# Furbearer Management Report and Plan, Game Management Unit 8:

Report Period 1 July 2012–30 June 2017, and Plan Period 1 July 2017–30 June 2022

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This species management report and plan was reviewed and approved for publication by Cynthia Wardlow, regional supervisor for Region II for the Division of Wildlife Conservation.

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## **Purpose of this Report**

This report provides a record of survey and inventory management activities for furbearers in Unit 8 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.

## I. RY12–RY16 Management Report

## **Management Area**

Game Management Unit 8 (GMU 8; 5,097 mi<sup>2</sup>, Fig. 1) is located in the Kodiak Archipelago in the Gulf of Alaska. It comprises all islands southeast of the centerline of Shelikof Strait, including Kodiak, Afognak, Whale, Raspberry, Shuyak, Spruce, Marmot, Sitkalidak, Amook, Uganik and Chirikof islands, the Trinity Islands, the Semidi Islands, the Barren Islands, and other adjacent islands and all seaward waters and lands within 3 miles of these coastlines. The archipelago is approximately 177 miles long and 50 miles wide and consists of a rugged, fjordcarved landscape with elevations ranging from sea level to approximately 4,500 ft. The archipelago has a wet maritime climate with little seasonal temperature variation and abundant precipitation. Vegetation composition varies throughout the archipelago and is highly influenced by past glaciation.

There are 3 primary ecological regions comprising the archipelago: the Sitka spruce region, the central ecological region, and the southern ecological region (Fleming and Spencer 2006). The Sitka spruce region encompasses northeastern Kodiak Island and includes Afognak and Shuyak Islands. The lower elevations in this region are comprised primarily of Sitka spruce (*Picea* sitchensis) with a dominant understory consisting of salmonberry (Rubus spectabilis), devil's club (Oplopanax horridum), cow parsnip (Heracleum lanatum), ferns (Athyrium spp.) and alpine blueberry (Vaccinium uliginosum), and dispersed pockets of elderberry (Sambucus racemosa). Other plant communities in this region include forb and grass meadows containing willow (Salix spp.), birch (Betula kenaica), alder (Alnus crispa sinuata), and beach rye (Elymus spp.). Much of Kodiak Island is classified as within the central ecological region and is dominated by rugged, mountainous topography with steep ravines, deep valleys, and fast-moving glacial streams and rivers. Bands of deciduous forests comprising willow, birch, cottonwood, and alder can be found in lowland areas along rivers and streams. Similar to the Sitka spruce region, salmonberry, ferns, cow parsnip, blueberry, and fireweed (Epilobium angustifolium) along with various grass and forb assemblages cover much of the landscape. At the higher elevations, plant communities include alpine forb meadows and alpine tundra. Alpine forb meadows consist of sedges (Carex spp.), lupine (Lupinus nootkatensis), and Indian paintbrush (Castilleja unalalaschensis),

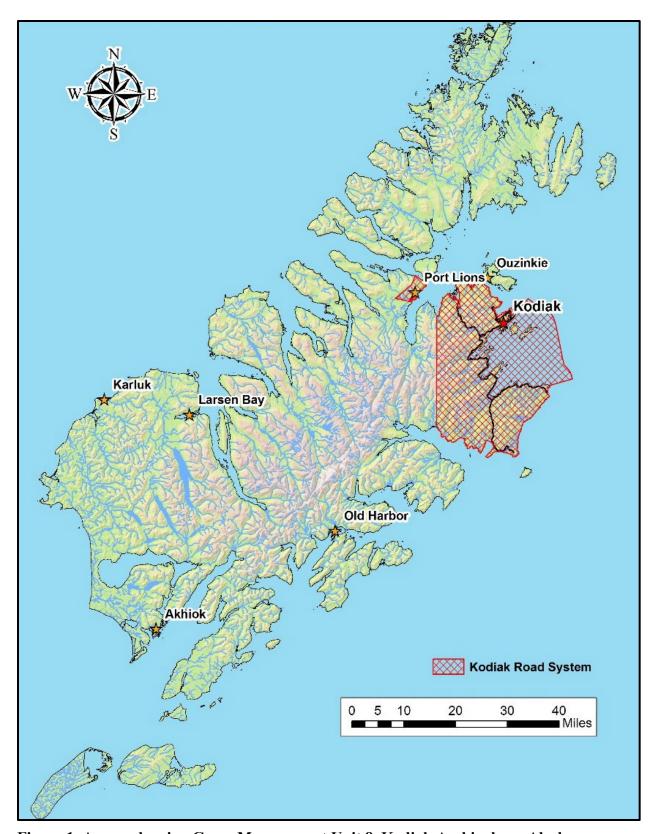


Figure 1. A map showing Game Management Unit 8, Kodiak Archipelago, Alaska.

while the alpine tundra is comprised of crowberry (*Empetrum nigrum*), partridgefoot (*Luetkea* pectinata), alpine blueberry (Vaccinium uliginosum), various lichens (Cladina spp., Cetraria spp.) and dwarf shrubs. The southern ecological region encompasses the glacial refugium and subarctic heath lands (Fleming and Spencer 2006) and consists of crowberry, dwarf willow (Salix spp.), fireweed. blueberry, cranberry (Vaccinium vitis-idaea), goldenrod (Solidago lepida), Labrador tea (Ledum palustre), kinnikinnik (Arctostaphylos uva-ursi) and various forbs and mosses (Fleming and Spencer 2006).

The Kodiak Road System Management Area is contained within GMU 8 and includes only portions of the main island comprising that portion of Kodiak Island north of a line from the head of Settlers Cove (including Peregrebni Point) to Crescent Lake (57°52'N, 152°08'W) and east of a line from the outlet of Crescent Lake to Mount Ellison Peak and from Mount Ellison Peak to Pokati Point at Whale Passage, and that portion of Kodiak Island east of a line from the mouth of Saltery Creek to the mouth of Elbow Creek and adjacent small islands in Chiniak Bay.

## Summary of Status, Trend, Management Activities, and History of **Furbearers in Unit 8**

Archeological evidence indicates the only furbearers indigenous to the Kodiak Archipelago are red foxes (Vulpes Vulpes), river otters (Lontra canadensis), and short-tailed weasel (Mustela erminae; Rausch 1969). However, evidence suggests ground squirrels (Spermophilus parryii) may have been translocated to the archipelago from the Alaska Peninsula by indigenous people more than 4,000 years ago (Clark 2008). There is also evidence Native traders brought furbearer carcasses and parts onto the island, resulting in the skeletal remains of those species being deposited in middens. Wildlife management agencies introduced beavers (Castor canadensis) and muskrats (Ondatra zibethicus) in 1925 and 1929, respectively. Mink, marten (Martes americana), and red squirrels (Sciurus vulgaris) were introduced in 1952 (Paul 2009). Healthy populations of all these furbearers, except mink, now reside in the unit. Raccoons (Procyon lotor) were illegally introduced at various times, and sightings were common in the Uyak Bay area until the 1980s. Captive red, blue, and arctic (Vulpes spp.) foxes escaped or were released from widespread fox farms in the early 1900s. Introduced foxes were present on Chirikof Island until 2016, when the U.S. Fish and Wildlife Service successfully eradicated them from the island.

Red foxes, river otters, beavers, and weasels (ermine) are the most abundant furbearers on the archipelago. Marten occur only on Afognak Island. Trappers most commonly pursue red foxes, river otters, and beavers, although some ermine trapping does occur. Furbearer populations and trapping pressure have been relatively stable during the past decade. In 2015, the Alaska Board of Game adopted a hunting and trapping season for Arctic fox.

Recreational trappers conduct most of the trapping in Unit 8. Trapping effort for river otter, beaver, and fox species is affected by fluctuations in fur market prices, while trapping for other species is affected more by weather. Conversations with local trappers revealed most river otter, beaver, and fox pelts are exported for sale, while the pelts of most other species are kept on the island for personal use or to sell locally.

## **Management Direction**

#### EXISTING WILDLIFE MANAGEMENT PLANS

Unit 8 furbearers were not specifically addressed in the 1976 Southcentral Alaska wildlife management plans developed by the department and adopted by the Alaska Board of Game (ADF&G 1976), and no other specific and separate formal plan has previously been developed. However, management direction and objectives for the Unit 8 furbearer populations have been informed and revised based on public input and Alaska Board of Game action; these have been reported in previous management reports.

#### **GOALS**

The furbearer management goal for Unit 8 is to maintain a healthy, viable population providing sustainable sport and subsistence harvest opportunities for residents and nonresidents of Alaska.

#### **CODIFIED OBJECTIVES**

#### Amounts Reasonably Necessary for Subsistence Uses

• Ninety percent of the harvestable portion (5AAC 99.025).

#### **Intensive Management**

Not applicable.

#### MANAGEMENT OBJECTIVES

• Maintain all furbearer populations to allow for consistent, sustainable harvest.

#### MANAGEMENT ACTIVITIES

#### 1. Population Status and Trend

ACTIVITY 1.1. Monitor furbearer populations.

#### Data Needs

Reliable methods are needed to determine the current population status and assess fluctuations in population trends and demographics. However, because trapping effort islandwide is minimal and very little trapping occurs outside of the road system, monitoring methods should primarily be focused on the Kodiak road system where most trapping occurs.

#### Methods

Anecdotal information from hunters and trappers, harvest numbers, and observations by staff are the only current sources of information about furbearer populations and abundance.

#### Results and Discussion

There were no activities surveying population status and trend during this period and there are no objective estimates of furbearer populations for the unit. Trappers reported most furbearer populations were relatively high during this report period, except along portions of the Kodiak road system in which fox populations were reportedly less abundant during the 2016 and 2017 trapping seasons. Additionally, trappers and hunters reported mink are showing up in greater numbers along the Kodiak road system.

#### Recommendations for Activity 1.1

The design and implementation of a reliable technique to determine furbearer population status and fluctuations in abundance would be useful.

#### 2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor furbearer harvest through sealing.

#### Data Needs

Fox trapping and hunting along the Kodiak road system appears to be increasing in popularity. In addition, the use of automated predator calls has become more prevalent in recent years potentially resulting in an increase in fox harvest. Obtaining reliable information on hunter and trapper effort, methods, and success would be valuable to assess the apparent increase in popularity.

#### Methods

ADF&G staff monitored beaver and river otter harvests through an annual mandatory sealing program. During sealing, biologists collected harvest information including location and date of harvest, method of take (e.g., hunting, trapping, snaring), mode of transportation, gender of harvested animal (except beaver), and length and width of the hide. All hides must be sealed within 30 days of harvest and all harvest data was summarized by regulatory year and entered into the ADF&G database WinfoNet. Trapper harvest and abundance observations were gathered through statewide trapper questionnaires distributed each year.

#### Season and Bag Limit

River otter, marten, and weasel trapping seasons were 10 November–31 January with no bag limit restricting trappers for these species. Beaver trapping season was 10 November–30 April with a bag limit of 30 beavers per trapper. Red fox trapping season was open 10 November–31 March with no limit on the number of animals a trapper could legally take. The red fox hunting season was 1 September–15 February and the bag limit was 2. The muskrat trapping season was 10 November– 10 June with no bag limit. There was no closed hunting or trapping season on squirrels nor was there a bag limit. In 2015, the Alaska Board of Game adopted a hunting and trapping season for Arctic fox, which began in RY16. The hunting season dates were 1 September–15 February with a 2-fox bag limit, and the trapping season dates were 10 November–31 March with no bag limit.

#### Results and Discussion

#### Harvest by Hunters and Trappers

River otter harvests increased during this reporting period from an average annual harvest of 116 during the previous 5 years (RY07 through RY11) to 202 during this reporting period (RY12 through RY16; Fig. 2, Table 1). The sharp increase in otters harvested in 2013 is likely due to one exceptionally successful trapper who harvested 111 otters, more than 3 times the number of otters harvested by any other trapper in GMU 8 that year. The number of successful otter trappers increased from an average of 22 during the previous 5 years to 31 during this reporting period. The average take per trapper increased from an average of 5.3 otters/trapper during the previous 5 years to an average of 6.3 during this reporting period.

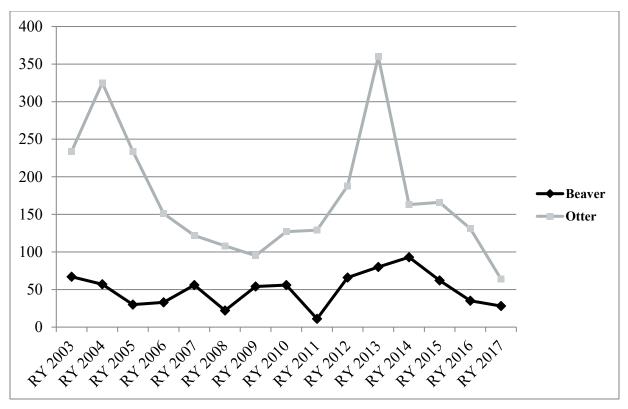


Figure 2. Unit 8 beaver and river otter harvest during regulatory years (RY) 2003-2017 on Kodiak Island, Alaska.

Beaver harvest increased this reporting period from an average 39.8 annual harvest during the previous 5 years (RY07 through RY11) of to 60.6 during this reporting period (RY12 through RY16; Fig. 2, Table 2). The number of successful trappers greatly increased this reporting period with an average of 17 successful trappers annually compared to 11 successful trappers annually during the previous 5 years. The average take per trapper went from an average of 3.6 beavers/trapper during the previous 5 years to 4.0 during this reporting period.

Table 1. Unit 8 river otter harvest during regulatory years (RY) 2007–2016 on Kodiak Island, Alaska.

	_						
Regulatory							Successful
year	Male	Percent	Female	Percent	Unknown	Total	trappers
RY07	52	44.4	65	55.6	5	122	21
RY08	56	52.8	50	47.2	2	108	18
RY09	58	63.7	33	36.3	4	95	20
RY10	68	54.8	56	45.2	2	126	26
RY11	57	63.3	33	36.7	39	129	26
RY12	65	39.2	101	60.8	22	188	26
RY13	148	41.8	206	58.2	6	360	38
RY14	58	40.3	86	59.7	19	163	32
RY15	81	50.3	80	49.7	5	166	32
RY16	64	50.8	62	49.2	5	131	28

Table 2. Unit 8 beaver harvest during regulatory years (RY) 2007–2016 on Kodiak Island, Alaska.

		Rej	orted H				
Regulatory				Successful			
year	Juvenile	Percent	Adult	Percent	Unknown	Total	trappers
RY07	15	28.8	37	71.2	4	56	15
RY08	4	21.1	15	78.9	3	22	7
RY09	19	37.3	32	62.7	3	54	13
RY10	17	30.9	38	69.1	1	56	10
RY11	2	20.0	8	80.0	1	11	8
RY12	29	44.6	36	55.4	1	66	13
RY13	20	25.0	60	75.0	0	80	20
RY14	19	21.1	71	78.9	3	93	20
RY15	22	37.9	36	62.1	4	62	20
RY16	5	16.7	25	83.3	5	35	11

Red foxes are the most commonly pursued furbearer in Unit 8, but current methods of monitoring harvest may underestimate take. Sealing is not required for red fox at this time. The average annual harvest by trappers and hunters is estimated at between 100 and 300. Some harvested foxes are home-tanned or dried for personal use and we suspect hides are often shipped without fur export permits.

Although we have no objective measure, conversations with local trappers suggest there was very little trapping effort or take of muskrat or squirrels during this reporting period. Harvests of marten, mink, and ermine were also negligible (Table 3). Occasionally, trappers made sets for marten on Afognak Island, but little trapping effort occurred for the remaining species.

Table 3. Unit 8 trapping results obtained from the Alaska Department of Fish and Game trapper questionnaire for regulatory years (RY) 2007–2016 on the Kodiak Archipelago, Alaska.

Regulatory														
year	$n^{\rm a}$	Arctic fox	Beaver	Coyote	Ermine	Lynx	Marten	Mink	Muskrat	Otter	Red fox	Squirrel	Wolf	Wolverine
RY07	_b	0	52	0	18	0	7	0	35	72	226	10	0	0
RY08	_	0	10	0	31	0	14	0	3	41	173	0	0	0
RY09	_	_	_	_	_	_	_	_	_	_	_	_	_	_
RY10	7	0	20	0	5	0	10	0	0	35	104	0	0	0
RY11	7	12	6	0	0	0	0	0	0	50	41	0	0	0
RY12	14	0	28	0	26	0	7	0	10	88	164	0	0	0
RY13	7	0	27	0	0	0	2	0	0	119	64	0	0	0
RY14	_	_	_	_	_	_	_	_	_	_	_	_	_	_
RY15	7	0	46	0	11	0	1	0	1	415	133	0	0	0
RY16	9	0	10	1	2	0	46	0	0	68	56	0	0	0

<sup>&</sup>lt;sup>a</sup> Indicates the number of trapper questionnaire respondents.
<sup>b</sup> An en dash indicates no data were collected.

#### Harvest Chronology

November is commonly the most active month for fur trappers in Unit 8 although harvest chronology for river otters and beavers varies annually (Tables 4 and 5, respectively).

#### Transport Methods

Boats and highway vehicles are the most common modes of transportation for otter and beaver trappers (Tables 6 and 7, respectively), but methods are variable with many trappers using aircraft and 4-wheelers in some years.

Recommendations for Activity 2.1

Modify trapper questionnaire to allow for the collection of unit specific information regarding trapping effort, trapping method, and trapping success.

#### 3. Habitat Assessment-Enhancement

There were no habitat assessment or enhancement activities during RY12–RY16. Logging on Afognak Island has been the only major land use activity altering furbearer habitat throughout the archipelago. Clearcut logging of old-growth timber was detrimental to marten populations in southeastern Alaska (Young 1990) but there have been no studies of the effects of logging on furbearers in Unit 8.

#### NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Beavers occasionally cause flooding of roads, trails, and private land by plugging culverts. Between 1–5 nuisance beavers were removed adjacent to roads in northeastern Kodiak Island annually by trapping and shooting. The Kodiak Island Borough is periodically issued a beaver depredation permit to allow control of nuisance beavers along the roadway or near the water catchment system.

Conflicts between trappers and other recreational users occur where trappers make sets near beaches, roadsides, or popular, widely used trails. Deer (Odocoileus hemionus sitkensis), bear (Ursus arctos) and eagles (Haliaeetus leucocephalus) are periodically caught in fox snares and deer are occasionally reported dead or injured in snares. Domestic dogs and cats are also occasionally caught in snare sets, prompting articles and letters to the local newspaper and ADF&G office. Typically, inexperienced trappers appear to be responsible for the snared bear, deer, and pets, and better trapper education could help alleviate the problem.

#### Data Recording and Archiving

Furbearer harvest data is electronically archived on the State of Alaska WinfoNet system and all furbearer management reports are stored in an online database (http://www.wildlifepublications.adfg.alaska.gov/), with hard copies cataloged in the Kodiak area office.

Table 4. Unit 8 river otter harvest chronology by month during regulatory years (RY) 2002–2016 on Kodiak Archipelago, Alaska.

Regulatory	Nov	ember	Dec	ember	Jar	nuary	Unknown	
year	No.	Percent	No.	Percent	No.	Percent	No.	Total
RY02	23	21.1	73	67.0	13	11.9	1	110
RY03	54	24.2	101	45.3	68	30.5	12	234
RY04	85	26.9	81	25.6	150	47.5	10	325
RY05	44	18.9	168	72.1	21	9.0	0	234
RY06	45	31.3	85	59.0	14	9.7	8	151
RY07	43	35.2	56	45.9	23	18.9	0	122
RY08	33	34.0	32	33.0	32	33.0	10	108
RY09	20	21.1	68	71.6	7	7.4	0	95
RY10	44	35.8	63	51.2	16	13.0	3	126
RY11	23	18.9	86	70.5	13	10.7	6	129
RY12	55	30.9	70	39.3	53	29.8	11	188
RY13	130	36.1	86	23.9	144	40.0	0	360
RY14	57	35.0	85	52.1	21	12.9	0	163
RY15	42	25.0	81	48.2	45	26.8	0	166
RY16	48	36.9	56	43.1	26	20.0	0	131

Table 5. Unit 8 beaver harvest chronology by month during regulatory years (RY) 2002–2016 on Kodiak Archipelago, Alaska.

	Regulatory	No	vember	De	cember	Ja	ınuary	Fe	bruary	N	March		April		May	Unkı	nown
1_	year	No.	Percent	No.	Total												
	RY02	24	33.8	8	11.3	8	11.3	4	5.6	4	5.6	23	32.4	0	0.0	0	71
	RY03	17	25.4	34	50.7	8	11.9	0	0.0	3	4.5	5	7.5	0	0.0	0	67
	RY04	16	41.0	6	15.4	7	17.9	1	2.6	3	7.7	6	15.4	0	0.0	18	57
Σ	RY05	4	13.8	17	58.6	1	3.4	6	20.7	0	0.0	1	3.4	0	0.0	1	30
	RY06	14	42.4	5	15.2	2	6.1	2	6.1	0	0.0	10	30.3	0	0.0	0	33
٠	RY07	23	47.9	7	14.6	4	8.3	1	2.1	7	14.6	6	12.5	0	0.0	1	49
<u> </u>	RY08	7	35.0	5	25.0	5	25.0	0	0.0	2	10.0	1	5.0	0	0.0	2	22
	RY09	14	25.9	25	46.3	10	18.5	0	0.0	0	0.0	5	9.3	0	0.0	0	54
	RY10	29	51.8	9	16.1	9	16.1	1	1.8	4	7.1	4	7.1	0	0.0	0	56
	RY11	3	27.3	2	18.2	3	27.3	0	0.0	0	0.0	3	27.3	0	0.0	0	11
	RY12	39	60.0	3	4.6	15	23.1	0	0.0	0	0.0	8	12.3	0	0.0	1	66
j	RY13	25	31.6	27	34.2	15	19.0	3	3.8	6	7.6	3	3.8	0	0.0	0	80
	RY14	39	41.9	37	39.8	11	11.8	3	3.2	3	3.2	0	0.0	0	0.0	0	93
	RY15	21	34.4	23	37.7	10	16.4	6	9.8	1	1.6	0	0.0	0	0.0	1	62
.  _	RY16	19	54.3	0	0.0	9	25.7	0	0.0	0	0.0	7	20.0	0	0.0	0	35

Table 6. Unit 8 river otter harvest by transport method during regulatory years (RY) 2002–2016 on Kodiak Archipelago, Alaska.

									Harves	t							
١		,								Off-ro	oad vehicle		ghwa <u>y</u>				
١	Regulatory	<u>Ai</u>	<u>rplane</u>		<u>Boat</u>	3/4-	wheeler	Snow	machine	<u>((</u>	ORV)	V	ehicle_		<u>Foot</u>	<u>Unkn</u>	<u>own</u>
4	year	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	n
	RY02	17	15.6	15	13.8	12	11.0	0	0.0	0	0.0	65	59.6	0	0.0	1	110
١	RY03	23	10.7	147	68.7	9	4.2	0	0.0	0	0.0	35	16.4	0	0.0	19	234
١	RY04	13	4.6	221	78.1	29	10.2	0	0.0	0	0.0	20	7.1	0	0.0	42	325
	RY05	28	12.7	176	79.6	12	5.4	0	0.0	0	0.0	5	2.3	0	0.0	14	234
1	RY06	27	20.1	79	59.0	18	13.4	0	0.0	2	1.5	6	4.5	2	1.5	18	151
١	RY07	5	4.3	60	51.3	11	9.4	4	3.4	0	0.0	37	31.6	0	0.0	6	122
	RY08	3	3.8	70	87.5	0	0.0	0	0.0	0	0.0	2	2.5	5	6.3	27	108
<u>.</u>	RY09	3	3.4	55	63.2	0	0.0	1	1.1	0	0.0	11	12.6	17	19.5	8	95
٤	RY10	11	9.6	59	51.3	6	5.2	0	0.0	1	0.9	37	32.2	1	0.9	10	126
.	RY11	4	3.5	80	70.2	1	0.9	0	0.0	0	0.0	28	24.6	1	0.9	14	129
	RY12	8	4.3	117	62.6	9	4.8	0	0.0	0	0.0	47	25.1	6	3.2	2	188
	RY13	22	6.1	281	78.1	14	3.9	0	0.0	0	0.0	32	8.9	11	3.1	0	360
	RY14	10	6.3	98	61.3	15	9.4	0	0.0	3	1.9	26	16.3	8	5.0	2	163
44.7	RY15	15	8.9	93	55.4	14	8.3	0	0.0	14	8.3	20	11.9	12	7.1	2	169
2	RY16	24	18.6	73	56.6	8	6.2	0	0.0	0	0.0	17	13.2	7	5.4	3	131

Table 7. Unit 8 beaver harvest by transport method during regulatory years (RY) 2002–2016 on Kodiak Archipelago, Alaska.

	Harvest															
										oad vehicle		ighwa <u>y</u>				
Regulatory	<u>Ai</u>	<u>irplane</u>		Boat	3/4-	wheeler_	Snov	vmachine_	<u>(</u>	ORV)	V	<u>ehicle</u>		<u>Foot</u>	<u>Unkn</u>	<u>lown</u>
year	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	n
RY02	25	36.8	8	11.8	29	42.6	0	0.0	0	0.0	6	8.8	0	0.0	3	71
RY03	9	13.6	7	10.6	34	51.5	0	0.0	0	0.0	16	24.2	0	0.0	1	67
RY04	8	14.0	10	17.5	34	59.6	0	0.0	0	0.0	5	8.8	0	0.0	0	57
RY05	2	6.9	2	6.9	17	58.6	0	0.0	0	0.0	8	27.6	0	0.0	1	30
RY06	0	0.0	9	34.6	12	46.2	0	0.0	0	0.0	5	19.2	0	0.0	6	33
RY07	8	17.4	7	15.2	12	26.1	0	0.0	0	0.0	17	37.0	2	4.3	10	56
RY08	0	0.0	0	0.0	10	45.5	0	0.0	0	0.0	3	13.6	9	40.9	0	22
RY09	2	3.7	2	3.7	7	13.0	0	0.0	0	0.0	41	75.9	2	3.7	0	54
RY10	0	0.0	11	32.4	6	17.6	0	0.0	6	17.6	10	29.4	1	2.9	6	40
RY11	0	0.0	2	25.0	0	0.0	0	0.0	1	12.5	5	62.5	0	0.0	3	11
RY12	3	4.5	10	15.2	22	33.3	0	0.0	0	0.0	31	47.0	0	0.0	0	66
RY13	0	0.0	12	15.4	19	24.4	0	0.0	0	0.0	37	47.4	10	12.8	2	80
RY14	37	39.8	14	15.1	5	5.4	0	0.0	8	8.6	25	26.9	4	4.3	0	93
RY15	2	3.2	21	33.9	25	40.3	0	0.0	0	0.0	14	22.6	0	0.0	0	62
RY16	2	6.5	15	48.4	12	38.7	0	0.0	0	0.0	2	6.5	0	0.0	4	35

#### Agreements

None.

#### Permitting

No permits were required for ADF&G management work.

## **Conclusions and Management Recommendations**

Furbearer harvest for most species remains low with highly variable annual harvest for more valuable species. Fluctuations in annual harvest vary due to oscillations in fur prices as well as local weather conditions and fur quality. Trapper participation remained relatively constant with fewer than 25 beaver trappers and fewer than 35 otter trappers active in most years. Although no robust methods to obtain information on furbearer abundance currently exist for this unit, harvest of furbearer's islandwide is likely below sustainable yield due to limited access and lack of harvest on vast areas of public land (i.e., Kodiak National Wildlife Refuge) which covers most of the island. Given the challenges and logistical constraints of obtaining reliable unit wide population information for most species and the low participation and distribution of trappers within the unit there is little need to intensify management or develop specific management objectives. However, it is important to continue to explore ways to objectively ascertain furbearer population trends when feasible, particularly in highly accessible areas (i.e., the Kodiak road system).

## II. Project Review and RY17–RY21 Plan

## **Review of Management Direction**

#### **MANAGEMENT DIRECTION**

- Continue providing furbearer harvest opportunities unitwide that do not negatively impact overall population status.
- Reduce harvest limits as necessary in highly accessible areas to minimize local furbearer population declines.

#### **GOALS**

The furbearer management goal for Unit 8 is to maintain a healthy, viable population providing sustainable sport and subsistence harvest opportunities for residents and nonresidents of Alaska.

#### CODIFIED OBJECTIVES

### Amounts Reasonably Necessary for Subsistence Uses

• Ninety percent of the harvestable portion (5AAC 99.025)

#### **Intensive Management**

Not Applicable.

#### MANAGEMENT OBJECTIVES

Maintain all furbearer populations to allow for consistent, sustainable harvest.

#### REVIEW OF MANAGEMENT ACTIVITIES

#### 1. Population Status and Trend

Activity 1.1. Monitor furbearer populations.

#### Data Needs

Reliable methods are needed to determine the current population status and assess fluctuations in population trends. However, because trapping effort island wide is minimal and very little trapping occurs outside of the road system, monitoring methods should primarily be focused on the Kodiak road system where most trapping occurs.

#### **Methods**

No methods are currently being employed; however, the implementation of a camera survey along the Kodiak road system to assess fox abundance and distribution has previously been considered and would provide limited valuable data to assess distribution on the Kodiak road system. This may not happen in the next reporting period but is something that will be considered when time and resources allow.

### 2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Monitor furbearer harvest through sealing.

#### Data Needs

Obtaining unit specific information regarding trapping effort, trapping method, and trapping success would be valuable, particularly for highly targeted species such as fox and river otter. In addition, acquiring similar information specific to the Kodiak road system would also be useful and allow biologists to address area specific fluctuations in trapping effort and success.

#### Methods

ADF&G staff will continue to monitor beaver and river otter harvests through a mandatory sealing program. The division plans to continue to gather trapper harvest information and abundance observations through annual statewide trapper questionnaires. Recommendations will be made to the questionnaire coordinator to seek to obtain more unit or area specific information as that would be useful to furbearer management.

#### 3. Habitat Assessment-Enhancement

There are no habitat assessment or enhancement activities related to furbearers planned for RY17-RY21.

#### NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

#### Data Recording and Archiving

Copies of all furbearer sealing forms are sent to the Anchorage ADF&G office where they are digitally scanned and catalogued into the State of Alaska WinfoNet system.

#### Agreements

None.

#### Permitting

None.

## **Acknowledgments**

Several guides, trappers, transporters, and hunters regularly provide information to ADF&G staff on furbearer observations including local furbearer trends, harvest information, and furbearer distribution. The observations contributed by these individuals has been extremely helpful when identifying issues or areas of concern (i.e., expansion of invasive mink).

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