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 Neil Barten and Bryan Reiley



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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 (ADF&G) 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 (DWC).

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Purpose of this Report

This report provides a record of survey and inventory management activities for furbearers in Unit 17 for the 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.

Although wolves are classified as furbearers and big game animals similar to wolverines, wolves are not included in this report. Wolves are addressed in a separate species management report and plan.

I. RY12–RY16 Management Report

Management Area

Unit 17 encompasses 20,349 mi² (Fig. 1) and consists of all drainages that flow into Bristol Bay and the Bering Sea between Etolin Point and Cape Newenham, and all islands between these points, including Hagemeister Island, the Walrus Islands, and all lands/seaward waters within 3 miles of these coastlines.

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

Trapping has long been an important part of the culture of the residents of northern Bristol Bay and was an important source of income along with the commercial fishing industry. Historically, large numbers of trappers from around the region would come to Dillingham to tag and sell pelts at the annual Beaver Round-Up in March. Fur buyers purchased thousands of pelts during the week-long rendezvous and celebration. During 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. Today in Bristol Bay trapping is much more of a leisure activity than a way to generate essential income. Much of the fur taken by trappers in this area is not sold to fur buyers; rather, fur is commercially tanned and made into hats, mittens, slippers, and handicrafts, sold both locally and across the state.

A list of furbearers present in Unit 17 includes 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/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*). Aside from beaver cache surveys that were conducted as part of the survey and inventory for this species during most years from 1968–2002, no other furbearer studies specific to any of these species has been conducted. Therefore, the abundance and distribution of these furbearers is mostly acquired through sealing records, discussions with trappers during the sealing process, the annual Trapper Questionnaire mailed out by ADF&G, observations of tracks made by biologists during winter surveys for moose, and anecdotal information from a variety of outdoor enthusiasts.

Historically, beaver were the most important and most highly sought-after furbearer by trappers in Game Management Unit 17, with >3,000 being sealed in some years during the 1980s (Woolington 2013). Beavers are abundant and commonly found throughout most of the unit, occurring in all major drainages and in most of the smaller tributaries. In the past, season closures were imposed in portions of the unit on several occasions to allow populations to recover from trapping pressure. Commercial salmon prices 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 (e.g., purchase of snow machines, fuel, etc.) contribute to the low amount of beaver trapping activity. However, the importance of beaver as food for local residents assures a base level of harvest regardless of other factors.

Beaver dams and the resulting reservoirs enhance waterfowl nesting habitat, provide aquatic plants used by moose and other herbivores, and are frequented by a wide variety of wildlife. Beaver activity results in a wide variety of habitats that are beneficial to multiple species. This includes uses by various life stage of salmon, trout, and other fish species (e.g., slow moving water with silty streambeds useful for rearing juvenile salmon, and faster current with cleaner pond and stream bottoms preferred by some salmon species for spawning).

Given existing literature, predation (Maenhout 2013, Bloomquist and Nielson 2010) is probably the primary mortality factor for beavers in Unit 17. Additionally, floods during the late fall have been known to tear out beaver caches, leaving beavers without their winter food source once iceup commences. This generally occurs in the larger streams such as the Nushagak and Mulchatna rivers (Todd Fritze, Dillingham trapper, personal communication). Although we have no data for predation on beavers, it is known that both wolves and brown bears feed on beavers in the Bristol Bay area. It is not uncommon to hear from trappers and other outdoor enthusiasts who have witnessed brown bears tearing open beaver lodges in either late fall or early spring to presumably eat beavers. Wolves are also known to eat or carry beaver across the tundra.

Red fox is a common furbearer, occurring throughout Unit 17. Fox 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. Based on the ADF&G Trapper Questionnaire (Schumacher 2013) red fox in some years are ranked as the number one targeted species by trappers. This is probably partly because they are abundant, easy to catch, widely distributed, and valuable to local trappers who tan the hides and turn them into hats and other fur products.

River otters are relatively abundant and widespread throughout Unit 17. The numerous lakes, ponds and streams provide ideal habitat for otters. Historical harvest data from the 1980s and

1990s suggest that otters were abundant at that time (Woolington 2013), with harvests occasionally exceeding 200 otters in a single year. In recent years the level of harvest has been much lower (25–75 per year); however, anecdotal information, such as tracks seen during winter surveys for moose, suggests that river otters are common and widely distributed across the landscape. Their sign is widespread not only along stream and lake corridors, but often seen crossing large expanses of tundra as they go from one drainage to another. The high economic value of otter pelts during this and the past reporting period resulted in trappers targeting otters, although many are taken incidentally while trapping for beaver. Otters are often taken with firearms while crossing large landscapes where snowmachine travelers encounter them. Otter fur is one of the most durable of all furbearers, and their pelts are highly valued for hats, mittens, slippers, etc. by local skin sewers. Many of the otters caught locally are tanned and turned into fur products rather than sold for cash.

Lynx are uncommon in most portions of Unit 17, except in the vicinity of Manokotak, where populations of snowshoe hares and ptarmigan provide lynx with the necessary prey availability. This is also where most of the lynx harvest occurs. Lynx are generally found in low-to-moderate densities in this area with the average annual harvest since 1985 being 11 per/year, with a range of 0-52 (Woolington 2013). Much of this fluctuation in harvest is probably due to local hare abundance and lynx dispersal to and from adjacent areas, although trapper access also likely plays a role, especially in years with little snowfall. Based on harvest data since 1985, there does not appear to be an obvious pattern. This is probably due to harvest being driven by other factors than just lynx abundance, such as activity of an experienced trapper in an area.

Wolverines occur throughout Unit 17, ranging from ridge tops to river mouths. Although no data has been collected on the wolverine population in the unit, incidental observations and trapper reports suggest that they are common. Observations of wolverine tracks by biologists during aerial moose and wolf surveys during the winter also suggest that wolverines are common and widespread throughout the unit. Harvest levels fluctuate annually, mostly affected by snowmachines access to areas and the presence of committed and experienced trappers in the area. 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 for wolverine fur, as well as some interest in wolverine as a big game species by hunters during the fall, contributes to a continued interest in taking wolverine in Unit 17 (Woolington 2013).

Marten are not a species that require sealing in Unit 17, so data on harvest is limited to incidental conversations with trappers, the Trapper Questionnaire, and fur export reports. Marten occur in the mature spruce forests that are found in portions of 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 have historically produced the highest number of harvested marten, as it generally receives good snow cover in most winters providing good access by snowmachine. The fact that it is accessible from the nearby community of Aleknagik without having to cross any major rivers or streams makes it an attractive place to trap furbearers. Only a few trappers target this area, but on occasion a single trapper may exceed a catch of more than 100 marten in a winter.

Mink occur in most of the riparian areas of Unit 17, but the size of the population and its relative trend are unknown. Pelts are smaller than the mink found in the Kuskokwim River drainage, and prices paid for Unit 17 mink are much lower. Consequently, there is little trapping effort targeted toward mink in this area.

Coyotes have become common throughout Unit 17 as they expanded their range westward from the Alaska Range. The 2 areas where coyotes are most common seem to be the Nushagak Peninsula and the area south of the lower Nushagak River near Ekuk. Both areas seem to have relatively low wolf densities which may explain why coyotes are more prevalent in these areas.

Arctic foxes are uncommon visitors to the unit, probably dispersing from the lower Kuskokwim River drainages during peaks in their population cycles.

Weasels are common throughout the unit, but there is little trapping effort targeting the species.

Long-term residents of Unit 17 report that muskrats were common along the lower Nushagak and Togiak Rivers and on the Nushagak Peninsula in the past. Presently, it appears they are not common anywhere in Unit 17.



Figure 1. Map showing Unit 17 in Southwest Alaska.

Management Direction

Management of furbearers in Unit 17 follows a similar pattern to that used throughout Alaska. Seasons and bag limits are relatively liberal, and harvest is dictated by a variety of factors such as trapper effort, abundance of furbearers, price of fur, price of fuel, and access to trapping country via snowmachines. Furbearer populations may get depleted in easily accessible areas even in years of low prices, but across the landscape there are ample refugia from trappers, such that furbearer populations remain healthy.

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

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

5 AAC 99.025 (13) Furbearers and Fur animals: The Board of Game finds that all resident uses of furbearers and fur animals are customary and traditional uses, and that furbearers and fur animals, in general, tend to be the focus of these uses, rather than users focusing on individual species or populations. Given this finding, the board also finds that effort on any given population varies according to its harvestable surplus.

Amounts Reasonably Necessary for Subsistence Uses

There is a positive finding under 5 AAC 99.025(13) (Customary and traditional uses of game populations), for furbearers and fur animals across the state, with the amount reasonably necessary for subsistence uses in Unit 17 being 90% of the harvestable portion.

Intensive Management

Not applicable to furbearers in Unit 17.

MANAGEMENT OBJECTIVES

- <u>Beaver</u>: To maintain a population in Unit 17A at an average stream density index of 1.0 cache per river mile. To maintain populations throughout Units 17B and 17C at a level sufficient to sustain an average stream density of 1.2 caches per river mile.
- <u>Otter</u>: To maintain a population in Unit 17 capable of sustaining an average annual harvest of 200 otters.
- <u>Red Fox</u>: To maintain a population in Unit 17 capable of sustaining a 5-year average annual harvest of 400 foxes.
- <u>Wolverine</u>: To maintain a population in Unit 17 capable of sustaining an average annual harvest of 50 wolverines.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

Currently our furbearer monitoring program in Unit 17 is limited to harvest information acquired during sealing, through information obtained through the Trapper Questionnaire, or anecdotal information collected incidentally during aerial surveys for other species such as moose when tracks of furbearers can be identified in the snow.

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

Data Needs

Because we do not have a dedicated survey and inventory program for investigating furbearer populations, we strive to collect anecdotal information from incidental observations of furbearers and their sign such as tracks, lodges, caches, latrines, or other indications of their presence. Biologists conducting surveys of moose or other species observe and record incidental observations; this is in addition to observations made and reported by trappers, hunters, fishers, guides, and other outdoor enthusiasts. Although this data is anecdotal, it does provide us with some insight into how common and abundant certain furbearers are, as well as the distribution of furbearers on the landscape.

Methods

While conducting aerial surveys, observations of furbearers and furbearer sign may be incorporated into a survey memorandum if notable, and GPS locations are recorded. Other observations might be documented by the biologist as a field note which can later be referred to when assessing how common furbearers are in the area. During discussions with other outdoor users, their observations on furbearers are handled much the same way depending on the importance of the observation.

Results and Discussion

Although these kinds of data are not used in a quantitative sense, they do provide biologists with a relative index of furbearer abundance; and when compared over time, they provide a general trend. Sign of species such as wolverine, river otter, and beaver are particularly visible from aircraft, from either easily identifiable tracks (wolverine and otter) or houses and caches of beaver. Anecdotal information from guides, hunters, fishers, summer field-camp crews, and especially recreational snowmachiners also provide insight into furbearer populations that help piece together the bigger picture of furbearer abundance and distribution on the landscape.

Recommendations for Activity 1.1

Continue.

ACTIVITY 1.2. Use the Trapper Questionnaire to acquire information on trapper activity.

Data Needs

Although the sealing process provides biologists with data and insight from the trappers on certain species that require sealing, little information is gathered on other furbearers such as fox, coyote, marten, mink, etc. from this effort. The Trapper Questionnaire however includes questions to trappers on a variety of aspects related to all species of local furbearer activity, including those that do not require sealing.

Methods

The Trapper Questionnaire was mailed out each spring in 4 of the five 5 regulatory years during RY12–RY16 (RY14 was absent in this effort) after the trapping seasons ended to all trappers who had sealed furs. The questionnaire is organized into sections that focus on various aspects of trappers and their activities; these include trapper information, trapline information, trapping effort, and target species and disposition of furs. There are numerous questions within each of these sections that provide biologists with insight into not just trapping effort and harvest, but also about trappers themselves.

Results and Discussion

The questionnaire is valuable for helping ADF&G define the importance of trapping to our constituents, as well as providing insight into furbearer populations and trends. This document is also available to all trappers, providing a wide range of information on trappers and trapping for trappers across the state to share.

Recommendations for Activity 1.2 Continue.

2. Mortality-Harvest Monitoring and Regulations

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

Data Needs

Data on furbearer populations and harvest is essential when assessing the sustainability of current seasons and bag limits. Sealing provides opportunities to gain insight into both the effort being put forth by trappers and hunters, but also provides important data on the animals harvested. However, only select species require sealing, which is determined by either conservation concerns, or 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 ADF&G staff or a state appointed sealer. This is required within 30 days after the close of the respective seasons when taken under the trapping regulations, or 30 days after harvest when taken under hunting regulations. In Unit 17, ADF&G requires that beaver, river otter, lynx, and wolverine be sealed. Beaver and wolverine are sealed with a State of Alaska metal locking tag with a unique number for tracking the pelt. Lynx and river otter are subject to a different kind of sealing tag that also has a unique number, known as a CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) that is 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 (to estimate age for lynx, river otter, and beaver), transportation used, and method of take.

Season and Bag Limit

Species	Trapping season	Trapping bag limit	Hunting season	Hunting bag limit
Beaver ¹	10 Oct-31 May	No limit	No open season	N/A
Coyote	10 Nov-30 Apr	No limit	No closed season	No limit
Arctic fox	10 Nov-31 Mar	No limit	1 Sept-30 Apr	2 Foxes
Red fox	10 Nov-31 Mar	No limit	1 Sept–15 Feb	2 Foxes
Lynx	10 Nov-31 Mar	No limit	10 Nov–28 Feb	2 Lynx
Marten	10 Nov–28 Feb	No limit	N/A	N/A
Mink and weasel	10 Nov-31 Jan	No limit	N/A	N/A
Muskrat	10 Nov-31 Mar	No limit	N/A	N/A
River otter	10 Nov-31 Mar	No limit	N/A	N/A
Wolverine	10 Nov–31 Mar	No limit	1 Sept–31 Mar	1 Wolverine
Squirrel	No closed season	No limit	No closed season	No limit
Marmot	No closed season	No limit	No closed Season	No limit

Table 1. Trapping and hunting seasons an	d bag limits for furbearer species during
regulatory years 2012 through 2016, Unit	17, Alaska.

¹ A firearm or bow and arrow could be used to harvest beaver from December 1–April 14, provided that the meat is salvaged. Also, from 15 April 15–31 May, a firearm may be used to take 2 beaver per day provided that the meat is salvaged for human consumption.

Results and Discussion

Data from sealing records are used to monitor harvest trends and patterns. For some species such as lynx, otter, and beaver, the pelt measurements are used to categorize the animals as juveniles or adults which provide important insight into changes in productivity in these populations. This is especially true with lynx that are extremely cyclic and sealing records and pelt measurements provide insight into the reproductive success of the lynx population. Harvest levels and method of take were important factors in the RY14 Board of Game meeting when a proposal was adopted to increase opportunity for harvesting beaver with a firearm in Unit 17.

Harvest by Hunters-Trappers

The harvest of beavers during this report period declined over time (Table 2) but is probably due to abiotic factors. Weather plays an important role in beaver harvest by allowing trappers to access beaver trapping areas, and good conditions attract a higher number of trappers. The conditions during this report period varied considerably from year to year, with higher harvests coinciding with better conditions, increasing access for trappers. This is especially true during the October season where trappers can trap beavers in open water, making it much less laborious than trapping through ice later in the season. The October season accounted for 31–44% of the harvest across RY12–RY16 (Table 3). An extreme drop off in harvest in the last few years was related to the early freeze-up of small streams and windy, stormy conditions that prevented trappers from accessing their favorite areas during the October season. The overall number of

Species	Regulatory year	Total harvest	Trap/Snare	Shot	Unknown	Total trappers
Beaver						
	2012	186	185	0	1	20
	2013	165	120	2	43	16
	2014	136	121	0	15	14
	2015	81	73	8	0	11
	2016	91	82	1	8	11
Lynx						
	2012	52	39	13	0	16
	2013	19	17	0	2	5
	2014	0	0	0	0	0
	2015	8	8	0	0	3
	2016	32	26	6	0	12
Otter						
	2012	66	57	6	3	16
	2013	53	38	6	9	15
	2014	53	40	13	0	17
	2015	35	30	5	0	10
	2016	44	35	9	0	13
Wolverine						
	2012	43	39	4	0	18
	2013	23	19	4	0	13
	2014	8	6	2	0	7
	2015	18	18	0	0	10
	2016	39	33	6	0	24

Table 2. Beaver, lynx, otter, and wolverine harvests, regulatory years 2012 through 2016,Unit 17, Alaska.

trappers sealing beaver also declined during these same low-catch rate years, which was again related to difficult conditions that probably led to less participation in beaver trapping.

The lynx harvest of 52 and 32 in RY12 and RY16, respectively (Table 2), were the 2 highest harvests reported going back to 1978 (Woolington 2013). During the period of RY78–RY11, the harvest of 10 or more lynx occurred in only 14 out of 28 years. During RY12, 16 different trappers harvested at least 1 lynx, an indication that lynx were very common and probably widely distributed. During RY12–RY16, harvest of lynx declined from a relative high, and began increasing again during the last year potentially indicating expected population dynamics for this

Harvest Chronology

	Percent harvest by month										
Species	years	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Unknown
Beaver											
	2012	1	31	8	29	15	1	12	3	_	_
	2013	_	32	26	12	12	2	_	_	5	12
	2014	_	38	10	15	25	2	_	_	_	11
	2015	_	44	_	21	8	11	3	12	1	—
	2016	4	32	9	19	25	10	1	—	_	_
Lvnx											
5	2012	_	_	_	6	21	46	27	_	_	_
	2013	_	16	_	16	32	32	4	_	_	_
	2014	_	_	_	_	_	_	_	_	_	_
	2015	_	_	25	50	_	25	_	_	_	_
	2016	_	_	19	16	43	13	9	—	_	_
River Otter											
	2012	_	5	2	23	33	18	20	_	_	_
	2013	_	_	13	28	28	11	2	_	_	17
	2014	_	_	26	11	43	17	2	_	_	_
	2015	_	_	14	17	29	34	6	_	_	_
	2016	_	—	16	14	32	32	7	_	—	_
Wolverine											
	2012	_	_	5	7	42	37	9	_	_	—
	2013	4	4	_	26	9	13	43	_	_	_
	2014	13	13	_	13	24	13	24	_	_	_
	2015	_	_	_	22	11	50	17	_	_	_
	2016	_	_	_	3	26	44	28	_	_	—

Table 3. Unit 17 beaver, lynx, otter, and wolverine harvest chronology by month (percentof total) regulatory years 2012 through 2016, Alaska.

species (Slough and Mowat 1996). This is typical of past harvest patterns, though the apparent turn around in numbers this period was quicker than previously seen.

The otter harvest of 66 in RY12 (Table 2) was the highest during RY12–RY16 and compared favorably with the average annual harvest of 59 from the previous reporting period. This seems to be the new normal based on these last 10 years, however during RY77–RY06 the harvest exceeded 100 otters in 19 out of 31 years (Woolington 2013). During RY12–RY16 the otter harvest followed the trajectory of the beaver harvest during this same period and is likely related to beaver trappers catching otters in combination with their beaver trapping efforts.

The wolverine harvest during RY12–RY17 was the lowest for any 5-year period going back to RY72 (Woolington 2013); the 8 wolverines reported in RY14 was the lowest annual harvest reported during that entire time period (Table 2). A couple of factors are mostly responsible for this modest harvest, the most important being winter weather conditions. With the recent trend toward warmer winter weather, freeze-up of rivers and lakes is later than in the past, if it happens at all, and snowfall that provides good travel conditions for snowmachines is less common. Most wolverine trapping activity takes place in inaccessible areas along a series of large lakes in this unit, and travel conditions dictate harvest level. Another important factor in the extremely low harvests during RY14–RY15 was the relocation of the most avid wolverine trapper known in Dillingham to another community. His contributions to the annual harvest were usually higher than any other trapper.

Transport Methods

See Table 4.

Alaska Board of Game Actions and Emergency Orders

During its February 2015 meeting the Board of Game passed a proposal to allow the take of beaver with a firearm or bow 1 December–14 April provided that the meat is salvaged.

There were no emergency orders issued that affected furbearer trapping seasons or bag limits.

3. Habitat Assessment-Enhancement

There are no efforts being undertaken to assess or enhance habitat for furbearers at this time.

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.

	Regulatory							Highway	Ski/	
Species	year	Airplane	Dogsled	Boat	ATV	Snowmachine	ORV	vehicle	snowshoe	Unknown
Beaver										
	2012	0	0	14	54	18	8	0	1	5
	2013	14	0	11	36	15	0	3	3	18
	2014	0	3	16	64	1	0	9	7	0
	2015	0	0	43	47	9	0	0	1	0
	2016	0	3	13	43	34	0	6	1	0
Lynx										
•	2012	3	0	0	17	69	3	0	0	9
	2013	0	0	0	67	33	0	0	0	0
	2014	0	0	0	82	0	0	18	0	0
	2015	0	0	7	47	13	0	33	0	0
	2016	0	3	0	29	45	0	19	0	3
Otter										
	2012	0	0	0	53	16	9	3	19	0
	2013	0	0	0	35	4	0	16	18	27
	2014	0	0	3	43	0	0	6	38	10
	2015	0	0	3	70	0	0	0	5	22
	2016	0	0	0	45	32	0	11	13	0
Wolverine										
	2012	0	0	0	37	44	0	7	11	0
	2013	10	0	0	62	5	0	5	14	5
	2014	0	0	11	78	0	0	0	11	0
	2015	0	0	22	67	0	0	0	11	0
	2016	3	0	3	28	50	0	6	11	0

Table 4. Unit 17 beaver, lynx, otter, and wolverine percent of harvest by transportation method for regulatory years 2012through 2016, Alaska.

Conclusions and Management Recommendations

There are no indications that furbearer populations in Unit 17 are declining based on observations by biologists when afield, conversations with trappers during sealing, and from insight from the Trapper Questionnaire. We suspect declining harvest during this and other recent reporting periods when compared to the 1970s–1990s is likely related to a decrease in trapping effort rather than declines of furbearer populations. Reduced trapping effort is likely related to warmer winter weather patterns that negatively affect trapper's ability to access trapping areas, fuel prices that increase the overhead for trappers, low fur prices especially for beaver that require a lot of effort to process once trapped, and a cultural shift away from trapping as noted by the dramatic decline in trappers sealing furs over the past 20 years.

The species of furbearer in Unit 17 that seems to continually generate debate on harvest restrictions amongst trappers is beaver. During each of the past 2 board cycles there have been proposals specific to beaver trapping, due to some trappers being concerned with overharvest of and wanting to restrict harvest in some manner, and others wanting to liberalize the season. Because of this, the department should consider revitalizing the beaver cache survey activities that had been part of the Survey and Inventory (S&I) program from the 1970s to the early 2000s. Data from these surveys would provide valuable insight at future Fish and Game Advisory Committee meetings as well as Board of Game meetings.

With the decrease in trappers and trapping activity over time, it seems unlikely that trapping pressure is going to negatively impact furbearer populations if this trend continues. There may be some localized areas where furbearer populations are depleted, but this should not affect the population at the 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.

However, there are a few changes and additions we can implement for the 5-year plan that can enhance our furbearer program. These include:

- A revision of the management objectives from the previous report periods. The ones listed are difficult to measure or may not be relevant to healthy furbearer populations.
- Expansion of goals to help guide broad management themes.
- Using regulatory history to direct monitoring programs toward questions about important furbearers.

II. Project Review and RY17–RY21 Plan

Review of Management Direction

MANAGEMENT DIRECTION

The current management direction for furbearers in Unit 17 successfully provides for the most important goal of providing for healthy and sustainable populations of furbearers. This allows for

a variety of uses such as hunting, trapping, viewing, photography, and, most importantly, provides for healthy furbearer populations that are an important component to the natural ecosystem in the Bristol Bay region.

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

5 AAC 99.025(13) Furbearers and Fur animals: The Board of Game finds that all resident uses of furbearers and fur animals are customary and traditional uses, and that furbearers and fur animals, in general, tend to be the focus of these uses, rather than users focusing on individual species or populations. Given this finding, the board also finds that effort on any given population varies according to its harvestable surplus.

Amounts Reasonably Necessary for Subsistence Uses

There is a positive finding under 5 AAC 99.025(13), customary and traditional uses of game populations, for furbearers and fur animals across the state, with the amount reasonably necessary for subsistence uses in Unit 17 being 90% of the harvestable portion.

Intensive Management

Not applicable

MANAGEMENT OBJECTIVES

- Maintain populations of beavers throughout Unit 17 that provide for an average stream density index of 1.0–1.2 caches per river mile.
- Use nuisance permits to allow the public to remove beavers from areas where they cause damage to roadways or other human-made structures.
- Incorporate beaver cache surveys into survey and inventory activities.

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

Methods

While conducting aerial surveys, observations of furbearers and furbearer sign may be incorporated into the survey memorandum if notable, and GPS locations recorded. Other observations might be a mental note by the biologist that they can refer in their assessment of furbearer abundance and activity. Other outdoor user's observations of furbearers are handled much the same way depending on the importance of the observation.

ACTIVITY 1.2. Use the Trapper Questionnaire to acquire information on trapper activity and harvest trends of all furbearers.

Data Needs

Although the sealing process provides biologists with opportunities to gather data and insight from the trappers on certain species that require sealing, little information is gathered on other furbearers such as fox, coyote, marten, and mink which are not required to be sealed. As managers, we strive to gather as much data from the trappers who are out in the field as we can, as that is our best access to perceptions of furbearer population abundance, and trends in these populations. The information acquired through the Trapper Questionnaire is valuable to managers when addressing questions on the current management strategy and whether there needs to be consideration for changes in seasons and bag limits or methods and means to assure sustainability, or to provide additional opportunity.

Methods

The Trapper Questionnaire was mailed out each spring in 4 of the 5 regulatory years during this reporting period (RY14 was absent in this effort) after the trapping seasons ended to all trappers who have sealed furs. The questionnaire is organized into sections that focus on various aspects of trappers and their activities these include trapper information, trapline information, trapping effort, target species, and disposition of furs. There are numerous questions within each of these sections that provide biologists with insight into not just trapping effort and harvest, but about trappers themselves.

ACTIVITY 1.3. Conduct beaver cache surveys in streams with historical cache survey data.

Data Needs

Data on the abundance of beaver caches was previously part of a standard S&I program during the 1970s–2002. This historical data provides an excellent opportunity to compare beaver cache densities today with these historical times.

Methods

Beaver cache surveys are conducted during October, after beavers have built their food caches, but before the winter snows hide them from view. The surveys are flown with a single engine fixed-wing aircraft, and GPS locations are taken at each cache site.

2. Mortality-Harvest Monitoring

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

Data Needs

Data on furbearer populations and harvest is essential when assessing the sustainability of current seasons and bag limits. Sealing provides insight into both the effort being put forth by trappers and hunters, but also provides opportunities to gather important data on the animals harvested.

Methods

Trappers or hunters are not required to acquire permits or harvest tickets to harvest furbearers. Rather, we require trappers and hunters to bring pelts of certain furbearers to authorized ADF&G 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 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 kind 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) that is 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 in some cases for age estimation (lynx, river otter, and beaver), transportation used, and method of take.

3. Habitat Assessment-Enhancement

There are no efforts being undertaken to assess or enhance habitat for furbearers at this time.

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.

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