Species Management Report and Plan ADF&G/DWC/SMR&P–2025–3

Furbearer Management Report and Plan, Game Management Unit 2:

Report Period 1 July 2017–30 June 2022, and

Plan Period 1 July 2022–30 June 2027

Tessa Hasbrouck

2025

Alaska Department of Fish and Game Division of Wildlife Conservation

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Species management reports and plans provide information about species that are hunted or trapped and management actions, goals, recommendations for those species, and plans for data collection. Detailed information is prepared for each species every 5 years by the area management biologist for game management units in their areas, who also develops a plan for data collection and species management for the next 5 years. This type of report is not produced for species that are not managed for hunting or trapping or for areas where there is no current or anticipated activity. Unit reports are reviewed and approved for publication by regional management coordinators and are available to the public via the Alaska Department of Fish and Game's public website.

This species management report and plan was reviewed and approved for publication by Roy Churchwell, Management Coordinator for Region I for the Division of Wildlife Conservation.

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

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Cover Photo: Marten looking into camera. ©2023 ADF&G.

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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 2 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., RY15 = 1 July 2015–30 June 2016). 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 2 includes Prince of Wales Island (POW) and adjacent islands bounded by a line drawn from Dixon Entrance in the center of Clarence Strait, Kashevarof Passage, and Sumner Strait north to and including Warren Island (Fig. 1). The land area of POW is approximately 3,582 mi^2 (9,277 km^2) with extensive shoreline and marine-influenced habitats. The total human population on POW fluctuates seasonally between 4,000 and 5,000 residents.

Unit 2 is a temperate rainforest with a mild maritime climate, which receives an average of 101.6 inches (2.6 meters) of precipitation annually (National Oceanic and Atmospheric Administration 2022). Wind and landslide events are the primary source of disturbance (Harris 1989, Ott 1997). There is a high density of karst and cave features caused by the chemical weathering of limestone and marble bedrock (Baichtal and Swanston 1996), which impact the hydrology and ecology of the unit. Land cover consists of well-drained areas that have historically been old-growth forest, which include Sitka spruce (*Picea sitchensis*), western hemlock (*Tsuga heterophylla*), red cedar (*Thuja plicata*), and Alaska yellow cedar (*Chamaecyparis nootkatensis*). On flatter terrain, as soil moisture increases, forest cover transitions to low-volume forest, including shore pine (*Pinus contorta*), and eventually muskeg. Above approximately 2,000 feet (610 m) in elevation, the forest transitions to a subalpine zone consisting of predominantly mountain hemlock (*Tsuga mertensiana)* and eventually consists of isolated areas of alpine vegetation. In forested habitat, understory consists of shrubs and forbs dominated by blueberry (*Vaccinium spp.*), salal (*Gaultheria shallon*), devil's club (*Oplopanax horridus*), and western skunk cabbage (*Lysichiton americanus*).

Land ownership in Unit 2 is a mix of federal, state, and private ownership; all of which have different land management strategies. Unit 2 is 80% Tongass National Forest lands, managed for sustainable multiple-use purposes including recreation, economic development, and subsistence activities (Southeast Alaska GIS Library 2019). The State of Alaska, Division of Forestry manages their forests for multiple uses and the sustained yield of renewable resources.

Figure 1. Map of Game Management Unit 2 boundaries, Southeast Alaska, regulatory years 2017–2022.

Sealaska Corporation, the largest private landowner in the unit, historically managed their lands for economic development (e.g., timber harvest) and hunting opportunities for shareholders. After years of logging, in 2021, Sealaska announced their decision to cease timber harvest on their land. POW has the highest amount of productive forest in Southeast Alaska (U.S. Department of Agriculture 2016); however, POW received the most substantial logging activity in the region since 1954, which resulted in a 94% reduction of contiguous high-volume forest (Albert and Schoen 2013). This logging activity reduced deer habitat in northcentral POW by 46% and in south POW by 18% (USDA 2016). Logging increases hunter and trapper access to previously inaccessible portions of interior POW and other islands through the development of an extensive road system.

Summary of Status, Trend, Management Activities, and History of Furbearers in Unit 2

Trapping effort is influenced by social and external factors. Social factors include human conflict, difficulty accessing land, and low trapper recruitment (Siemer et al. 1994, Gese 2001, Zwick et al. 2002); external factors include furbearer abundance, fur prices, fuel prices, and weather conditions (Gosselink et al. 2003, Yom-Tov et al. 2007, DeVink et al. 2011, Parr 2017). Other factors that influence trapping effort include life history traits, difficulty of catch, and density and distribution of the species.

Marten *(Martes americana)* are the most sought-after species for trapping in Southeast Alaska; however, they are not native to Unit 2. Marten were successfully introduced to POW from nearby Unit 1A in the 1930s (Paul 2009). Marten are abundant and easy to trap, with pelts that are easy to process and relatively valuable in the fur market. Marten research in southern Southeast Alaska demonstrated the importance of old-growth stands for foraging, travel corridors, and shelter (Schumacher 1999). Marten select for larger-diameter timber structures for dens and resting sites (Hauptman 1979, Simon 1980, Hargis and McCullough 1984, Schumacher 1999, Flynn and Schumacher 2016). Conversations with trappers substantiate preference by marten for old-growth stands and their avoidance of clearcuts. Logging in Unit 2 continues to remove uneven-aged old-growth habitat required by marten. As a result, ADF&G biologists predict the area's capacity to support current marten populations may decline over time. However, respondents to the trapper questionnaire described marten as “common” during RY17–RY21 (Spivey 2019, 2020; Bogle 2021a, 2021b, 2022). The average price for marten pelts during RY17–RY21 was $41.20 (Table 1), which was lower than the average marten pelt price during RY12–RY16 ($67.35; Dorendorf 2019).

Southeast Alaska provides excellent habitat for river otters (*Lutra canadensis*) and a variety of forage that supports plentiful harvest (Larsen 1984). Because river otters are difficult to trap and pelt preparation is time-consuming, prices must be high to substantially increase trapper effort. Trappers described river otters as “common” or “abundant” during RY17–RY21 (Spivey 2019, 2020; Bogle 2021a, 2021b, 2022). The average price for river otter pelts during RY17–RY21 was $22.23 (Table 1), which was lower than the average river otter price during RY12–RY16 ($56.62; Dorendorf 2019).

Table 1. Average furbearer prices based on Fur Harvesters of America auctions, 2017–2021 (Fur Harvesters Auction Incorporated 2021).

Species	2017	2018	2019	2020	2021	Average
Beaver	10.83	12.91	13.52	13.21	10.17	12.13
Ermine	3.27	2.61	1.3	1.7	2.05	2.19
Marten	69.47	44.09	–	20.69	30.54	41.20
Mink	10.76	9.07	–	–	5.69	8.51
River otter	28.68	22.15	–	15.85	–	22.23

Beavers (*Castor canadensis*) are relatively easy to trap, but with the work needed to prepare a pelt, low prices will continue to drive minimal harvest trends unless there is a substantial increase in pelt price. Beavers are commonly trapped to use as bait for trapping marten and wolves, which helps maintain a steady, albeit low, harvest independent of fur prices. Trappers described beavers as "scarce" during RY17–RY21 (Spivey 2019, 2020; Bogle 2021a, 2021b, 2022). Anecdotally, Unit 2 locals have reported seeing fewer beavers in the past few years, and our data show that fewer people are harvesting fewer beavers. The average beaver pelt price during RY17–RY21 was $12.13 (Table 1), which was lower than the average beaver pelt price during RY12-RY16 ($16.98; Dorendorf 2019).

Ample opportunity exists to trap mink (*Mustela vision*) in Unit 2 with an expanse of suitable coastline and riverine habitat. Trappers that participate in trapping regardless of prices continue to trap mink, while those who wait for higher prices do not. Trappers reported mink as "common" or "abundant" during most of RY17–RY21, excluding RY21, when across Region I mink were described as "scarce" (Spivey 2019, 2020; Bogle 2021a, 2021b, 2022). Mink are not required to be sealed. The average mink pelt price during RY17–RY21 was $8.51, which was lower than the average mink pelt price during RY12–RY16 ($14.34; Dorendorf 2019).

The short-tailed weasel subspecies (*Mustela erminea celenda*; hereafter referred to as ermine*)* found on POW is endemic to the island (Colella et al. 2021), and populations fluctuate primarily due to variation in prey availability (Erlinge 1983, Sittler 1995). Ermine typically live close to bodies of water in riparian habitat and are distributed throughout the region (MacDonald and Cook 2008). Harvest is mainly limited to incidental take while targeting other furbearers, primarily marten. Trappers described ermine as "scarce" or "common" during RY17–RY21 (Spivey 2019, 2020; Bogle 2021a, b, 2022). Ermine are not required to be sealed. The average ermine pelt price during RY17–RY21 was $2.19, which is lower than the average ermine pelt price during RY12–RY16 ($4.10; Dorendorf 2019).

Like short-tailed weasels, Prince of Wales flying squirrels (*Glaucomys sabrinus griseifrons*) are nontarget species occasionally caught incidentally when trappers target marten. Squirrels are not required to be sealed.

Coyotes (*Canis latrans*), fishers (*Pekania pennati*), lynx (*Lynx canadensis*), muskrats (*Ondatra zibethicus*), red foxes (*Vulpes vulpes*), red squirrels (*Tamiasciurus hudsonicus*), marmots (*Marmota caligata*) and wolverines (*Gulo gulo*) are absent from Unit 2. However, the regulations for bag limit and season length for these species are the same throughout Region I.

Management Direction

Existing Wildlife Management Plans

The department created a statewide furbearer management plan in 1976 (ADF&G 1976).

Goals

1. Provide for an optimum harvest of furbearers.
2. Provide for the greatest opportunity to participate in hunting and trapping furbearers.

Codified Objectives

Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game made a positive subsistence finding for furbearers in all units, including Unit 2, with a harvestable surplus to be 90% of the harvestable portion (5 AAC 99.025[13]).

Intensive Management

Not applicable.

Management Objectives

- Regulate seasons and bag limits to maintain viewable and harvestable populations of beavers, marten, mink, river otters, short-tailed weasels, and squirrels.
- Seal harvested beaver, marten, and river otter pelts as they are presented for sealing.
- Contact reliable observers for general information about the status and trends of furbearer populations, including the use of an annual trapper questionnaire.
- Necropsy beaver, marten, mink, river otters, short-tailed weasel, and squirrel carcasses as needed to determine disease, parasites, pregnancies, record morphometric data, and collect tissue samples.

Management Activities

1. Population Status and Trend

Activity 1.1 Contact reputable members of the public for insights into local trends in abundance. Record agency staff members' incidental sightings of furbearers for presence-absence data.

Data Needs

Observations from reliable members of the public can provide insight into local trends in

abundance. Trappers who have maintained the same trapline for many years can provide valuable insight into furbearer population trends. Incidental sightings of furbearers made by agency staff while conducting surveys or traveling to work locations help with presence-absence information on all species of furbearers.

Methods

Observations from the public are incorporated into furbearer management reports. Some members of the public contacted the Ketchikan office via phone, e-mail, or in person to provide details of their observations. Agency sightings are recorded and reported when considered significant. The annual trapper questionnaire provides valuable information on harvest, trapping methods, and other information on trapping in Unit 2.

Results and Discussion

Although ADF&G welcomes discussions from trappers regarding observations, it is rare for trappers to communicate with the department and we record few observations. After RY17–RY21, the department contacted a long-time trapper who lives in Unit 2. The trapper commented that river otter and marten trapping remained relatively stable for the past 10 years, but beaver trapping was increasingly more difficult. The trapper observed fewer active beaver ponds over time and speculated that beaver scarcity may be linked to the wolf population.

Recommendations for Activity 1.1

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

2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1 Monitor harvest through sealing beaver, marten, river otters, fishers, lynx, and wolverines.

Data Needs

Harvest must be assessed to understand the impacts of furbearer harvest and trends in abundance.

Methods

Harvest data were collected by sealing the hides of beavers, marten, river otters, fishers, lynx, and wolverines taken by trappers and hunters. The department records location and date of harvest, method of take, transportation mode, and sex. In the case of river otters and beavers, hides are measured. Sealing is conducted by ADF&G staff, Alaska State Troopers, or a state-appointed sealer within 30 days of the close of the season. These data are entered into ADF&G's Wildlife Information Network database (WinfoNet).

Season and Bag Limit

The hunting (Table 2) and trapping (Table 3) seasons did not change throughout RY17–RY21, except for the beaver trapping season, which was extended in RY20–RY21.

Table 2. Hunting seasons and bag limits for Region I, Southeast Alaska, regulatory years 2017–2021.

Species	Season	Bag limit
Beaver	No open season	–
Coyote	1 September–30 April	2 coyotes
Red fox	No open season	–
Lynx	No open season	–
Squirrel	No closed season	No limit
Wolverine	1 September–15 February	1 wolverine

Table 3. Trapping seasons and bag limits for Region I, Southeast Alaska, regulatory years 2017–2021.

Species	Season	Bag limit
Beaver[a]	10 November–30 April	No limit
Coyote	1 November–30 April	No limit
Fisher	1 December–15 February	1 fisher
Red fox	1 December–15 February	No limit
Lynx	1 December–15 February	No limit
Marten	1 December–15 February	No limit
Mink and ermine	1 December–15 February	No limit
Muskrat	1 December–15 February	No limit
River otter	1 December–15 February	No limit
Squirrel and marmot	No closed season	No limit
Wolverine	November 10–February 28	No limit

[a] Beaver season was extended to 10 November–15 May during regulatory years 2020–2021.

Results and Discussion

Harvest by Hunters-Trappers

AMERICAN MARTEN

The annual marten harvest decreased throughout RY17–RY21 from a high of 668 marten in RY17 to a low of 267 marten in RY21 (average = 434; Table 4) and was lower than the previous reporting period's (RY12–RY16) annual average (727 marten). The number of successful marten trappers decreased from a high of 25 trappers in RY17 to a low of 10 trappers in RY21. The average number of marten sealed was 21 (range = 18–27). The decrease in marten harvest is likely correlated to a decrease in marten trappers. Traps were the most common method of take, and males constituted >50% of annual harvests.

Table 4. Harvest and method of take for marten sealed in Unit 2, Southeast Alaska, regulatory years 2017–2021.

Regulatory year	Total harvest	Successful participants	Percent male	Percent female	Percent unknown	Method of take			
						Shot	Trapped	Snared	Unknown
2017	668	25	54	35	11	0	668	0	0
2018	453	25	53	36	11	0	419	19	15
2019	401	22	58	36	6	7	378	0	16
2020	379	21	61	33	6	0	379	0	0
2021	267	10	59	41	0	0	267	0	0

RIVER OTTER

River otter annual harvest during RY17–RY21 was highest during RY17 at 76 otters and was relatively low but stable at 33–36 otters per year during RY19–RY21 (average = 47; Table 5). The average annual harvest during RY12–RY16 was 285 otters. The number of successful trappers decreased throughout RY17–RY21, with a low in RY21 of 7 trappers. The average number of otters trapped per successful trapper was relatively constant throughout RY17–RY21 and ranged 3–5 animals per successful trapper per year. In most years, kit harvest exceeded adult harvest. Male harvest exceeded female harvest during RY17–RY19; however, female harvest exceeded male harvest during RY20–RY21. It is common for kit harvest to exceed adult harvest and male harvest to exceed female harvest, but a high female harvest ratio for 2 regulatory years is not a biological concern. Traps were the most common method of take.

Table 5. Harvest and method of take for river otters sealed in Unit 2, Southeast Alaska, regulatory years 2017–2021.

Regulatory year	Total harvest	Successful participants	Percent kits	Percent adults	Percent unknown	Percent female	Percent male	Method of take			
								Shot	Trapped	Snared	Unknown
2017	76	18	50	50	0	36	64	13	45	7	11
2018	58	15	55	45	0	48	52	3	52	3	0
2019	33	12	49	45	6	43	57	3	29	0	1
2020	34	13	55	42	3	55	45	5	29	0	0
2021	36	7	69	31	0	60	40	7	20	0	9

BEAVER

Annual beaver harvest was highest in RY18 at 100 beavers, and lowest in RY21 at 8 beavers (average = 61; Table 6). The average annual beaver harvest during RY12–RY16 was 135 beavers. The annual number of beavers per successful trapper ranged from 2 beavers in RY21 to 9 beavers in RY18. Adult harvest exceeded kit harvest every year during RY17–RY21. The sex ratio of harvested beavers is unknown due to the difficulty of determining the sex of beavers. Most beavers were taken with traps. The low beaver harvest in RY21 is surprising compared to previous years and may be indicative of fewer trappers in addition to a reduced beaver population; however, 1 year of low harvest is not a concern.

Table 6. Harvest and method of take for beavers sealed in Unit 2, Southeast Alaska, regulatory years 2017–2021.

Regulatory year	Total harvest	Successful participants	Percent kits	Percent adults	Method of take			
					Shot	Trapped	Snared	Unknown
2017	67	8	16	84	0	67	0	0
2018	100	11	36	64	3	96	0	1
2019	81	16	36	64	0	81	0	0
2020	49	8	29	71	0	40	9	0
2021	8	4	12	88	0	8	0	0

FISHER, LYNX, AND WOLVERINE

Trappers did not seal or report presence of fisher, lynx, or wolverine in Unit 2 during this reporting period.

Hunter Residency and Success

Unit 2 residents harvested the most furbearers, at ~95% of total harvest during RY17–RY21. Resident Alaskans from other areas of the state made up 3% of harvest, and nonresidents accounted for 2% of total harvest. Trapping pressure from other Alaskan residents (outside of Unit 2) mainly comes from nearby Ketchikan.

Harvest Chronology

Harvest chronology is largely a result of regulation rather than availability of species. Most of the furbearer harvest in Unit 2 occurred in December (Table 7). River otter and marten trapping seasons are 1 December–15 February. Since the season ends mid-February, the February harvest is lower for both species compared to the previous 2 months. Marten harvest is highest in December, whereas river otter harvest is relatively similar in both December and January. Although the beaver season is longer than both marten and river otter seasons, many trappers likely reduce beaver trapping effort when beaver is the only available species to trap. Beaver fur is in prime condition in January through March, and trappers will decrease trapping effort outside of these months. Beavers sealed outside of trapping season occur when the department issues nuisance permits that allow people to remove beavers that are causing damage to infrastructure (e.g., roads, culverts, buildings).

Transport Methods

Unit 2 has extensive shoreline and a road system that allow relatively easy access to large swaths of land and coast. During RY17–RY21, beaver and marten traps were predominantly accessed via highway vehicle, whereas river otter traps were predominantly accessed via boat (Table 8). Other modes of transportation could include airplane, horse or dog team, off-highway vehicle, snowmachine, skis, snowshoes, or foot. In Unit 2, the most common forms of other transportation included off-highway vehicle and ski, snowshoe, or foot, but these modes were relatively uncommon compared to boats and highway vehicles.

Table 7. Harvest chronology for beaver, marten, and river otter in Unit 2, Southeast Alaska, regulatory years 2017–2021.

		Number of furbearers harvested										
Species	Regulatory year	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Unk[a]	Total
Beaver	2017	2	0	6	12	14	10	5	18	0	0	67
	2018	0	0	19	47	6	4	7	9	3	1	96
	2019	1	1	4	64	10	0	0	1	0	0	81
	2020	0	0	0	26	4	14	0	5	0	0	49
	2021	0	2	5	0	0	0	0	1	0	0	8
Marten	2017	0	0	0	557	96	15	0	0	0	0	668
	2018	0	0	5[b]	310	127	11	0	0	0	0	453
	2019	0	0	0	380	12	0	0	0	0	9	401
	2020	0	0	0	321	37	21	0	0	0	0	379
	2021	0	0	0	262	5	0	0	0	0	0	267
River otter	2017	1	0	0	13	33	18	0	0	0	11	76
	2018	0	0	2[b]	18	22	16	0	0	0	0	58
	2019	0	0	0	22	11	0	0	0	0	0	33
	2020	0	0	0	22	6	6	0	0	0	0	34
	2021	0	0	0	21	14	1	0	0	0	0	36

[a] Unk refers to an unknown month of harvest.
[b] Other mortality.

Table 8. Beaver, marten, and river otter harvest by transportation method in Unit 2, Southeast Alaska, regulatory years 2017–2021.

		Percent of harvest			
Species	Regulatory year	Boat	Highway vehicle	Other	Total harvest
Beaver	2017	0	78	22	67
	2018	17	81	2	99
	2019	1	87	12	81
	2020	5	95	0	44
	2021	25	37	38	8
Marten	2017	19	77	4	668
	2018	32	68	0	433
	2019	2	89	9	386
	2020	20	77	3	355
	2021	0	96	4	266
River otter	2017	69	17	14	65
	2018	74	21	5	58
	2019	50	44	6	32
	2020	35	65	0	34
	2021	77	19	4	27

Alaska Board of Game Actions and Emergency Orders

During the 2019 Board of Game meeting, 6 proposals were submitted that could have impacted furbearer regulations in Unit 2. The board adopted 1 proposal, which lengthened the beaver trapping season from 10 November–30 April to 10 November–15 May.

ADF&G did not issue emergency orders during RY17–RY21.

Recommendations for Activity 2.1

Continue sealing furbearer species for critical information on harvest, furbearer demographics, and harvest locations. This enables the department to determine trends in abundance and presence for these species. Biologists will continue to rely on the public for trends in the abundance of other furbearers along with information they provide in the Alaska Trapper Questionnaire.

3. Habitat Assessment-Enhancement

No habitat-related activities to benefit furbearers occurred in Unit 2 during RY17–RY21.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Reports of rare or unusual furbearer sightings are stored in a folder on the Ketchikan server.
- Harvest data and copies of sealing forms are stored in WinfoNet.

Agreements

There were no agreements during RY17–RY21.

Permitting

Permits to remove nuisance beavers were issued in RY18 and RY21.

Conclusions and Management Recommendations

The lack of data on population dynamics (e.g., density, composition, and reproduction) makes it difficult to identify sustainable harvest levels for furbearer species. Additionally, the lack of data on trapper effort at the unit scale makes it difficult to determine if trends in harvest are a result of changes to trapper effort, trapper success, or both.

Furbearer harvest in Unit 2 generally decreased in the past decade. The declining marten and river otter harvest in Unit 2 is likely related to decreased trapping effort and number of trappers rather than declines in those furbearer populations. Annual marten and river otter harvest declined, but the number of marten and river otter harvested per trapper remained relatively stable. Beaver harvest declined, as well as the number of beavers harvested per trapper,

especially in RY21. Without information on trapper effort, it is unclear if beaver harvest has declined due to trapper effort or beaver abundance. In general, trappers will search for active beaver lodges and will not set traps if they do not find recent beaver activity. Harvest is influenced by animal abundance, weather conditions, fuel prices, and other factors (Bogle 2022). One year of low harvest is not necessarily a concern. Harvest data in RY22–RY26 will help managers understand if the beaver harvest in RY21 was the start of a downward trend or an anomaly.

The decreasing trend in trapper harvest is mirrored across Region I, and it is unknown if` trapper effort will increase substantially in the future; therefore, quantifiable objectives for furbearers may not be warranted. Annual trapping surveys that better quantify trapper effort and motivations may help the department assess furbearer harvest trends (Dorendorf et al. 2016). Furbearer harvest appears to be within sustainable limits, and no changes in seasons or bag limits are recommended.

II. Project Review and RY22–RY26 Plan

Review of Management Direction

MANAGEMENT DIRECTION

The existing management direction and goals appropriately direct management of furbearers in Unit 2. The management direction for Unit 2 ensures that furbearers will persist as part of the natural ecosystem and ensures continued hunting (for applicable species), trapping, and viewing opportunities. There is no indication that long-term sustainability of the furbearer populations or statewide goals for human uses cannot be met; therefore, the Unit 2 management direction should continue for furbearers to be managed in a manner that complements the statewide furbearer management goals.

GOALS

1. Provide for an optimum harvest of furbearers.
2. Provide for the greatest opportunity to participate in hunting and trapping furbearers.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

The Alaska Board of Game has made a positive subsistence finding for furbearers in all units, including Unit 2, with a harvestable surplus to be 90% of the harvestable portion (5 AAC 99.025[13]).

Intensive Management

Not applicable.

MANAGEMENT OBJECTIVES

- Regulate seasons and bag limits to maintain viewable and harvestable populations of beavers, marten, mink, river otters, short-tailed weasels, and squirrels.
- Seal harvested beaver, marten, and river otter pelts as they are presented for sealing.
- Contact reliable observers for general information about the status and trends of furbearer populations, including the use of an annual trapper questionnaire.
- Necropsy beaver, marten, mink, river otters, short-tailed weasel, and squirrel carcasses as needed to determine disease, parasites, pregnancies, record morphometric data, and collect tissue samples.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1 Contact reputable members of the public for insights into local trends in abundance. Record agency staff members' incidental sightings of furbearers for presence-absence data.

Data Needs

Observations from reliable members of the public provide insight into local trends in abundance. For example, fur trappers that have trapped the same area for many years can provide valuable insight into trends in abundance. Incidental sightings of furbearers made by agency staff while conducting surveys or traveling to work locations help with presence-absence information on all species of furbearers.

Methods

Observations from the public will be incorporated into furbearer reports. Members of the public may contact the Ketchikan office via phone, e-mail, or in person to provide details on their observations. Agency sightings will be recorded and reported when considered significant. The annual trapper questionnaire also provides valuable information on harvest, trapping methods, and other information on trapping in the region.

2. Mortality-Harvest Monitoring

ACTIVITY 2.1 Monitor harvest through sealing beavers, marten, river otters, fishers, lynx, and wolverines.

Data Needs

Harvest must be assessed to understand the impacts of furbearer harvest and trends in abundance.

Methods

Harvest data will be collected by sealing hides of beavers, marten, and river otters taken by trappers and hunters. The department records location and date of harvest, method of take, transportation mode, and sex. In the case of river otters and beavers, hides are measured. Sealing will be conducted by ADF&G staff, Alaska State Troopers, or a state-appointed sealer within 30 days of the close of the season. These data will be entered into WinfoNet.

3. Habitat Assessment-Enhancement

No new activities are anticipated for RY22–RY26.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

- Reports of rare or unusual furbearer sightings can be stored in a folder on the Ketchikan server.
- Harvest data and copies of sealing forms will be stored in WinfoNet

Agreements

No agreements are anticipated for RY22–RY26.

Permitting

ADF&G will continue to issue nuisance beaver permits.

References Cited

Albert, D. M., and J. W. Schoen. 2013. Use of historical logging patterns to identify disproportionately logged ecosystems within temperate rainforests of southeastern Alaska. Conservation Biology 27(4):774–784.

Baichtal, J. F., and D. N. Swanston. 1996. Karst landscapes and associate resources: A resource assessment. United States Department of Agriculture, Forest Service. General Technical Report PNW-GTR-383, Portland, Oregon.

Bogle, S. E. 2021a. 2019 Alaska trapper report: 1 July 2019–30 June 2020. Division of Wildlife Conservation, Wildlife Management Report ADF&G/DWC/WMR-2021-2, Juneau.

Bogle, S. E. 2021b. 2020 Alaska trapper report: 1 July 2020–30 June 2021. Alaska Department of Fish and Game, Wildlife Management Report ADF&G/DWC/WMR-2021-3, Juneau.

Bogle, S. E. 2022. 2021 Alaska trapper report: 1 July 2021–30 June 2022. Alaska Department of Fish and Game, Wildlife Management Report ADF&G/DWC/WMR-2022-1, Juneau.

Colella, J. P., L. M. Frederick, S. L. Talbot, and J. A. Cook. 2021. Extrinsically reinforced hybrid speciation within Holarctic ermine (*Mustela* spp.) produces an insular endemic. Diversity and Distribution (27):747–762.

DeVink, J. M., D. Berezanski, and D. Imrie. 2011. Comments on Brodie and Post: Harvest effort: The missing covariate in analyses of furbearer harvest data. Population Ecology 53(1):261–262.

Dorendorf, R. R., P. J. Fix, and L. R. Prugh. 2016. Motivations of fur trappers in Interior Alaska. Human Dimensions of Wildlife 21(6):522–537.

Dorendorf, R. R. 2019. Furbearer management report and plan, Game Management Unit 2: 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-2019-8, Juneau.

Erlinge, S. 1983. Demography and dynamics of the stoat Mustela erminea population in a diverse community of vertebrates. Journal of Animal Ecology 52(3):705–726.

Flynn, R. W., and T. V. Schumacher. 2016. Habitat selection of American martens in northeast Chichagof Island, Southeast Alaska, 1991–1997. Wildlife Research Report, Alaska Department of Fish and Game, Division of Wildlife Conservation, WRR-2016-6, Juneau.

Fur Harvesters Auction Incorporated. 2021. Auction Results [web page]. North Bay, Ontario, Canada. http://furharvesters.com/auctionresults.html (Accessed 16 May 2023).

Gese, E. M. 2001. Monitoring of terrestrial carnivore populations. [*In*] J. L. Gittleman, S. M. Funk, D. W. MacDonald, and R. K. Wayne. Carnivore Conservation. Cambridge University Press and The Zoological Society of London, 372–396. https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1572&context=icwdm_usdanwrc (Accessed 18 September 2019).

Gosselink, T. E., T. R. Van Deelen, R. E. Warner, and M. G. Joselyn. 2003. Temporal habitat partitioning and spatial use of coyotes and red foxes in east-central Illinois. The Journal of Wildlife Management 67(1):90–103.

Hargis, C. D., and D. R. McCullough. 1984. Winter diet and habitat selection of marten in Yosemite National Park. Journal of Wildlife Management 48(1):140–146.

Harris, A. S. 1989. Wind in the forests of Southeast Alaska and guides for reducing damage. General Technical Report PNW-244. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

Hauptman, T. N. 1979. Spatial and temporal distribution and feeding ecology of pine marten. Doctoral dissertation, Idaho State University, Pocatello.

Larsen, D. 1984. Feeding habits of river otters in coastal southeastern Alaska. Journal of Wildlife Management 48(4):1446–1452.

MacDonald, S. O., and J. A. Cook. 2008. Recent mammals of Alaska. University of Alaska Press. Fairbanks, Alaska.

National Oceanic and Atmospheric Administration. 2022. U.S. Climate Normals [web page]. https://www.ncdc.noaa.gov/cdo-web/datatools/normals (Accessed January 2022).

Ott, R. A. 1997. Natural disturbance at the site and landscape levels in temperate rainforests of Southeast Alaska. Doctoral dissertation, University of Alaska Fairbanks.

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

Paul, T. W. 2009. Game transplants in Alaska. Alaska Department of Fish and Game, Division of Wildlife, Wildlife Technical Bulletin 4, second edition. Juneau, Alaska.

Schumacher, T. V. 1999. A multi-scale analysis of habitat selection at dens and resting sites of American martens in Southeast Alaska. Master's Thesis, University of Wyoming, Laramie.

Siemer, W. F., G. R. Batcheller, R. J. Glass, and T. L. Brown. 1994. Characteristics of trappers and trapping participation in New York. Wildlife Society Bulletin 22(1):100–111.

Simon, T. L. 1980. An ecological study of the marten in the Tahoe National Forest, California. Master's thesis, California State University, Sacramento.

Sittler, B. 1995. Response of stoats (*Mustela erminea*) to a fluctuating lemming (*Dicrostonyx groenlandicus*) population in north east Greenland: Preliminary results from a long-term study. Annales Zoologici Fennici 32:79–92.

Southeast Alaska GIS Library. 2019. Tongass National Forest land status [web page]. https://data-seakgis.opendata.arcgis.com/ (Accessed January 2021).

Spivey, T. J. 2019. 2017 Alaska trapper report: 1 July 2017–30 June 2018. Division of Wildlife Conservation, Wildlife Management Report ADF&G/DWC/WMR-2019-3, Juneau.

Spivey, T. J. 2020. 2018 Alaska trapper report: 1 July 2018–30 June 2019. Division of Wildlife Conservation, Wildlife Management Report ADF&G/DWC/WMR-2020-1, Juneau.

United States Department of Agriculture. 2016. Tongass land and resource management plan: Final environmental impact statement. United States Forest Service. R-10-MP-769e,f.

Yom-Tov, Y., S. Yom-Tov, D. MacDonald, and E. Yom-Tov. 2007. Population cycles and changes in body size of the lynx in Alaska. Oecologia 152(2):239–244.

Zwick, R. R., R. Glass, K. Royar, and T. Decker. 2002. Sociocultural perspectives of trapping revisited: A comparative analysis of activities and motives 1994 and 2000. Proceedings of the 2001 Northeastern Recreation Research Symposium. Held at Newtown Square, Pennsylvania 289:118–123.


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