain accurate annual harvest records based on sealing documents.
- Maintain indices of population trends using trapper questionnaires.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Record observations of furbearers 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. Statistical estimates of furbearers derived from a sample-based estimator including a measure of the precision would be needed to detect change in the population.

Methods

GPS locations and characteristics are recorded for any furbearers observed during other field work. Most observations occur during spring deer pellet, mortality, and body condition surveys. Anecdotal reports are 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 determine trends in use and availability of furbearers.

Methods

Methods for RY17–RY21 will be the same as RY12–RY16.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Data sheets are scanned and stored on the Glennallen ADF&G server (O:\DWC\BGDIF\Fur).
- Original datasheets are stored in file folders located in the Glennallen area biologist's office or the assistant area biologist's office.
- Fur sealing data is stored on ADF&G's Wildlife Information Network (WinfoNet).

Agreements

None.

Permitting

None.

References Cited

Alaska Department of Fish and Game. 1976. Alaska wildlife management plans: A public proposal for the management of Alaska's wildlife: Southcentral Alaska. Draft proposal subsequently approved by the Alaska Board of Game. Division of Game, Federal Aid in Wildlife Restoration Project W-17-R, Juneau.

Alaska Department of Fish and Game. [n.d.]. Alaska's 32 ecoregions [web page]. Division of Wildlife Conservation, Juneau. http://www.adfg.alaska.gov/index.cfm?adfg=ecosystems.ecoregions (Accessed 5 April 2016).

Colson, K. 2015. Wolverine distribution, abundance, and habitat occupancy study plan section 10.9; Study Completion Report, Susitna-Watana Hydroelectric Project (FERC No. 14241). Report for Alaska Energy Authority, Anchorage, by ABR, Inc.–Environmental & Research Services, Fairbanks.

Gardner, C. L. 1985. The ecology of wolverines in southcentral Alaska. Master's Thesis, University of Alaska Fairbanks.

Gardner, C. L., and E. F. Becker. 1991. Wolf and wolverine density estimation techniques. Federal Aid in Wildlife Restoration Research Progress Report, Project W-23-4. Alaska Department of Fish and Game, Division of Wildlife Conservation, Juneau.

Golden, H. N. 1996. Furbearer management technique development. Alaska Department of Fish and Game, Division of Wildlife Conservation, Federal Aid Research Progress Report 1 July 1995-30 June 1996, Federal Aid in Wildlife Restoration Study 7.18, Juneau.

Kephart, J. 2001. Trapper questionnaire statewide annual report. Alaska Department of Fish and Game, Division of Wildlife Conservation, Juneau.

Parr, B. L. 2016. 2015 Alaska trapper report: 1 July 2015–30 June 2016. Alaska Department of Fish and Game, Division of Wildlife Conservation, Wildlife Management Report ADF&G/DWC/WMR-2016-1, Juneau.

Parr, B. L. 2017. 2016 Alaska trapper report: 1 July 2016–30 June 2017. Alaska Department of Fish and Game, Division of Wildlife Conservation, Wildlife Management Report ADF&G/DWC/WMR-2017-3, Juneau.

Parr, B. L. 2018. 2013 Alaska trapper report: 1 July 2013–30 June 2014. Alaska Department of Fish and Game, Wildlife Management Report ADF&G/DWC/WMR-2018-1, Juneau.


ALASKA
DEPARTMENT OF FISH AND GAME