

Furbearer Management Report and Plan, Game Management Unit 17:

Report Period 1 July 2017–30 June 2022, and
Plan Period 1 July 2022–30 June 2027

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2025

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Report Period 1 July 2017–30 June 2022, and
Plan Period 1 July 2022–30 June 2027

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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 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 Rinaldi, Management Coordinator for Region IV for the Division of Wildlife Conservation.

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

Lichwa, E. M., and J. Landsiedel. 2025. Furbearer management report and plan, Game Management Unit 17: Report period 1 July 2017–30 June 2022, and plan period 1 July 2022–30 June 2027. Alaska Department of Fish and Game, Species Management Report and Plan ADF&G/DWC/SMR&P-2025-38, Juneau.

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Cover Photo: Lynx in the snow. ©2022 ADF&G. Photo by Evelyn M. Lichwa.

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Purpose of this Report

This report provides a record of survey and inventory management activities for furbearers in Game Management Unit 17 for the 5 regulatory years 2017–2021 and plans for survey and inventory management activities in the next 5 regulatory years, 2022–2026. A regulatory year (RY) begins 1 July and ends 30 June (e.g., RY22 = 1 July 2022–30 June 2023). This report is produced primarily to provide agency staff with data and analysis to help guide and record agency efforts but is also provided to the public to inform it of wildlife management activities. In 2016 the Alaska Department of Fish and Game's (ADF&G, the department) Division of Wildlife Conservation (DWC) launched this 5 year report to report more efficiently on trends and to describe potential changes in data collection activities over the next 5 years. It replaces the furbearer management report of survey and inventory activities that was previously produced every 3 years.

I. RY17–RY21 Management Report

Management Area

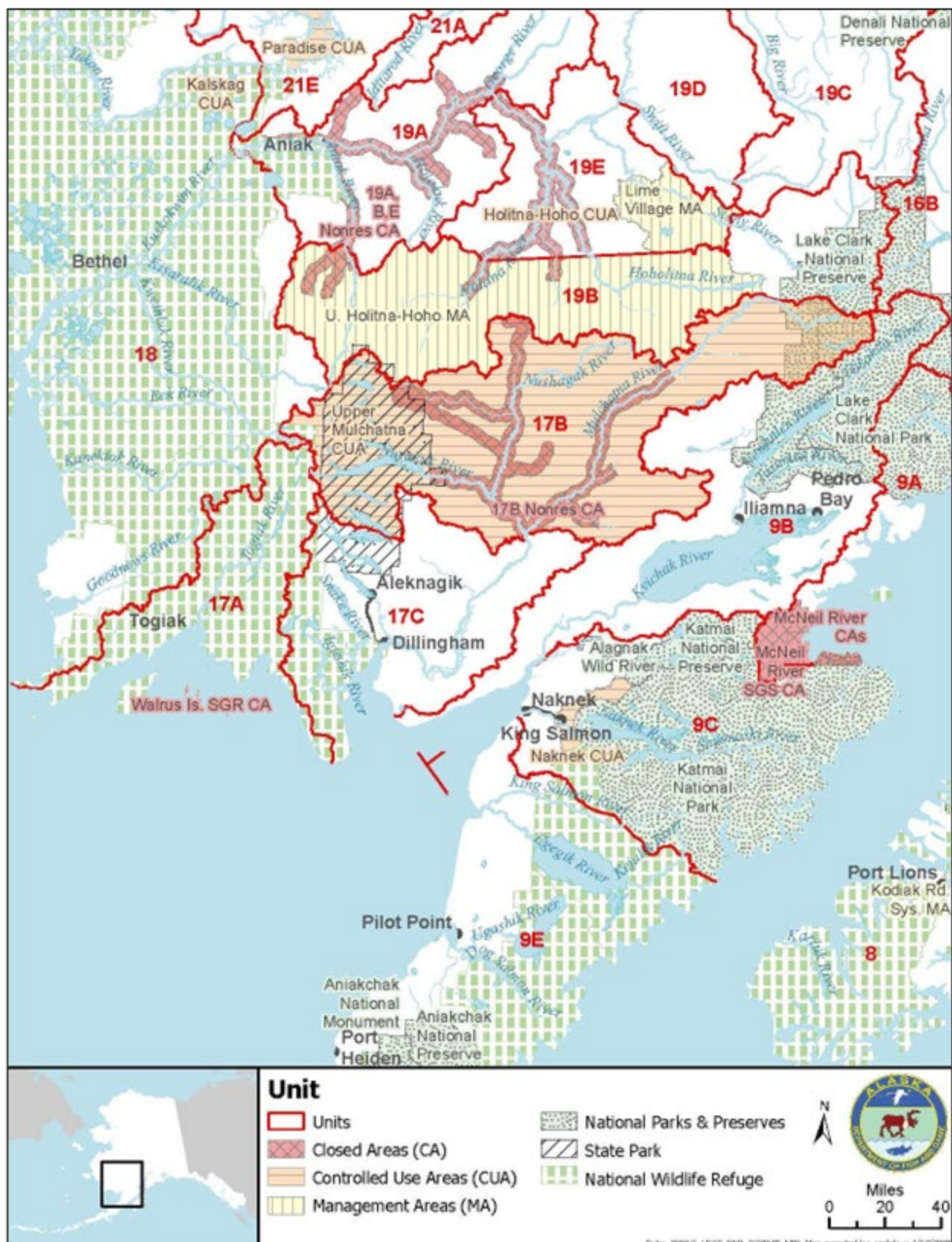
Unit 17 (18,800 mi²) consists of the area north of Bristol Bay from Cape Newenham eastward to Etolin Point on the eastern bank at the mouth of the Nushagak River. It encompasses the Nushagak and Mulchatna river watersheds on the east, the Wood-Tikchik lakes and mountains, and the Togiak lakes and river to the west. Additionally, this unit includes Hagemeister Island and the Walrus Islands, located offshore south of Togiak Bay (Fig. 1). Maps for Unit 17 boundaries can be found on the department's website.¹

Unit 17 is further divided into Unit 17A, which is dominated by the Togiak River watershed; Unit 17B, which is associated with the upper Nushagak and upper Mulchatna river watersheds; and Unit 17C, which encompasses the lower Nushagak and Wood River watersheds. Ecoregions in this unit include the Bristol Bay lowlands, Kuskokwim Mountains, Wood River Mountains, Neacola Mountains, Nushagak Hills, and Stuyahok Hills.

Summary of Status, Trend, Management Activities, and History of Furbearers in Unit 17

For residents of northern Bristol Bay, trapping has been an important source of income and culture. Historically, large numbers of trappers and fur buyers from around the region would come to Dillingham to tag, sell, and buy pelts at the annual Beaver Round-Up in March. Over the last 2 decades, there has been a steady decline in the importance of fur trapping to the economy and seasonal activities of Bristol Bay residents. While the Beaver Round-Up is still held in Dillingham as a spring celebration, few furs are brought in, and no fur buyers from outside the area come to the festival. More recently, trapping has become more of a hobby in Bristol Bay than a way to generate essential income. Much of the fur taken by trappers is not sold to fur buyers; rather, it is commercially tanned and made into hats, mittens, slippers, and handicrafts that are sold both locally and across the state.

¹ <http://www.adfg.alaska.gov/index.cfm?adfg=maps.main>.



Furbearers present in Unit 17 include beaver (*Castor canadensis*), coyote (*Canis latrans*), red fox (*Vulpes vulpes*), lynx (*Lynx canadensis*), marten (*Martes americana*), mink (*Neovison vison*), muskrat (*Ondatra zibethicus*), river otter (*Lontra canadensis*), weasel and ermine (*Mustela* spp.), wolverine (*Gulo gulo*), hoary marmot (*Marmota caligata*), red squirrel (*Tamiasciurus hudsonicus*), Arctic ground squirrel (*Spermophilus parryii*), and, on rare occasions, Arctic fox (*Vulpes lagopus*). Wolves (*Canis lupus*) are classified as furbearers and big game animals; however, they are not included in this report. Instead, wolves are addressed in a separate species management report and plan.

Aside from beaver cache surveys conducted between 1968 and 2002, no studies specific to any of the furbearers addressed in this report have been conducted. Therefore, the abundance and distribution of furbearers are acquired through sealing records, discussions with trappers during the sealing process, the annual trapper questionnaire, and anecdotal observations by biologists and other outdoor enthusiasts.

Beavers were once the most important and sought-after furbearer in Unit 17, with >3,000 being sealed in some years during the 1980s (Woolington 2013). They appear abundant throughout most of the unit, occurring in all major drainages and most smaller tributaries. In the past, season closures were imposed in portions of the unit on several occasions to allow beaver populations to recover from trapping pressure. Commercial salmon prices have affected beaver trapping effort in the past; as salmon prices rose, fur trapping effort declined. Pelt prices are a significant factor in the annual beaver harvest. Low fur prices and the costs associated with trapping contribute to the decline in beaver trapping; however, the importance of beavers as a food source for local residents ensures a base level of harvest regardless of other factors. In addition to their value as a furbearer, beavers are ecologically important. Beaver dams and the resulting reservoirs enhance waterfowl nesting habitat, provide aquatic plants for moose, and create habitat used by a variety of other wildlife. The primary mortality factor for beavers in Unit 17 is likely predation (Bloomquist and Nielsen 2010, Maenhout 2013); however, floods during the late fall have been known to tear out beaver caches, leaving beavers without their winter food source.

The red fox is common throughout Unit 17. Foxes prey on ptarmigan, grouse, and various small mammals and will consume the remains from hunter- and predator-killed moose and caribou. Zoonotic disease outbreaks (e.g., rabies in the Bristol Bay area in the 1990s) can cause red fox populations to fluctuate widely. Statewide data from the ADF&G Trapper Questionnaire show that the red fox is sometimes the most targeted species by trappers (Schumacher 2013). This is likely because they are abundant, easy to catch, widely distributed, and valuable to local trappers who tan the hides and turn them into fur products.

River otters appear to be relatively abundant throughout Unit 17. The numerous lakes, ponds, and streams in this unit provide an ideal habitat for otters. Historical harvest data from the 1980s and 1990s suggest that otters were abundant during this period (Woolington 2013), with harvests occasionally exceeding 200 otters in a single year. In recent years, the level of harvest has been much lower (9–75 otters per year); however, anecdotal information, such as tracks seen during winter surveys for moose, suggests that otters are common and widely distributed across the landscape. Signs of otters are widespread, not only along stream and lake corridors but also across large expanses of tundra as they travel from one drainage to another. The high economic value of otter pelts results in trappers targeting otters, although many are taken incidentally while

trapping for beaver. Otters are often taken with firearms while crossing tundra, where snowmachine travelers encounter them. Otter fur is among the most durable of all furbearers, and local skin sewers highly value their pelts for making hats, mittens, slippers, and other goods. Many otters caught locally are tanned and turned into fur products rather than sold for cash.

Most lynx, and thus most lynx harvest, occurs near the community of Manokotak. Lynx are generally found in low to moderate densities in this unit, with the average annual harvest since 1985 being 11 lynx per year (range = 0–52; Woolington 2013). Much of this fluctuation in harvest is likely due to local hare abundance and lynx dispersal to and from adjacent areas. However, trapper access also likely plays a role, especially in years with little snowfall given the already low densities of lynx (Slough and Mowat 1996). Based on harvest data since 1985, there does not appear to be a discernible harvest pattern.

Wolverines occur throughout Unit 17, ranging from ridge tops to river mouths. Although no data have been collected on the wolverine population in the unit, observations of wolverine tracks by trappers and biologists during aerial winter surveys suggest that wolverines are common in the unit. Harvest levels fluctuate annually, likely due to winter travel conditions and the number of trappers. In years with good snow conditions, trappers can access wolverine-rich areas near the lakes and mountains of the Wood-Tikchik system. In low snow years, trappers are limited in their range, and few wolverines are taken. The high price of wolverine fur and some interest in wolverine as a big game species by hunters during the fall contribute to a continued interest in taking wolverines in Unit 17 (Woolington 2013).

Marten is not a species that requires sealing in Unit 17; therefore, harvest data is limited to incidental conversations with trappers, the annual trapper questionnaire, and fur export reports. Martens occur in the mature spruce forests found in portions of Units 17C and 17B that include the Wood-Tikchik Lakes country and the river corridors of the Nushagak and Mulchatna rivers. The area north of Aleknagik, toward the headwaters of the Kokwok River, has historically produced the highest number of harvested martens, as it generally receives good snow cover and is in close proximity to communities.

Mink are present in most riparian areas of Unit 17, but their population size and trend are unknown. Due to their smaller pelts and lower market value compared to those from the Kuskokwim River drainage, trapping effort is minimal. Coyotes, having expanded west from the Alaska Range, are now common throughout Unit 17, especially on the Nushagak Peninsula and near Ekuk. Arctic foxes are rare visitors, likely dispersing from the lower Kuskokwim drainage during population peaks. Weasels are common across the unit, though trapping pressure on the species is low. Long-term residents of Unit 17 report that muskrats were once common along the lower Nushagak and Togiak rivers, as well as on the Nushagak Peninsula. Presently, they are reportedly uncommon throughout Unit 17.

Management Direction

Management of furbearers in Unit 17 follows a pattern similar to that used throughout Alaska. Seasons and bag limits are relatively liberal, and harvest is dictated by various factors, such as trapper effort, abundance of furbearers, price of fur, price of fuel, and access to trapping country via snowmachines. While furbearer populations may become depleted in easily accessible areas,

even in years of low fur prices, there is ample refugia from trappers across the landscape, such that furbearer populations remain healthy.

Of the furbearer species in Unit 17, beaver is the most consistently used by trappers and represents an important commercial and subsistence resource. Beavers are common, easy to find and trap, and are valued for their fur. Additional values include using the carcass for bait and the meat as a food source for local residents. These interests occupy the bulk of furbearer discussions and drive proposed changes to methods and means, bag limits, and season dates during Board of Game (BOG, the board) cycles.

EXISTING WILDLIFE MANAGEMENT PLANS

Management of furbearer species in Unit 17 is based on the “Greater Alaska Furbearer Management Plan” (ADF&G 1976).

GOALS

- To provide for the optimum harvest of furbearers.
- To provide for the greatest opportunity to participate in hunting and trapping furbearers.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

There is a positive customary and traditional use finding under 5 AAC 99.025(13) for furbearers and fur animals across the state. The amounts reasonably necessary for subsistence uses in Unit 17 are 90% of the harvestable portion.

Intensive Management

Not applicable to furbearers in Unit 17.

MANAGEMENT OBJECTIVES

- Maintain a beaver population in Unit 17A at an average stream density index of 1.0 cache per river mile. Maintain beaver populations throughout Units 17B and 17C at a level sufficient to sustain an average stream density of 1.2 caches per river mile.
- Maintain a river otter population in Unit 17 capable of sustaining an average annual harvest of 200 otters.
- Maintain a red fox population in Unit 17 capable of sustaining a 5-year average annual harvest of 400 foxes.
- Maintain a wolverine population in Unit 17 capable of sustaining an average annual harvest of 50 wolverines.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

The department's furbearer monitoring program in Unit 17 is limited to harvest information acquired during sealing, the annual trapper questionnaire, or anecdotal information collected incidentally during aerial surveys for other species.

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

Data Needs

In the absence of a survey and inventory program to investigate furbearer populations, the department collects anecdotal information about furbearers through tracks, lodges, caches, latrines, and other indications of their presence.

Biologists conducting surveys of moose or other species observe and record incidental observations, which are collected in addition to those reported by trappers, hunters, fishers, guides, and other outdoor enthusiasts. Although this data is anecdotal, it provides insight into how common and abundant certain furbearers are and their distribution on the landscape.

Methods

When conducting aerial surveys, notable observations and signs of furbearers may be incorporated into a survey memorandum. GPS locations are also recorded. A biologist may document other observations as field notes for later reference when assessing how common furbearers are in the area. Observations of furbearers by outdoor users are documented similarly, depending on the importance of the observation.

Results and Discussion

Some species leave signs that are particularly visible from aircraft, such as easily identifiable tracks (e.g., wolverine and otter) or houses and caches (e.g., beaver). Although anecdotal data are not used for quantitative analysis, they can provide a relative index of furbearer abundance, and when compared over time, they may provide a general trend. Guides, hunters, fishers, summer field camp crews, and especially recreational snowmachine operators also contribute anecdotal information that provides insight into furbearer populations. Overall, this data helps biologists understand the broader trends of furbearer abundance and distribution on the landscape.

Recommendations for Activity 1.1

Continue.

2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Seal furbearers of selected species to monitor harvest rates and trends.

Data Needs

Data on furbearer populations and harvest is essential for assessing the sustainability of current seasons and bag limits. Sealing provides opportunities to gain insight into the efforts of trappers and hunters while also gathering important data on the animals harvested. However, only select species require sealing, which is determined by either conservation concerns or the importance of the data for highly sought-after species.

Methods

ADF&G does not typically require trappers or hunters to acquire permits or harvest tickets to harvest furbearers. Rather, we require licensed trappers and hunters to bring the pelts of certain furbearers to authorized department staff or a state-appointed sealer. This is required within 30 days after the closure of the respective seasons for those taken under trapping regulations or within 30 days after harvest for those taken under hunting regulations. In Unit 17, the department requires that beavers, river otters, lynx, and wolverines be sealed. Beavers and wolverines are sealed with a State of Alaska metal locking tag that has a unique number for tracking the pelt. Lynx and river otters are subject to a different type of sealing tag that also has a unique number, known as a *CITES* (Convention on International Trade in Endangered Species of Wild Fauna and Flora) tag. This tag refers to an international agreement between worldwide governments to safeguard against the international trade of specimens of wild animals and plants that may threaten their survival.

During the sealing process, sealers collect data on the name of the trapper, harvest location and date, number of animals taken, sex, pelt measurements, transportation used, and method of take.

Results and Discussion

Data from sealing records was used to monitor harvest trends and patterns. Harvest levels and method of take were important factors in the BOG meeting during RY14, when a proposal was adopted to increase the opportunity for harvesting beaver with a firearm in Unit 17.

Harvest by Hunters-Trappers

The total harvest for all furbearer species was lower during this reporting period, except wolverine, which had a similar harvest compared to the previous reporting period (RY12–RY16). This decrease is likely related to the lower number of trappers in RY17–RY21 than in RY12–RY16 (Barten and Reiley 2021; Tables 1–4).

Harvest Chronology

Across all years during this reporting period, the majority of beaver harvest was in October. Lynx harvest predominantly occurred in January and February. Most river otter harvest occurred in December and February, and most wolverine harvest occurred in January and February (Tables 5–8).

Table 1. Beaver harvest, Unit 17, southwest Alaska, regulatory years 2017–2021.

Regulatory year	Trap or snare	Shot	Unknown	Total harvest	No. trappers
2017	53	6	21	80	12
2018	45	2	0	47	9
2019	57	4	0	61	12
2020	44	1	0	45	9
2021	56	0	0	56	7

Table 2. Lynx harvest, Unit 17, southwest Alaska, regulatory years 2017–2021.

Regulatory year	Trap or snare	Shot	Unknown	Total harvest	No. trappers
2017	6	7	0	13	6
2018	2	0	0	2	1
2019	11	2	0	13	8
2020	17	0	0	17	8
2021	7	0	0	7	2

Table 3. River otter harvest, Unit 17, southwest Alaska, regulatory years 2017–2021.

Regulatory year	Trap or snare	Shot	Unknown	Total harvest	No. trappers
2017	46	8	1	55	17
2018	22	4	0	26	9
2019	23	3	1	27	9
2020	33	8	0	41	9
2021	24	3	0	27	11

Table 4. Wolverine harvest, Unit 17, southwest Alaska, regulatory years 2017–2021.

Regulatory year	Trap or snare	Shot	Unknown	Total harvest	No. trappers
2017	23	12	0	35	20
2018	18	5	0	23	12
2019	20	6	0	26	16
2020	46	14	0	60	20
2021	31	7	1	39	14

Table 5. Beaver percent harvest chronology by month, Unit 17, southwest Alaska, regulatory years 2017–2021.

Regulatory year	Percent harvest by month										Unknown	<i>n</i>
	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		
2017	8	0	32	2	8	12	1	1	0	8	28	80
2018	0	0	28	19	8	22	6	0	11	6	0	47
2019	0	0	51	7	15	13	0	3	3	8	0	61
2020	0	0	47	13	7	29	2	0	0	2	0	45
2021	0	0	86	5	7	2	0	0	0	–	0	56

Table 6. Lynx percent harvest chronology by month, Unit 17, southwest Alaska, regulatory years 2017–2021.

Regulatory year	Percent harvest by month									Unknown	<i>n</i>
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		
2017	0	15	8	8	8	23	30	8	0	0	13
2018	0	0	0	0	0	100	0	0	0	0	2
2019	0	0	0	0	15	70	15	0	0	0	13
2020	0	0	0	0	65	29	6	0	0	0	17
2021	0	0	0	14	57	29	0	0	0	0	7

Table 7. River otter percent harvest chronology by month, Unit 17, southwest Alaska, regulatory years 2017–2021.

Regulatory year	Percent harvest by month									Unknown	<i>n</i>
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		
2017	0	0	5	11	29	20	35	0	0	0	55
2018	0	0	27	15	39	15	4	0	0	0	26
2019	0	22	15	22	11	19	4	7	0	0	27
2020	0	0	0	15	68	10	5	2	0	0	41
2021	0	0	11	33	30	7	19	0	0	0	27

Table 8. Wolverine percent harvest chronology by month, Unit 17, southwest Alaska, regulatory years 2017–2021.

Regulatory year	Percent harvest by month									Unknown	<i>n</i>
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May		
2017	0	0	0	6	14	26	49	5	0	0	35
2018	4	0	4	0	35	48	9	0	0	0	23
2019	4	0	8	0	27	38	19	4	0	0	26
2020	0	0	3	5	34	38	20	0	0	0	60
2021	0	3	3	13	38	30	13	0	0	0	39

Transport Methods

Snowmachine was the predominant mode of transport for all furbearer species during this reporting period (Tables 9–12).

Alaska Board of Game Actions and Emergency Orders

In RY21, BOG supported the harvest of beaver with a firearm under a trapping license. BOG also allowed wolverine to be taken with the assistance of a snowmachine.

Recommendations for Activity 2.1.

Continue.

Table 9. Beaver percent harvest by transportation, Unit 17, southwest Alaska, regulatory years 2017–2021.

Regulatory year	Airplane	Dogsled	Boat	ATV ^a	Snowmachine	ORV ^b	Highway vehicle	Ski or snowshoe	Unknown	<i>n</i>
2017	0	0	45	0	22	0	2	0	31	80
2018	2	0	36	15	43	0	4	0	0	47
2019	0	0	64	0	30	0	3	3	0	61
2020	0	0	42	9	49	0	0	0	0	45
2021	0	0	86	0	14	0	0	0	0	56

^a All-terrain vehicle (ATV).^b Off-road vehicle (ORV).**Table 10. Lynx percent harvest by transportation, Unit 17, southwest Alaska, regulatory years 2017–2022.**

Regulatory year	Airplane	Dogsled	Boat	ATV ^a	Snowmachine	ORV ^b	Highway vehicle	Ski or snowshoe	Unknown	<i>n</i>
2017	0	0	15	8	77	0	0	0	0	13
2018	0	0	0	0	100	0	0	0	0	2
2019	0	0	0	0	100	0	0	0	0	13
2020	0	0	0	0	94	0	0	6	0	17
2021	0	0	0	0	100	0	0	0	0	7

^a All-terrain vehicle (ATV).^b Off-road vehicle (ORV).**Table 11. River otter percent harvest by transportation, Unit 17, southwest Alaska, regulatory years 2017–2021.**

Regulatory year	Airplane	Dogsled	Boat	ATV ^a	Snowmachine	ORV ^b	Highway vehicle	Ski or snowshoe	Unknown	<i>n</i>
2017	0	0	4	4	88	0	2	2	0	55
2018	0	0	12	11	77	0	0	0	0	26
2019	0	0	11	0	37	0	22	30	0	27
2020	0	0	0	0	100	0	0	0	0	41
2021	0	0	0	0	96	0	4	0	0	27

^a All-terrain vehicle (ATV).^b Off-road vehicle (ORV).

Table 12. Wolverine percent harvest by transportation, Unit 17, southwest Alaska, regulatory years 2017–2021.

Regulatory year	Airplane	Dogsled	Boat	ATV ^a	Snowmachine	ORV ^b	Highway vehicle	Ski or snowshoe	Unknown	<i>n</i>
2017	0	6	0	0	94	0	0	0	0	35
2018	4	0	0	0	96	0	0	0	0	23
2019	27	0	4	8	61	0	0	0	0	26
2020	27	0	0	0	73	0	0	0	0	60
2021	23	0	0	0	75	0	0	0	2	39

^a All-terrain vehicle (ATV).^b Off-road vehicle (ORV).

3. Habitat Assessment-Enhancement

No habitat assessment or enhancement activities occurred for furbearers in Unit 17 during RY17–RY21.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

All furbearer sealing forms are scanned and stored in WinfoNet. Hard copies of sealing forms are kept in a file cabinet in the office of the area biologist in Dillingham.

Agreements

None.

Permitting

Not applicable.

Conclusions and Management Recommendations

The overall harvest of furbearers and the number of trappers declined during this reporting period (RY17–RY21). Declines in harvest and reduced trapping effort may be due to various factors such as lower furbearer populations, poor winter travel conditions, snowmachine and trap maintenance, and a cultural shift away from trapping. There has been a dramatic decline in trappers who seal furs over the past 20 years. Due to the lack of routine work to survey furbearer populations, the department does not know which factor is the primary cause.

Beaver is a furbearer in Unit 17 regularly discussed at board cycles; the past 3 cycles have seen proposals related to beaver harvest. Some proposals aim to restrict beaver harvest for fear of overharvest, while others seek to liberalize the season. Due to the consistent public interest in beavers, the department could consider resurrecting the beaver cache survey activities that had been part of the survey and inventory program from the 1970s to the early 2000s, which would provide data to assess whether we are meeting our objective of an average stream density index of 1.0–1.2 caches per river mile.

River otters have a management objective of an annual average harvest of 100 otters. This reporting period had an average annual harvest of 35 otters, while the previous reporting period (RY12–RY16) had an average annual harvest of 50 otters. Thus, for the past 10 years, we have not been meeting our management objective for river otter harvest. Based on harvest data, it may be appropriate to consider removing or amending this harvest objective.

Red foxes have a management objective of 400 foxes harvested over a 5-year period. Foxes are not required to be sealed; thus, there is no reliable way of tracking harvest during reporting periods. It may be appropriate to remove this management objective.

Unit 17 has a wolverine management objective of an annual average harvest of 50 wolverines. This reporting period had an average annual harvest of 36 wolverines, while only exceeding 50 wolverines harvested in a regulatory year once. The previous reporting period had an average annual harvest of 26 wolverines. Thus, for the past 10 years, we have not been meeting our management objective for wolverine harvest. It may be appropriate to amend or remove this harvest objective based on harvest data or to conduct a wolverine population survey to inform management objectives within a sustainable harvest range. As with beaver, Unit 17 regularly receives proposals to either restrict or increase wolverine harvest opportunities. Proposals to restrict harvest are often motivated by concerns about protecting females that may be denning with pups. Currently, the department lacks data to support or refute these concerns. A regionwide study on wolverine population dynamics and denning behavior would provide critical data to evaluate whether current hunting and trapping regulations unnecessarily limit harvest or effectively protect denning females.

If the decreasing trend of trappers and trapping activity continues, it is unlikely that trapping pressure would negatively impact furbearer populations, except those that occur at low densities (e.g., lynx). Furbearer populations may be depleted in some localized areas, but this should not affect the population on a broader unitwide scale. As such, we assume furbearers in Unit 17 are being managed at sustainable levels, and no changes to seasons or bag limits are recommended at this time.

The current management objectives for furbearers have not been met for the last decade. We recommend thoroughly revising all the numeric management objectives for furbearers or removing them entirely. Our current objectives may not be relevant to healthy furbearer populations, and some have no way of being tracked (e.g., red fox). We do not have survey and inventory plans for furbearers.

II. Project Review and RY22–RY26 Plan

Review of Management Direction

MANAGEMENT DIRECTION

The current management of furbearers in Unit 17 aims to supply a healthy and sustainable population of furbearers, which are an important component of the natural ecosystem in the Bristol Bay region. This allows for various uses, including hunting, trapping, viewing, and photography.

GOALS

- Maintain furbearer populations that can support consumptive uses, such as trapping and hunting, while also providing for nonconsumptive uses, such as viewing and photography.
- To provide for the optimum harvest of furbearers.
- To provide for the greatest opportunity to participate in hunting and trapping furbearers.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

No change from the reporting period.

Intensive Management

No change from the reporting period.

MANAGEMENT OBJECTIVES

No change from the reporting period.

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

Because the department does not have a dedicated study plan for investigating furbearer populations, we strive to collect anecdotal information from incidental observations of furbearers and their signs, such as tracks, lodges, caches, toilets, or other indications of their presence. Biologists conducting surveys of moose or other species are often in an ideal situation to observe and record these incidental observations, as are trappers, hunters, fishers, guides, and other outdoor enthusiasts. Although such data is not statistically robust, it can provide us with insights into the abundance of certain furbearers, as well as their distribution on the landscape.

Methods

No change from the reporting period.

2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Seal furbearers of selected species to monitor harvest rates and trends.

Data Needs

No change from the reporting period.

Methods

Trappers or hunters are not required to acquire permits or harvest tickets to harvest furbearers. Rather, ADF&G requires trappers and hunters to bring pelts of certain furbearers to authorized department staff or a state-appointed sealer within 30 days after the close of the respective seasons for each species when taken under the trapping regulations or within 30 days after

harvest when taken under hunting regulations. In Unit 17, sealing is required for beaver, river otter, lynx, and wolverine.

Beaver and wolverine are sealed with a State of Alaska metal locking tag that has a unique number for tracking the pelt. Lynx and river otter are subject to a different type of sealing tag that also has a unique number, known as a CITES tag. During the sealing process, sealers collect data on the name of the trapper, harvest location and date, number of animals taken, sex, pelt measurements in some cases for age estimation (lynx, river otter, and beaver), transportation used, and method of take.

3. Habitat Assessment-Enhancement

No habitat assessment or enhancement activities are expected for furbearers in Unit 17 during RY22–RY26.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

No change from the reporting period.

Agreements

No change from the reporting period.

Permitting

No change from the reporting period.

References Cited

- Alaska Department of Fish and Game. 1976. Greater Alaska furbearer management plan. Pages 153–165 [*In*] Alaska wildlife management plans: A public proposal for the management of Alaska's wildlife: Southwestern Alaska. Draft proposal subsequently approved by the Alaska Board of Game. Division of Game, Federal Aid in Wildlife Restoration Project W-17-R, Juneau.
- Barten, N., and B. Reiley. 2021. Furbearer management report and plan, Game Management Unit 17: 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-2021-36, Juneau.
- Bloomquist, C. K., and C. K. Nielsen. 2010. Demography of unexploited beavers in southern Illinois. *Journal of Wildlife Management* 74:228–235.
- Maenhout, J. L. 2013. Beaver ecology in Bridge Creek, a tributary to the John Day River. Master of Science thesis, Oregon State University.

- Schumacher, T. 2013. Trapper questionnaire statewide annual report: 1 July 2012–30 June 2013. Alaska Department of Fish and Game, Wildlife Management Report, ADF&G/DWC/WMR-2013-5, Juneau.
- Slough, B. G., and G. Mowat. 1996. Lynx population dynamics in an untrapped refugium. *Journal of Wildlife Management* 60:946–961.
- Woolington, J. D. 2013. Unit 17 furbearer. Pages 222–242 [In] P. Harper and L. A. McCarthy, editors. Furbearer management report of survey and inventory activities 1 July 2009–30 June 2012. Alaska Department of Fish and Game, Species Management Report ADF&G/DWC/SMR-2013-5, Juneau.

