

Brown Bear Management Report and Plan, Game Management Unit 4:

Report Period 1 July 2019–30 June 2024, and
Plan Period 1 July 2024–30 June 2029

Stephen W. Bethune



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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, former Management Coordinator for Region I for the Division of Wildlife Conservation.

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Cover Photo: ADF&G is increasingly using remote trail cameras to monitor wildlife populations. This brown bear was photographed cruising a shoreline trail in Necker Bay as part of a pilot project to document population levels on Baranof Island. ©2024 ADF&G. Photo by Anthony Crupi and Stephanie Sell.

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Purpose of this Report

This report provides a record of survey and inventory management activities for brown bear (*Ursus arctos*) in Game Management Unit 4 during the 5 regulatory years 2019–2023, along with plans for the next 5 regulatory years 2024–2028. A regulatory year (RY) begins on 1 July and ends on 30 June (e.g., RY19 = 1 July 2019–30 June 2020). This report is primarily produced to provide agency staff with data and analysis to help guide and record agency efforts. It is also made available to the public to inform them about wildlife management activities. The Alaska Department of Fish and Game’s (ADF&G, the department) Division of Wildlife Conservation (DWC, the division) publishes these reports on a 5-year cycle to document trends and describe potential changes in data collection activities for brown bear.

I. RY19–RY23 Management Report

Management Area

Unit 4 encompasses Admiralty, Baranof, Chichagof, and adjacent islands (Fig. 1). For management purposes, it is divided into 4 major geographical (or island) units: Admiralty Island, Baranof and Kruzof islands, northeast Chichagof Island, and the remainder of Chichagof Island (Fig. 2). There is also a Northeast Chichagof Controlled Use Area that is separate from the area used for management purposes. The total Unit 4 area contains approximately 5,820 mi² of land and includes more than 5,000 mi of shoreline. Approximately 90% of the unit is within the Tongass National Forest.

Unit 4 is part of the larger Southeast Alaska Alexander Archipelago. The archipelago comprises more than 2,000 islands and contains the largest remaining expanse of temperate old-growth forest in the world. The region is known for its endemic mammal species and serves as a model for island conservation and biogeography (MacDonald and Cook 1996, Cook and MacDonald 2001, Dawson et al. 2007). Sitka, located on Baranof Island, is the largest community in the unit, with approximately 8,500 residents. Other communities include Port Alexander (~75 residents) on Baranof Island; Hoonah (~950 residents), Pelican (~100 residents), Elfin Cove (~25 residents), and Tenakee Springs (~125 residents) on Chichagof Island; and Angoon (~350 residents) on Admiralty Island (U.S. Census Bureau [n.d.]).

Unit 4 contains 4 federally protected wilderness areas. The West Chichagof–Yakobi Wilderness was Alaska’s first federally designated wilderness area. It encompasses 265,286 acres and includes most of Yakobi Island, the entire west side of Chichagof Island, and numerous smaller associated islands. The second designated wilderness area is the 965,255-acre Kootznoowoo Wilderness, which includes Admiralty Island, except for the Mansfield Peninsula and Alaska Native corporation lands near the community of Angoon. Third is the South Baranof Wilderness, which covers 319,568 acres and encompasses much of the southern half of Baranof Island. The fourth designated wilderness is the Pleasant/Lemesurier/Inian Islands Wilderness, which comprises 23,151 acres in Icy Strait between the north end of Chichagof Island and Glacier Bay National Park to the north.

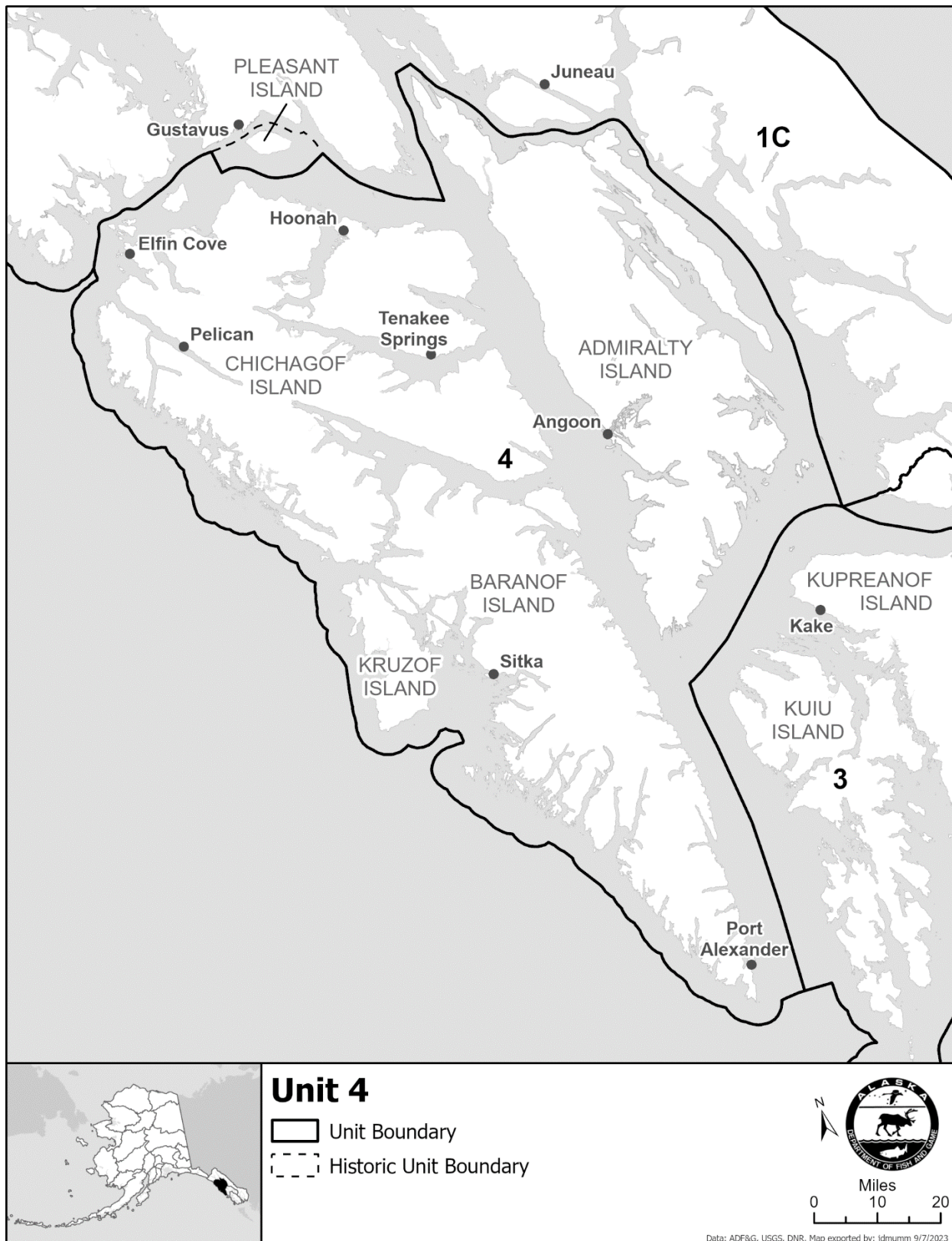
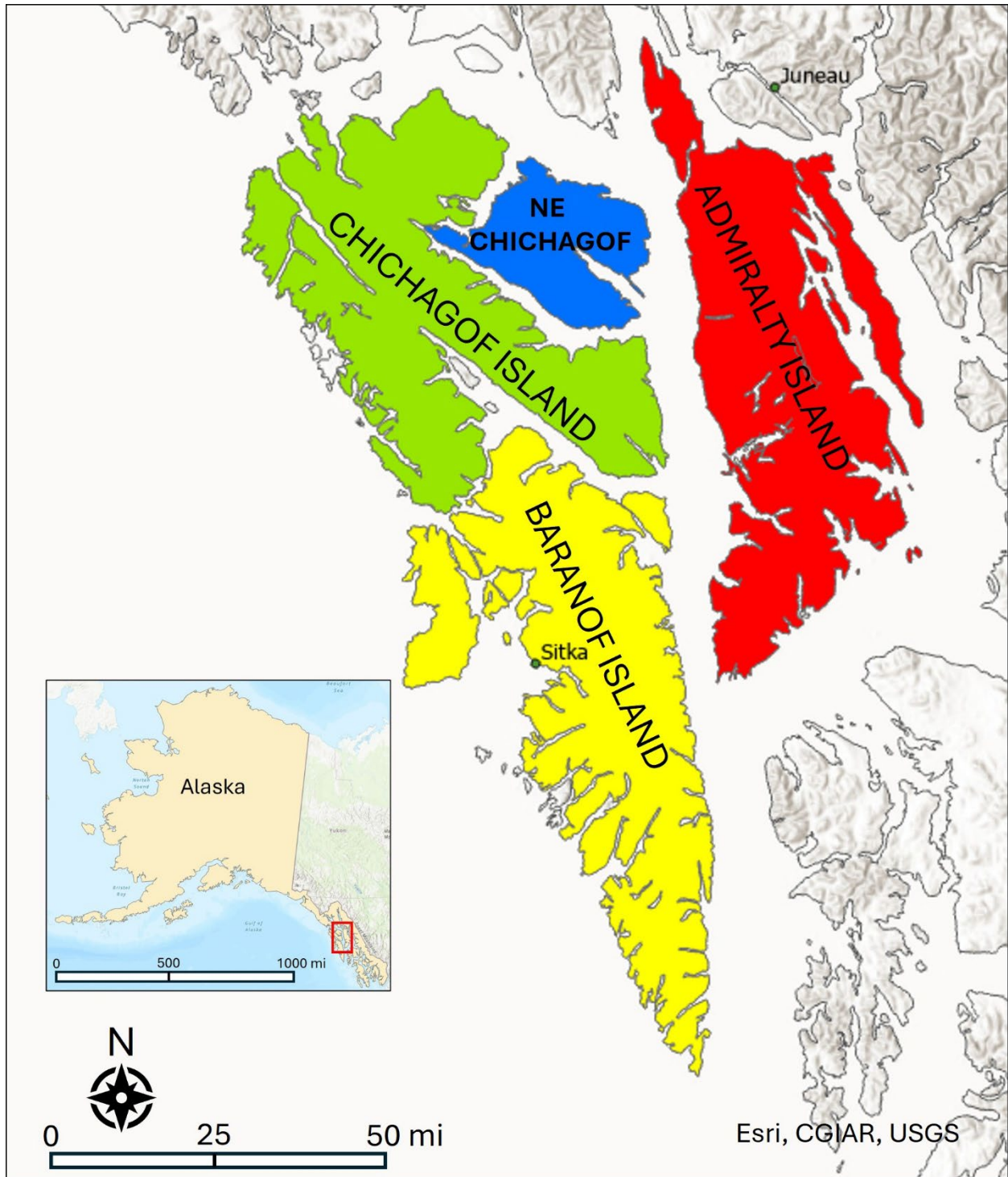


Figure 1. Map of Game Management Unit 4, Southeast Alaska, regulatory years 2019–2023.



Note: NE Chichagof refers to northeast Chichagof Island.

Figure 2. Map of the 4 basic administrative unit areas used for brown bear management within Unit 4, Southeast Alaska, regulatory years 2019–2023.

Unit 4, like most of Southeast Alaska, has a maritime climate with moderate summer and winter temperatures and high precipitation (Harris et al. 1974). Temperatures in Fahrenheit range from the mid-20s in winter to the mid-60s in summer. Rainfall in Sitka averages approximately 85 inches per year, though totals are highly variable from year to year and within the unit. For example, Little Port Walter on the southeast coast of Baranof Island is the second-rainiest place in North America, averaging 235 inches per year (National Oceanic and Atmospheric Administration [n.d.]). Sitka averages 33 inches of snow annually, but annual snowfall is highly variable across the unit and from year to year. In some years, deep, persistent snow can accumulate at sea level in the northern and eastern portions of Unit 4.

The landscape of Unit 4 is characterized by steep, rugged terrain with mountains, fjords, old-growth forests, wetlands, estuaries, muskegs, and short, swift rivers. Elevation within Unit 4 ranges from sea level to 5,328 ft. At low to moderate elevations (<1,500 ft), the predominant vegetative communities are dominated by western hemlock (*Tsuga heterophylla*) and Sitka spruce (*Picea sitchensis*), with old-growth coniferous forests of western red cedar (*Thuja plicata*) and Alaska yellow cedar (*Chamaecyparis nootkatensis*). Mixed-conifer muskeg and deciduous riparian forests are also common. A subalpine timberline band between 1,500 and 2,500 ft in elevation consists mainly of mountain hemlock (*Tsuga mertensiana*) forest. Because of the high rainfall, most natural disturbances to the forest occur through windthrow events and landslides rather than fire.

Unit 4 is isolated from the mainland of Southeast Alaska and supports a limited diversity of land mammals, including Sitka black-tailed deer (*Odocoileus hemionus sitkensis*) and mountain goats (*Oreamnos americanus*). These are the only other large land mammals in Unit 4 besides brown bears.

Summary of Status, Trend, Management Activities, and History of Brown Bear in Unit 4

Unit 4 brown bears are genetically distinct from mainland brown bear populations in Southeast Alaska (Heaton et al. 1996, Talbot and Shields 1996). Bears on Admiralty and Chichagof islands were extensively studied from the early 1980s through the mid-2000s (Schoen and Beier 1990, Titus and Beier 1993, Flynn et al. 2007). These studies, particularly their population density estimates, have largely shaped the department's current harvest management strategies for Unit 4.

In the early twentieth century, market hunting for brown bear hides was common, as were appeals to eliminate brown bears entirely. Although these perspectives still exist, support for conservation and sustainability is the hallmark of modern brown bear management.

The department began requiring brown bear sealing in 1961. Prior to 1989, hunters in Unit 4 were required only to have a hunting license and a metal big game locking tag to hunt bears. Beginning in 1989, registration hunts were developed to help better manage the growing interest in hunting brown bears in Unit 4.

Unit 4 is primarily located within the Tongass National Forest, and the forest lands are managed by the U.S. Forest Service (USFS) for multiple uses. Large-scale industrial logging on both

federal and private lands has resulted in extensive, long-term habitat alteration. Logging and associated road building affect bear distribution and densities. To mitigate this, the northeast portion of Chichagof Island was designated a controlled use area (Fig. 3) that prohibits the use of motorized land vehicles to assist with brown bear hunting. This controlled use area helps maintain hunting opportunity while minimizing the risk of overharvesting due to the accessibility afforded by the logging road system (Young 1991, Titus and Beier 1992).

Brown bears have a customary and traditional use finding under both state and federal regulations. All residents of Unit 4 are federally qualified rural residents and are eligible to hunt brown bears under federal subsistence regulations. Federal managers defer brown bear management to the State of Alaska sport registration hunts. Under federal law, qualified rural hunters may sell brown bear parts, including hides, claws, skulls, teeth, and bones, from bears taken in Unit 4. This conflicts with state law, which prohibits these practices. Subsistence brown bear hunters are also required to salvage meat for human consumption, whereas sport hunters are required to salvage only the hide and skull. The dual authority of federal and state management of wildlife can be confusing to the public and has denied state wildlife managers the use of management options available on nonfederal lands.

Increased human use through high numbers of guides and nonresident hunters, a growing tourism industry, increasing harvests, crowding, and land management practices (mainly mining and logging) worried managers about impacts on brown bear populations and led to the creation of the Unit 4 Brown Bear Management Team (BBMT; ADF&G 1998). The BBMT comprised 15 members nominated by organizations representing both consumptive and nonconsumptive user groups. The team's mission was to review brown bear management issues and human activities affecting bears. The team developed a comprehensive management strategy called the Southeast Alaska Unit 4 Brown Bear Management Strategy (BBMS; Unit 4 BBMT 2000). Despite the group's diversity, members were able to preserve the overriding goal: the continued abundance and health of a world-class brown bear population, unclouded by politics and personal agendas. The BBMS was reconfirmed by the Alaska Board of Game (BOG, board) at its 2015 meeting in Sitka. The BBMS largely drives current brown bear management.

Big-game guides operating on USFS lands are required to obtain special use permits. In 1998, the USFS initiated the Shoreline Outfitter/Guide Environmental Impact Statement to evaluate appropriate levels of commercial use in the Tongass National Forest (U.S. Department of Agriculture Forest Service 2004). That effort was reevaluated in the 2017 Record of Decision for the Shoreline II Environmental Impact Statement, which sought to better align outfitter and guide allocations with the Tongass Land and Resource Management Plan (U.S. Department of Agriculture 2016). Shoreline II authorized up to 80,305 guide service days annually and incorporated measures for an adaptive management strategy.

Guiding nonresident hunters on lands outside the Tongass National Forest was not considered in the BBMS. Currently, 2 guides in Unit 4 are operating on Alaska Native Corporation lands. This has caused some controversy within the guide community, as hunts on private land have the potential to reduce allocations on USFS lands to keep nonresident hunt numbers within the BBMS recommendation. To date, this has not been an issue; however, ADF&G will continue to monitor and provide recommendations if the number of guides operating outside Tongass lands increases.

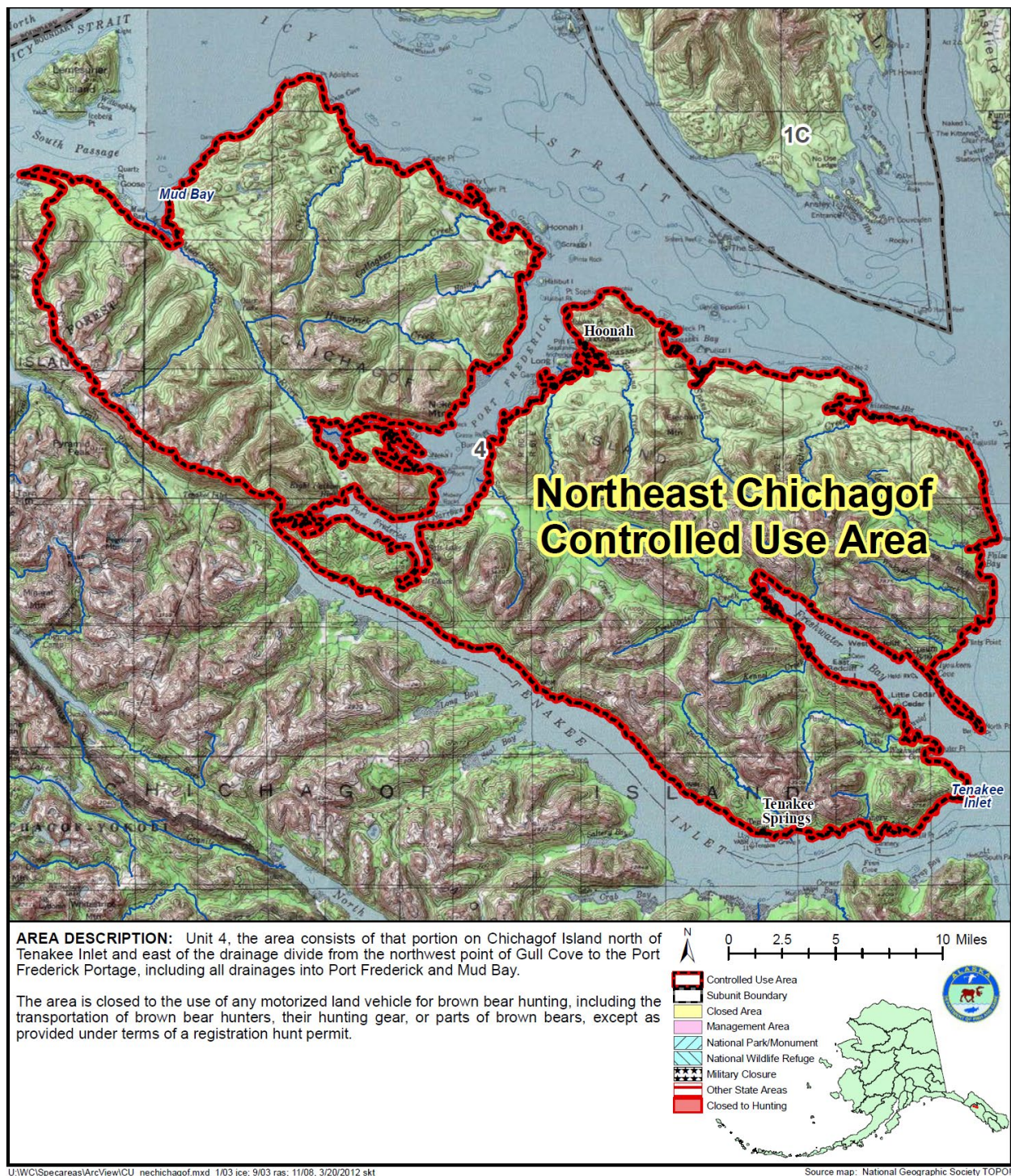


Figure 3. Map of Northeast Chichagof Controlled Use Area, Southeast Alaska. The boundaries of this controlled use area differ from those of the northeast Chichagof Island area used for management purposes.

In Unit 4, there are 4 designated areas closed to brown bear hunting for the purpose of providing bear-viewing opportunities. These areas include 1) the Seymour Canal Closed Area on eastern Admiralty Island, which encompasses the Stan Price State Wildlife Sanctuary and the Pack Creek Bear Viewing Area; 2) the Salt Lake Closed Area near Angoon in Mitchell Bay on Southwest Admiralty Island; 3) the adjacent Mitchell Bay Closed Area; and 4) the Port Althorp Closed Area on Northern Chichagof Island near Elfin Cove. There are 2 additional areas closed to bear hunting for public safety purposes: 1) the Bear Cove Closed Area, which encloses the Medvejie Salmon Hatchery 8 mi south of Sitka, and 2) the Sitka Road System Closed Area, which provides a one-quarter-mile buffer on each side of the state-maintained roads in Sitka.

Sitka has a captive bear facility called Fortress of the Bear, which has held bears for public exhibition and education since 2007. Fortress of the Bear caters mostly to summer cruise ship passengers and provides visitors with an opportunity to view bears in a zoo-like setting. Fortress of the Bear currently houses 5 brown bears and 3 black bears.

Management Direction

EXISTING WILDLIFE MANAGEMENT PLANS

- *Southeast Alaska Unit 4 Brown Bear Management Strategy: Recommendations of a Citizens and Agency Brown Bear Management Advisory Team* (Unit 4 BBMT 2000).

GOALS

1. Promote the long-term conservation and health of Unit 4 brown bear populations and their habitats.
2. Provide for a broad spectrum of public enjoyment and uses, both hunting and nonconsumptive uses, of Unit 4 brown bears that are sustainable.
3. Improve communication between the public and agencies involved in brown bear management.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

In 1985, the BOG made a positive finding for customary and traditional use of brown bears in Unit 4. The finding was readopted in 1992 during a consistency review. At that 1992 BOG meeting, the board set the amount reasonably necessary for subsistence at 5–10 bears annually (5 AAC 99.025(3)).¹

Intensive Management

Not applicable.

¹ AAC stands for the Alaska Administrative Code.

MANAGEMENT OBJECTIVES

1. Maintain an average age of harvested males of at least 6.5 years.
2. Maintain a male-to-female harvest ratio of at least 3:2.
3. Minimize the number of bears killed in defense of life or property (DLP).
4. Maintain the annual human-caused mortality of all brown bears at no more than 4% of each island's estimated population (Admiralty, Baranof, northeast Chichagof, and the remainder of Chichagof), on a 3-year rolling average.
5. Maintain the annual human-caused mortality of females at no more than 1.5% of each island's estimated population, on a 3-year rolling average.

MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Monitor the population of brown bears in Unit 4.

Data Needs

ADF&G has not conducted a Unit 4 brown bear population estimate in over 2 decades. Harvest strategies are linked to estimated populations from earlier studies (Schoen and Beier 1990, Titus and Beier 1993, Flynn et al. 2007).

Methods

Population estimates for Unit 4 were obtained using replicated capture–mark–resight techniques (Miller et al. 1997) in 2 study areas on northern Admiralty and northeast Chichagof islands (Schoen and Beier 1990, Titus and Beier 1993, Flynn et al. 2007). The densities obtained for northern Admiralty and northeast Chichagof were extrapolated to all of Unit 4, based on ADF&G biologists' knowledge of habitat characteristics, predictions from a brown bear habitat capability model (Schoen et al. 1994), anecdotal sightings from the public, and harvest data.

Results and Discussion

The historical extrapolated density estimates were 362 bears/1,000 km² (0.94/mi²) for Admiralty Island, 227 bears/1,000 km² (0.59/mi²) for Baranof Island, and 275 bears/1,000 km² (0.71/mi²) for Chichagof Island. Population estimates were 1,560 bears on Admiralty Island, 1,045 bears on Baranof and Kruzof islands, 354 bears on northeast Chichagof Island, and 1,196 bears on the remainder of Chichagof Island (Schoen and Beier 1990, Titus and Beier 1993, Flynn et al. 2007). BBMS harvest guidelines were based on these population estimates until 2013, when a 2002 estimate (Flynn et al. 2007) was determined to be more precise than the original estimate obtained from the northeast Chichagof study area in 1992. This update resulted in population estimates of 458 bears for northeast Chichagof Island and 1,240 bears for the remainder of Chichagof Island (Fig. 2).

The total Unit 4 brown bear population estimate is 4,303 bears at the lower 95% confidence interval. This estimate is based on available data and modeling, along with the presumption that no significant population change has occurred, as supported by harvest monitoring and anecdotal evidence. The total Unit 4 brown bear population estimate is 4,303 bears at the lower 95% confidence interval. This estimate is based on available data and modeling, along with the presumption that no significant population change has occurred, as supported by harvest monitoring and anecdotal evidence. For management purposes, the lower 95% confidence limit is used as a conservative threshold, and the management strategy is to maintain harvest at or below 4% of the population.

Recommendations for Activity 1.1

A more current population estimate for Unit 4 is desirable and recommended to assess populations and harvest sustainability, and to determine appropriate modifications if necessary.

2. Mortality-Harvest Monitoring and Regulations

ACTIVITY 2.1. Monitor brown bear harvest.

Data Needs

Brown bear sealing requirements began in Alaska in 1961. The data collected during sealing are used in various ways to assess harvest trends and inform in-season management actions.

Methods

During sealing, ADF&G collects data on hunt effort, location, harvest method, transportation mode, and commercial services used. Skull size (length + width) is measured, sex is verified, and a tooth is extracted for age analysis. A plastic locking seal is affixed to the skull and the hide. Hunters are required to report successful hunts within 10 days of harvest, and sealing must occur within 30 days by department staff. These data are stored in an internal department database, the Wildlife Information Network (WinfoNet), and summarized by regulatory year.

Since 1989, hunters have been required to obtain registration permits before hunting bears in Unit 4. There are 2 hunts available for the spring season: RB088 (outside drainages; Fig. 4) and RB089 (inside drainages; Fig. 5). The fall hunt is managed under a unitwide permit, RB077. In addition to the registration hunts, the department began issuing draw hunts for nonresidents hunting with relatives within the second degree of kindred beginning in RY16. The draw hunts mirror the registration hunts with DB077 (3 permits) in the fall and DB088 (2 permits) and DB089 (2 permits) in the spring.

Season and Bag Limit

Unit 4 brown bear season and bag limits are provided in Table 1.

Results and Discussion

Harvest by Hunters

Hunters harvested an average of 107 brown bears (range = 53–157) per regulatory year during RY19–RY23 (Table 2). This is down from an average of 121 bears (range = 111–143) per

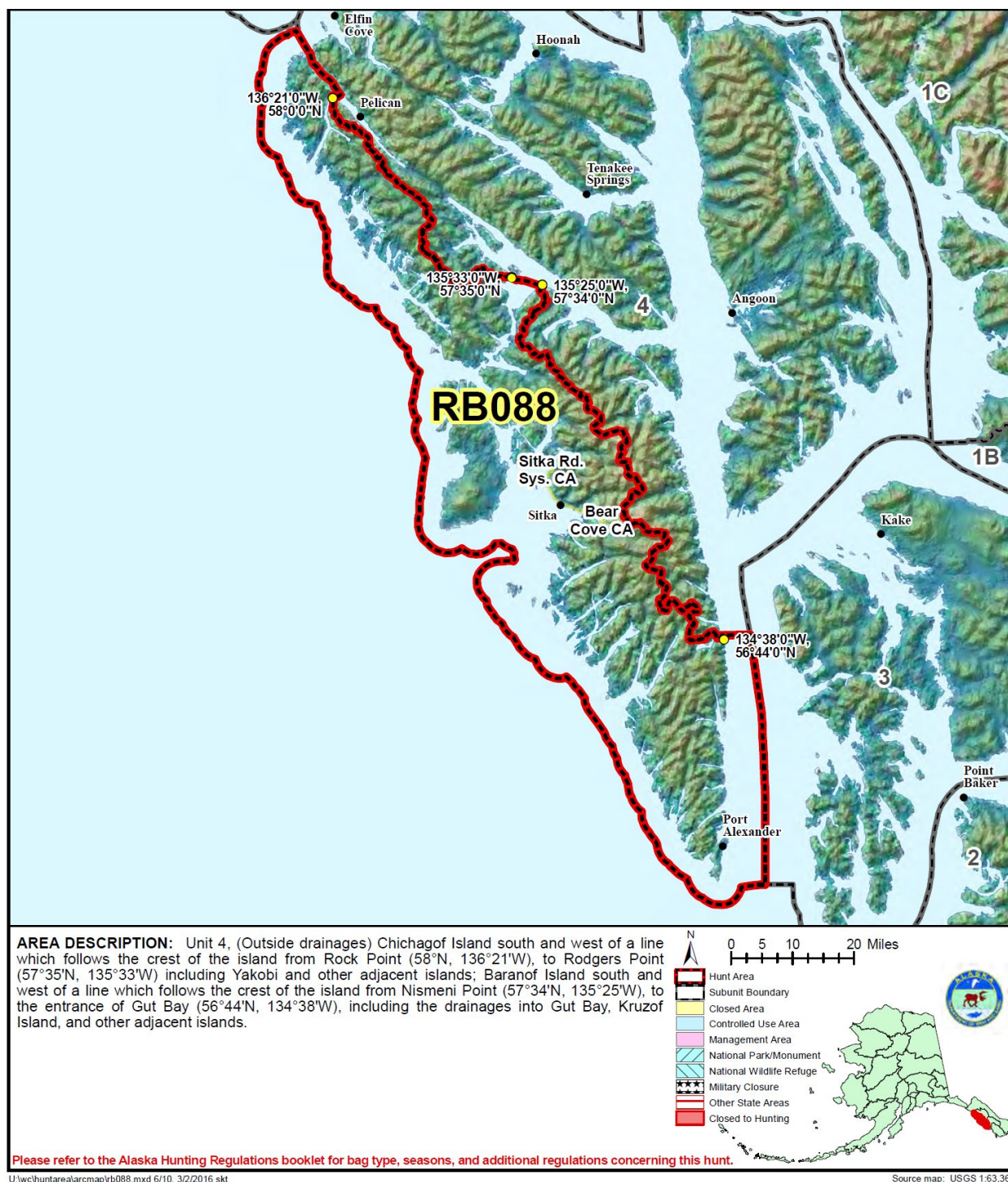
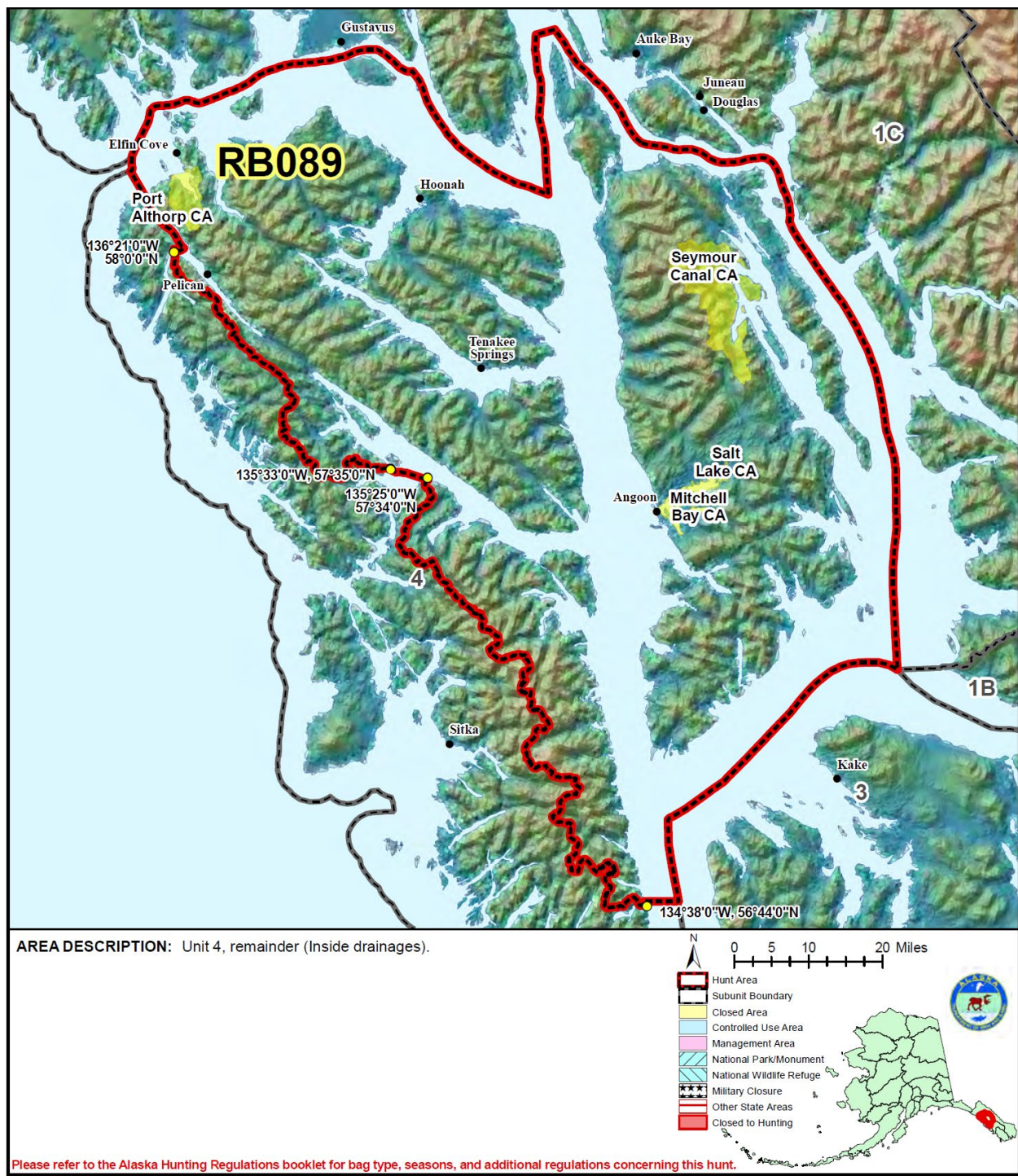


Figure 4. Map of registration brown bear hunt RB088, outside drainages, Unit 4, Southeast Alaska.



Note: Coordinates indicate boundary points.

Figure 5. Map of registration brown bear hunt RB089, inside drainages, Unit 4, Southeast Alaska.

Table 1. Brown bear season and bag limits, Unit 4, Southeast Alaska, regulatory years 2019–2023.

Area	Resident and nonresident open season	Bag limit
Chichagof Island south and west of a line that follows the crest of the island from Rock Point (lat 58°N, long 136°21'W) to Rodgers Point (lat 57°35'N, long 135°33'W), including Yakobi and other adjacent islands; Baranof Island south and west of a line that follows the crest of the island from Nismeni Point (lat 57°34'N, long 135°25'W) to the entrance of Gut Bay (lat 56°44'N, long 134°38'W), including the drainages into Gut Bay and including Kruzof and other adjacent islands.	15 Sep–31 Dec (RB/DB077) 15 Mar–31 May (RB/DB088)	1 bear every 4 regulatory years.
Unit 4, that portion within the Northeast Chichagof Controlled Use Area.	15 Sep–31 Dec (RB/DB077) 15 Mar–20 May (RB/DB089)	1 bear every 4 regulatory years by registration permit only.
Remainder of Unit 4.	15 Sep–31 Dec (RB/DB077) 15 Mar–20 May (RB/DB089)	1 bear every 4 regulatory years.

regulatory year during the previous 5-year period, RY14–RY18. Males accounted for approximately 86% of the harvest, well above the management objective of at least a 3:2 male-to-female harvest ratio. It should be noted that the 5-year average for RY19–RY23 will be biased low; the nonresident brown bear hunting season was closed for the spring portion of RY19 (spring 2020) due to COVID-19.

During RY19–RY23, the average age of harvested males exceeded the management objective of 6.5 years in every year and season, with the average age being 9.8 years for male bears during RY19–RY22. This is nearly identical to the average for the previous reporting period (RY14–RY18). The average age of female bears harvested was 9.8 years, up from 9.4 years during RY14–RY18 (Table 3).

During RY19–RY23, successful hunters spent an annual average of 4.7 days in the field to harvest a bear, similar to the annual average of 4.4 days during RY14–RY18 (Table 3).

Skull size is strongly correlated with age. Brown bears across Alaska reach asymptotic skull growth after 8 years of age (McDonough and Christ 2012, Hilderbrand et al. 2018). Although skull size is not a specific management objective in Unit 4, the average skull size of all males harvested during RY19–RY23 (23.2 inches; Table 3) is an indicator that hunters are selecting for larger, mature bears. This average skull size is slightly larger than that of the previous 5-year reporting period (23.0 inches).

Table 2. Reported brown bear harvest and other mortality, Unit 4, Southeast Alaska, regulatory years 2014–2023.

Regulatory year	Season	Hunter harvest				Nonhunting mortality ^a				Total estimated mortality					
		M	F	Unk ^b	Total	M	F	Unk	Total	M	(%)	F	(%)	Unk	Total
2014	Fall 2014	22	8	0	30	2	6	0	8	24	(63)	14	(37)	0	38
	Spring 2015	62	19	0	81	1	2	1	4	63	(75)	21	(25)	1	85
	Total	84	27	0	111	3	8	1	12	87	(71)	35	(29)	1	123
2015	Fall 2015	10	11	0	21	0	5	0	5	10	(38)	16	(62)	0	26
	Spring 2016	82	10	0	92	1	0	0	1	83	(89)	10	(11)	0	93
	Total	92	21	0	113	1	5	0	6	93	(78)	26	(22)	0	119
2016	Fall 2016	19	12	0	31	5	7	1	13	24	(56)	19	(44)	1	44
	Spring 2017	77	11	0	88	1	1	0	2	78	(87)	12	(13)	0	90
	Total	96	23	0	119	6	8	1	15	102	(77)	31	(23)	1	134
2017	Fall 2017	23	14	0	37	10	3	0	13	33	(66)	17	(34)	0	50
	Spring 2018	73	7	0	80	3	0	0	3	76	(92)	7	(8)	0	83
	Total	96	21	0	117	13	3	0	16	109	(82)	24	(18)	0	133
2018	Fall 2018	30	13	0	43	11	10	0	21	41	(64)	23	(36)	0	64
	Spring 2019	90	10	0	100	0	1	0	1	90	(89)	11	(11)	0	101
	Total	120	23	0	143	11	11	0	22	131	(79)	34	(21)	0	165
2019	Fall 2019	13	9	0	22	4	5	0	9	17	(55)	14	(45)	0	31
	Spring 2020 ^c	28	3	0	31	2	0	0	2	30	(91)	3	(9)	0	33
	Total	41	12	0	53	6	5	0	11	47	(73)	17	(27)	0	64
2020	Fall 2020	35	8	0	43	10	7	1	18	45	(75)	15	(25)	1	61
	Spring 2021	107	7	0	114	2	0	0	2	109	(94)	7	(6)	0	116
	Total	143	14	0	157	12	7	1	20	155	(88)	21	(12)	1	177
2021	Fall 2021	14	6	0	20	10	13	1	24	24	(56)	19	(44)	1	44
	Spring 2022	63	7	0	70	1	1	0	2	64	(89)	8	(11)	0	72
	Total	77	13	0	90	11	14	1	26	88	(77)	27	(23)	1	116

-continued-

Table 2. Reported brown bear harvest and other mortality, Unit 4, Southeast Alaska, regulatory years 2014–2023, continued.

Regulatory year	Season	Hunter harvest				Nonhunting mortality ^a				Total estimated mortality					
		M	F	Unk ^b	Total	M	F	Unk	Total	M	(%)	F	(%)	Unk	Total
2022	Fall 2022	19	8	0	27	9	3	2	14	28	(72)	11	(28)	2	41
	Spring 2023	75	12	0	87	2	2	0	4	77	(85)	14	(15)	0	91
	Total	94	20	0	114	11	5	2	18	105	(81)	25	(19)	2	132
2023	Fall 2023	22	8	0	30	5	2	0	7	27	(73)	10	(27)	0	37
	Spring 2024	83	7	0	90	2	2	0	4	85	(90)	9	(10)	0	94
	Total	105	15	0	120	7	4	0	11	112	(86)	19	(14)	0	131

^a Includes bears killed in defense of life or property, agency kills, illegal kills, research mortalities, vehicle collisions, and any other human-caused mortality.

^b Includes wounding loss.

^c Nonresident brown bear season closed for spring 2020 in response to COVID-19.

Table 3. Successful brown bear hunter effort, mean skull size, and mean age, Unit 4, Southeast Alaska, regulatory years 2014–2023.

Regulatory year	Season	Successful hunter effort			Harvested brown bears							
					Mean skull size (inches)				Average age (years)			
		Total days	No. hunters	Days per hunter	Male	N ^a	Female	N ^a	Male	N ^b	Female	N ^b
2014	Fall 2014	151	30	5.0	22.0	22	21.1	8	7.3	22	10.3	8
	Spring 2015	357	81	4.4	23.3	62	20.4	19	11.4	60	10.8	19
	Total	508	111	4.6	23.0	84	20.6	27	10.3	82	10.7	27
2015	Fall 2015	98	21	4.7	22.2	10	20.6	11	6.5	10	8.5	11
	Spring 2016	381	92	4.1	23.2	80	20.4	9	10.1	80	7.3	10
	Total	479	113	4.2	23.1	90	20.5	20	9.7	90	7.9	21
2016	Fall 2016	112	31	3.6	22.3	19	20.6	12	8.5	19	7.8	12
	Spring 2017	475	88	5.4	22.9	77	20.8	11	9.3	76	9.9	10
	Total	587	119	4.9	22.8	96	20.7	23	9.1	95	8.8	22

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Table 3. Successful brown bear hunter effort, mean skull size, and mean age, Unit 4, Southeast Alaska, regulatory years 2014–2023, continued.

Regulatory year	Season	Successful hunter effort			Harvested brown bears							
		Total days	No. hunters	Days per hunter	Mean skull size (inches)				Average age (years)			
					Male	N ^a	Female	N ^a	Male	N ^b	Female	N ^b
2017	Fall 2017	140	37	3.8	22.2	23	20.2	13	7.8	23	7.7	13
	Spring 2018	360	80	4.5	23.5	73	20.4	7	11.0	72	8.1	7
	Total	500	117	4.3	23.2	96	20.3	20	10.2	95	7.8	20
2018	Fall 2018	125	43	2.9	22.5	30	21.0	13	9.0	30	11.2	13
	Spring 2019	442	100	4.4	23.2	90	21.0	10	9.9	81	11.4	10
	Total	567	143	4.0	23.0	120	21.0	23	9.6	111	11.3	23
2019	Fall 2019	94	22	4.3	22.1	13	20.9	9	8.3	12	10.9	9
	Spring 2020	172	31	5.5	22.5	28	20.8	3	8.0	26	9.7	3
	Total	266	53	5.0	22.4	41	20.8	12	8.1	38	10.6	12
2020	Fall 2020	131	43	3.0	22.8	36	20.8	8	9.5	30	12.4	8
	Spring 2021	541	114	4.7	23.4	107	20.5	7	10.4	104	10.0	7
	Total	672	157	4.3	23.3	143	20.6	14	10.2	134	11.3	15
2021	Fall 2021	93	20	4.7	21.9	13	20.5	6	8.1	12	10.5	6
	Spring 2022	349	70	5.0	23.1	61	21.1	7	10.2	59	8.3	7
	Total	441	90	4.9	23.2	75	21.0	13	9.9	71	9.3	13
2022	Fall 2022	126	27	4.7	23.2	19	21.0	8	8.6	19	9.0	8
	Spring 2023	450	87	5.2	23.1	75	20.3	12	9.8	74	9.2	12
	Total	576	114	5.1	23.1	104	20.6	20	9.5	93	9.1	20
2023	Fall 2023	134	30	4.5	22.4	22	20.8	6	8.3	22	10.0	7
	Spring 2024	417	90	4.6	23.6	83	20.8	7	10.6	83	8.3	7
	Total	551	120	4.6	23.3	105	20.8	13	10.1	105	9.1	14

^a Some damaged skulls cannot be measured.^b Due to laboratory results, age is not obtained for all teeth collected.

During RY19–RY23, Unit 4 staff summarized annual brown bear mortality (from both hunting and other human causes) by regulatory year (Table 4) and by calendar year (Table 5). Summarizing by calendar year has enabled the Sitka ADF&G area biologist to calculate annual mortality and the running 3-year average for Unit 4 as it relates to guidelines in the BBMS. This is not a regulatory change. Most hunting mortality occurs in the spring, and this data analysis method allows adjustments to the fall season, if necessary, to maintain harvest goals and objectives while limiting impacts on annual brown bear hunting opportunity. The USFS permits hunts on a calendar-year basis, so relating annual mortality to USFS hunt administration provides a coordinated approach.

During RY19–RY23, the percentages of total harvest from each of the 4 management areas within the unit were as follows: Admiralty Island = 39%, Baranof and Kruzof islands = 24%, northeast Chichagof Island = 6%, and the remainder of Chichagof Island = 31% (Table 4).

The unitwide 3-year running mean BBMS guideline for all human-caused mortality for this reporting period was 172 bears (Admiralty Island = 62 bears, Baranof Island and adjacent islands = 42 bears, northeast Chichagof Island = 18 bears, and the remainder of Chichagof Island = 50 bears). During 2022–2024, 128 bears were killed annually. The average annual female mortality during that time was one-third of the maximum allowable under the BBMS (23 bears compared to 65 bears). The 2022–2024 3-year average for human-caused mortality was well within the BBMS guidelines for mortality (Table 6).

Permit Hunts

REGISTRATION PERMITS AND SUCCESS

Brown bear hunters in Unit 4 are required to obtain a registration permit before hunting. During RY19–RY23, the department issued an average of 654 registration permits per regulatory year (Table 7). This is slightly higher than the previous 5-year (RY14–RY18) average of 633. Forty-nine percent of registration permits were issued for the spring seasons (RB088 and RB089) in RY19–RY23, and of these permits, 65% were issued for the inside drainages (RB089). Fifty-one percent of hunters who obtained a spring registration permit did not hunt. The average success rate for RY19–RY23 was 40% for RB088 and 53% for RB089.

On average, the department issued 337 permits annually for the fall hunt (RB077) during RY19–RY23, compared with 290 permits annually during RY14–RY18 (Table 7) and 240 during RY09–RY13. Seventy-six percent of permittees did not hunt (Table 7). Local Unit 4 hunters commonly obtain permits as a precaution in case they encounter a bear. These hunters do not intend to target brown bears specifically, but they want a permit in case they encounter an exceptional trophy bear during fall deer hunting or if they have to shoot a bear in defense of their life. A locking tag and registration permit would entitle the hunter to keep a bear killed in a DLP situation. Hunters who targeted brown bears in the fall reported a 36% average annual success rate during RY19–RY23 (Table 7). Fall success rates can be highly variable depending on weather conditions and the timing of local salmon runs.

Table 4. Brown bear hunting pressure, harvest, and success rate by major geographic areas, Unit 4, Southeast Alaska, regulatory years 2019–2023.

Hunt area	Regulatory year	No. hunters	Brown bears				Success rate (%)	Total harvest	Percent of estimated population ^a
			M	(%)	F	(%)			
Northeast	2019	16	4	(100)	0	(0)	(25)	4	(0.8)
Chichagof Island	2020	30	8	(89)	1	(11)	(30)	9	(2.0)
	2021	11	1	(100)	0	(0)	(9)	1	(0.2)
	2022	23	6	(75)	2	(25)	(35)	8	(1.7)
	2023	23	7	(78)	2	(22)	(39)	9	(2.0)
Remainder of Chichagof Island	2019	39	7	(58)	5	(42)	(31)	12	(1.0)
	2020	87	46	(96)	2	(4)	(55)	48	(3.9)
	2021	66	25	(86)	4	(14)	(44)	29	(2.3)
	2022	66	33	(89)	4	(11)	(56)	37	(3.0)
	2023	70	37	(90)	4	(10)	(59)	41	(3.3)
Baranof and Kruzof islands	2019	56	11	(65)	6	(35)	(30)	17	(1.6)
	2020	84	33	(89)	4	(11)	(44)	37	(3.5)
	2021	47	15	(71)	6	(29)	(45)	21	(2.0)
	2022	55	21	(78)	6	(22)	(49)	27	(2.6)
	2023	63	22	(79)	6	(21)	(44)	28	(2.7)
Admiralty Island	2019	53	19	(95)	1	(5)	(38)	20	(1.3)
	2020	116	55	(87)	8	(13)	(54)	63	(4.0)
	2021	87	36	(92)	3	(8)	(45)	39	(2.5)
	2022	75	34	(81)	8	(19)	(56)	42	(2.7)
	2023	75	39	(93)	3	(7)	(56)	42	(2.7)
Unit 4 total	2019	171	41	(77)	12	(23)	(31)	53	(1.2)
	2020	324	142	(90)	15	(10)	(48)	157	(3.6)
	2021	220	77	(86)	13	(14)	(41)	90	(2.1)
	2022	223	94	(82)	20	(18)	(51)	114	(2.6)
	2023	234	105	(88)	15	(12)	(51)	120	(2.8)

^a Population estimates are 458 brown bears in northeast Chichagof Island, 1,240 brown bears in the remainder of Chichagof Island, 1,050 brown bears in Baranof and Kruzof islands, 1,560 brown bears in Admiralty Island, and 4,308 brown bears in Unit 4.

^b Includes Unit 4 hunts that could not be assigned to specific locations.

DRAWING PERMITS

ADF&G offers 7 second-degree kindred draw permits annually. The fall hunt (DB077) was undersubscribed in RY19 and RY23. Approximately half of the permit holders hunted during RY19–RY23, with a 59% success rate (Table 8).

Table 5. Unit 4, Alaska, brown bear total human-caused mortality by major geographic areas, calendar years 2019–2024.

Hunt area	Calendar year	Brown bears					Total mortality ^a	Percent of estimated population ^b
		M	(%)	F	(%)	Unknown		
Northeast Chichagof Island	2019	5	(71)	2	(29)	0	7	(1.5)
	2020	10	(100)	0	(0)	0	10	(2.2)
	2021	9	(90)	1	(10)	0	10	(2.2)
	2022	9	(64)	5	(36)	0	14	(3.1)
	2023	9	(82)	2	(18)	0	11	(2.4)
	2024	8	(73)	3	(27)	0	11	(2.4)
Remainder of Chichagof Island	2019	29	(78)	8	(22)	0	37	(3.0)
	2020	17	(89)	2	(11)	0	19	(1.5)
	2021	40	(93)	3	(7)	0	43	(3.5)
	2022	31	(86)	5	(14)	0	36	(2.9)
	2023	35	(88)	5	(12)	0	40	(3.2)
	2024	24	(92)	2	(8)	0	26	(2.1)
Baranof and Kruzof islands	2019	27	(82)	6	(18)	0	33	(3.1)
	2020	24	(71)	10	(29)	0	34	(3.2)
	2021	32	(70)	14	(30)	1	47	(4.5)
	2022	21	(68)	10	(32)	2	33	(3.1)
	2023	22	(81)	5	(19)	0	27	(2.6)
	2024	33	(75)	11	(25)		44	(4.2)
Admiralty Island	2019	46	(84)	9	(16)	0	55	(3.5)
	2020	25	(81)	6	(19)	0	31	(2.0)
	2021	52	(88)	7	(12)	0	59	(3.8)
	2022	31	(100)	0	(0)	0	31	(2.0)
	2023	37	(77)	11	(23)	0	48	(3.1)
	2024	38	(97)	1	(3)	0	39	(2.5)
Unit 4 total	2019	98	(76)	31	(24)	0	132	(3.1)
	2020	76	(81)	18	(19)	0	94	(2.2)
	2021	133	(84)	25	(16)	1	159	(3.7)
	2022	92	(81)	20	(19)	2	114	(2.6)
	2023	103	(82)	23	(18)	0	126	(2.9)
	2024	103	(86)	17	(14)	0	120	(2.8)

^a Human-caused mortality includes mortalities resulting from defense of life or property, agency kills, illegal kills, research mortalities, vehicle collisions, and any other human-caused mortality.

^b Population estimates are 458 brown bears in northeast Chichagof Island, 1,240 brown bears in the remainder of Chichagof Island, 1,050 brown bears in Baranof and Kruzof islands, 1,560 brown bears in Admiralty Island, and 4,308 brown bears in Unit 4.

Table 6. Brown bear human-caused mortality 3-year running average compared to Brown Bear Management Strategy guidelines, Unit 4, Southeast Alaska, calendar years 2022–2024.

Island	BBMS ^a guideline mortality		2022–2024 3-year average	
	Total bears	Females	Total bears	Females
Admiralty	62	23	40	4
Baranof	42	16	35	9
Northeast Chichagof	18	7	13	4
Chichagof	50	19	33	4
Total	172	65	121	21

Source: (Unit 4 Brown Bear Management Team 2000).

^a BBMS stands for the Brown Bear Management Strategy.

Hunter Residency

Nonresident hunters take most of the brown bears harvested in Unit 4. They accounted for 72% of the total sport harvest during RY19–RY23. Nonlocal residents reported 19% and local residents reported 9% during the reporting period (Table 9).

Harvest Chronology

The spring season accounted for approximately 73% of the annual harvest (Table 10). May is by far the most popular month to harvest a brown bear. Most hunters prefer the spring season, when the weather is favorable and bears are easier to locate on grass or sedge flats. Additionally, spring bears generally have longer hair (if not rubbed) than in the fall, making the hide more desirable (Mooney 2015). The breeding season in May also makes bears more vulnerable to hunters. There can be annual variation, but 39–56% of the spring harvest occurs during May 11–20 (Table 11).

The fall harvest has a higher percentage of females than the spring harvest (27% in the fall versus 9% in the spring during RY19–RY23; Table 2). Fall bear hunting usually occurs along salmon streams in thick vegetation. It is illegal to harvest sows accompanied by cubs, but by fall, some sows have separated from their cubs, which makes the sows legal for harvest.

Transport Methods

Nearly all brown bear harvest in Unit 4 is conducted through boat-based hunts. Between RY14 and RY23, 95% of successful brown bear hunters used boats as their main source of transportation (Table 12).

Other Mortality

Under the BBMS, the department manages brown bears by total human-caused mortality. This includes hunter harvest, DLP, agency kills, illegal kills, research mortalities, vehicle collisions, and other human-caused mortalities. During RY19–RY23, an average of 17 bears (range = 11–26) per regulatory year were killed in addition to the annual hunter harvest (Table 2). One of the department’s management objectives is to minimize the number of bears killed under DLP rules. Department staff conduct several brown bear safety classes annually for a variety of audiences

Table 7. Brown bear registration hunt permit summary statistics, Unit 4, Southeast Alaska, regulatory years 2014–2023.

Regulatory year	Permits				Brown bears			Success rate (%)
	Hunt	No. issued	Not hunted	Hunted	Harvest	Male	Female	
2014	RB077	271	179	92	30	22	8	(33)
	RB088	106	63	43	10	8	2	(23)
	RB089	236	94	142	71	55	16	(50)
2015	RB077	241	167	74	21	10	11	(28)
	RB088	112	64	48	19	17	2	(40)
	RB089	237	77	160	73	66	7	(46)
2016	RB077	326	227	99	31	19	12	(31)
	RB088	112	59	53	15	13	2	(28)
	RB089	224	84	140	72	64	8	(51)
2017	RB077	268	190	78	37	23	14	(47)
	RB088	104	58	46	16	16	0	(35)
	RB089	223	91	132	63	56	7	(48)
2018	RB077	342	252	90	41	28	13	(46)
	RB088	126	77	49	23	22	1	(47)
	RB089	239	107	132	76	66	10	(58)
2019	RB077	327 ^a	241	83	22	13	9	(27)
	RB088	116	80	36	10	8	2	(28)
	RB089	180	129	51	21	20	1	(41)
2020	RB077	392 ^a	270	115	43	36	7	(36)
	RB088	124 ^a	69	54	22	22	0	(41)
	RB089	247 ^a	91	151	89	82	7	(59)
2021	RB077	341 ^a	276	64	20	14	6	(31)
	RB088	106	70	36	13	9	4	(36)
	RB089	199	83	116	54	52	2	(47)
2022	RB077	298	234	64	27	19	8	(42)
	RB088	91	57	34	14	14	0	(41)
	RB089	203 ^a	77	123	71	59	12	(58)
2023	RB077	325 ^a	259	66	30	22	8	(45)
	RB088	111	66	45	24	21	3	(53)
	RB089	212 ^a	93	118	64	60	4	(54)

^a Includes unreported permits.

Table 8. Brown bear draw hunt permit summary statistics, Unit 4, Southeast Alaska, regulatory years 2019–2023.

Regulatory year	Permits				Brown bears			Success rate (%)
	Hunt	Permits issued	Not hunted	Hunted	Harvest	Male	Female	
2019	DB077	2	1	1	0	0	0	(0)
	DB088	1	1	0	0	0	0	–
	DB089	2	2	0	0	0	0	–
2020	DB077	3	2	1	0	0	0	(0)
	DB088	2	1	1	1	1	0	(100)
	DB089	2	0	2	2	2	0	(100)
2021	DB077	3	1	2	1	0	1	(50)
	DB088	2	1	1	1	0	1	(100)
	DB089	2	1	1	1	1	0	(100)
2022	DB077	3	2	1	0	0	0	(0)
	DB088	2	1	1	1	1	0	(100)
	DB089	2	1	1	1	1	0	(100)
2023	DB077	2	1	1	0	0	0	(0)
	DB088	2	0	2	1	1	0	(50)
	DB089	2	0	2	1	1	0	(50)

Table 9. Brown bear harvest by hunter residency, Unit 4, Southeast Alaska, regulatory years 2019–2023.

Regulatory year	Local resident ^a		Nonlocal resident ^b		Nonresident ^c		Total
	No.	(%)	No.	(%)	No.	(%)	
2019	20	(38)	19	(36)	14	(26)	53
2020	11	(7)	31	(20)	115	(73)	157
2021	4	(4)	14	(16)	72	(80)	90
2022	6	(5)	24	(21)	84	(74)	114
2023	7	(6)	15	(12)	98	(82)	120
Average	9.5	(9)	20.5	(19)	77	(72)	107

^a Local residents live in Unit 4.

^b Alaska residents live in Alaska outside of Unit 4.

^c Nonresidents live outside of Alaska.

and work with local communities to reduce human-brown bear interactions resulting from improper garbage handling. It is difficult to quantify whether these efforts have been successful. Also, public attitudes and perceptions of brown bears vary, making it difficult to eliminate DLPs. At times, bears pose public safety threats, and it is appropriate that they be removed. Low salmon returns or failed berry crops can increase bear activity in communities as bears search for food before hibernation.

Table 10. Brown bear harvest chronology by month, Unit 4, Southeast Alaska, regulatory years 2014–2023.

Regulatory year	Sep		Oct		Nov		Apr		May		Total
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	
2014	22	(20)	6	(5)	2	(2)	6	(5)	75	(68)	111
2015	15	(13)	5	(4)	1	(1)	12	(11)	80	(71)	113
2016	17	(14)	9	(8)	5	(4)	7	(6)	81	(68)	119
2017	25	(21)	11	(10)	1	(1)	12	(10)	68	(58)	117
2018	33	(23)	9	(6)	1	(1)	7	(5)	93	(65)	143
2019	18	(34)	3	(6)	1	(2)	0	(0)	31	(58)	53
2020	32	(20)	9	(6)	2	(1)	6	(4)	108	(69)	157
2021	14	(15)	5	(6)	1	(1)	8	(9)	62	(69)	90
2022	22	(19)	2	(2)	2	(2)	5	(4)	82	(72)	114 ^a
2023	26	(22)	2	(2)	2	(2)	9	(7)	81	(67)	120
Average	22	(20)	6	(5)	2	(2)	7	(6)	76	(67)	113

^a Includes 1 bear harvested in December.

Table 11. Brown bear spring harvest chronology by peak harvest periods, Unit 4, Southeast Alaska, regulatory years 2014–2023.

Spring of	April 21–30		May 1–10		May 11–20		May 21–31	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)
2014	5	(6)	33	(41)	34	(43)	8	(10)
2015	9	(10)	30	(34)	38	(43)	12	(13)
2016	6	(7)	23	(26)	48	(55)	10	(12)
2017	12	(15)	23	(29)	33	(41)	12	(15)
2018	6	(6)	33	(33)	44	(45)	16	(16)
2019	0	(0)	6	(19)	17	(55)	8	(26)
2020	6	(5)	41	(36)	54	(47)	13	(12)
2021	8	(11)	24	(34)	27	(39)	11	(16)
2022	5	(6)	23	(26)	49	(56)	10	(12)
2023	9	(10)	33	(36)	32	(36)	16	(18)
Average	6.5	(8)	27	(32)	38	(46)	11.5	(14)

During RY19–RY23, brown bear kills unrelated to hunting occurred most frequently near Sitka (33 bears), followed by Hoonah (25 bears). In the past, Hoonah typically had the most nonsport hunting kills. However, with the development of tourism in Icy Point Strait, the city of Hoonah has taken measures to reduce brown bear DLPs. These measures include bear-resistant trash cans and biweekly garbage collection. Brown bear-related tourism has been a substantial boost to Hoonah’s economy, providing an incentive to reduce unnecessary bear removals. Unfortunately, Sitka has not followed suit. In 2021, Sitka had 14 nonsport hunting-related brown bear kills. Angoon had only 5 during the whole 5-year reporting period.

Table 12. Brown bear harvest and percent by transport method, Unit 4, Southeast Alaska, regulatory years 2014–2023.

Regulatory year	Airplane		Boat		Walk		ATV ^a		Highway vehicle	
	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)
2014	3	(3)	104	(94)	3	(2)	0	(0)	1	(1)
2015	4	(3)	106	(94)	3	(3)	0	(0)	0	(0)
2016	2	(2)	109	(92)	5	(4)	1	(1)	1	(1)
2017	5	(4)	109	(93)	3	(3)	0	(0)	0	(0)
2018	1	(1)	138	(96)	3	(2)	1	(1)	0	(0)
2019	2	(4)	51	(96)	0	(0)	0	(0)	0	(0)
2020	1	(1)	154	(98)	2	(1)	0	(0)	0	(0)
2021	7	(8)	81	(90)	1	(1)	0	(0)	1	(1)
2022	4	(3)	109	(96)	1	(1)	0	(0)	0	(0)
2023	1	(1)	118	(98)	0	(0)	1	(1)	0	(0)
Average	3	(3)	108	(95)	2	(2)	0	(0)	0	(0)

^a ATV stands for all-terrain vehicle.

Alaska Board of Game Actions and Emergency Orders

At the January 2023 Board of Game meeting in Ketchikan, the board reviewed 3 proposals related to Unit 4 brown bears. These proposals included opening the Mitchell Bay Closed Area and changing the RB/DB088 and RB/DB089 boundaries in the Pelican and Hoonah area. The board did not approve any of these proposals.

No emergency orders were issued during RY19–RY23.

Recommendations for Activity 2.1.

Continue.

3. Habitat Assessment-Enhancement

No habitat assessment or enhancement projects were conducted for brown bears in Unit 4 during RY19–RY23. However, it is worth noting that the village of Hoonah made several changes to community-wide trash handling that appear to be having a positive effect on bear issues in town. Using tourism funds, Hoonah purchased bear-resistant trash containers for every household in Hoonah and several bear-resistant community dumpsters, as well as implemented twice-weekly trash pickup for half the year. The economy in Hoonah has shifted heavily toward tourism with the recent development of Icy Strait Point. As a result, there is an economic incentive to reduce nonhunting-related brown bear mortality.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

Brown bear sealing data are stored on an internal ADF&G database, WinfoNet.

Agreements

A memorandum of understanding between ADF&G and the USFS (19-MU-11100500-036) took effect in July 2019 for 5 years. The memorandum was renewed and now expires in June 2029 (24-MU-11100500-066).

Permitting

No permits were required to manage brown bears in Unit 4 during RY19–RY23.

Conclusions and Management Recommendations

Brown bear harvest is conservative and sustainable throughout Unit 4. The recommendations and guidelines in the BBMS provide appropriate management. The department will monitor brown bear mortality and, when necessary for brown bear conservation, make recommendations or take in-season regulatory action.

Unit 4 brown bear harvest and human-caused mortality were within guidelines established in the BBMS, and most management objectives were met during RY19–RY23. During the reporting period, hunters harvested an average of 107 bears per regulatory year. The current 3-year running average of total human-caused mortality is 128 bears per calendar year. The current 3-year running average of total female mortality is 23 bears per calendar year. Hunters harvested 86% males during the reporting period, which is comfortably above the management objective of a 3:2 male-to-female ratio. The average age of harvested male bears is also above the management objective.

The department continued to deliver education and outreach to the public in an effort to minimize bears killed in DLP. These efforts included bear safety and awareness presentations given on multiple occasions, media campaigns (including social media), annual bear awareness days, and consultation with the City and Borough of Sitka on its bear task force. It is difficult to quantify the success of these efforts. The number of nonsport-hunting human-caused mortalities for RY19–RY23 was higher than in the previous reporting period (Table 2). Hoonah has seen a reduction in DLPs as a result of specific measures, whereas Sitka DLPs vary widely from year to year. It is unrealistic to expect DLPs to be eliminated entirely, and public safety will continue to take precedence over individual bears that pose a threat.

ADF&G will continue to provide education and outreach to the community. However, some circumstances are out of the department's control, such as poor berry production or inconsistent fish runs that increase bear activity in towns. Frequent turnover from seasonal tourism work and short-term Coast Guard assignments brings a continual flow of new residents to many Southeast Alaska communities. This transient population increases the need for consistent education on living responsibly with bears, particularly regarding securing attractants. The success of both human and bear safety is dependent on everyone's participation in securing attractants.

The BBMS directs the department to manage using a 4-island strategy. Harvests and total mortality have remained within guidelines for all 4 major geographic areas during RY19–RY23.

Nonresident hunters, who must be accompanied by an Alaska-registered guide, account for 72% of the harvest. Under the BBMS strategy guidelines, up to 20 guides may conduct up to 148 hunts in Unit 4. Currently, there are 19 guides with 137 hunts allocated. The USFS currently permits 17 of those guides, 2 of which have 7 hunts permitted on private Alaska Native Corporation lands. There is potential to add 1 guide and up to 11 hunts, and the department does not anticipate this would result in significantly increased harvest. The USFS conducted a prospectus for additional guiding opportunities in Southeast Alaska in 2025, and the USFS District Ranger did not offer additional brown bear hunting in Unit 4.

II. Project Review and RY24–RY28 Plan

Review of Management Direction

MANAGEMENT DIRECTION

No change in management direction from RY19–RY23.

GOALS

No change in goals from RY19–RY23.

CODIFIED OBJECTIVES

Amounts Reasonably Necessary for Subsistence Uses

In 1985, the BOG made a positive finding for customary and traditional use of brown bears in Unit 4. That finding was readopted in 1992 during a consistency review. At that 1992 BOG meeting, the board set the amount reasonably necessary for subsistence at 5–10 bears annually (5 AAC 99.025(3)).

Intensive Management

Not applicable.

MANAGEMENT OBJECTIVES

No change in management objectives from RY19–RY23.

REVIEW OF MANAGEMENT ACTIVITIES

1. Population Status and Trend

ACTIVITY 1.1. Monitor the population of brown bears in Unit 4.

Data Needs

No formal population estimate has been conducted in Unit 4 for nearly 2 decades. Current harvest strategies are based on estimated populations; therefore, a modern population estimate for Unit 4 would improve management.

Methods

The methods are to be determined in consultation with the department's brown bear researchers. Staff conducted brown bear population assessments in Yakutat (Crupi et al. 2017) and are currently finalizing research in the Haines area to identify methods for assessing population size, trends, and harvest sustainability (A. Crupi and S. Sell, Regional Supervisor and Wildlife Biologist, ADF&G, Douglas, personal communication). In July 2024, research began on Baranof Island to obtain an updated population estimate; staff installed 27 trail cameras across the island as a preliminary effort to begin new population monitoring of brown bears in Unit 4. Research should continue in earnest during RY24–RY28.

2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Monitor brown bear harvest.

Data Needs

The department will continue to monitor harvest through sealing to assess harvest trends and inform in-season management actions. Acceptable brown bear mortality levels are based on guidelines in the BBMS (Unit 4 BBMT 2000).

Methods

Harvest data are collected by sealing the hides and skulls of brown bears. Staff record the location and date of harvest, method of take, transportation mode, sex, coat color, skull size, and whether the animal had been previously captured. Sealing must be performed by ADF&G staff within 30 days of kill. Data are entered into WinfoNet. Harvest data are summarized by regulatory year; however, local area staff will use calendar-year mortality totals to guide in-season management.

3. Habitat Assessment-Enhancement

There are no habitat assessment-enhancement activities planned to specifically manage brown bear habitat in Unit 4 during RY24–RY28. The most positive changes would be in urban areas to deter bears from accessing garbage. Examples include installing an electric fence at a landfill or supplying a neighborhood with bear-resistant trash cans. The department conducts these projects when there is community interest. There are no specific projects planned for RY24–RY28, but staff will continue to address bear-human issues by deterring and excluding bears from garbage and using secure containers.

Department staff will provide comments on resource extraction (i.e., timber sales, proposed mine development) and review development projects that may affect brown bear habitat.

NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Data Recording and Archiving

Brown bear sealing data will continue to be stored on WinfoNet.

Agreements

There is a current memorandum of understanding (24-MU-11100500-066) between ADF&G, the USFS, and the Big Game Commercial Services Board. It expires in June 2029.

Permitting

No permitting is expected to be required to manage brown bears in Unit 4 during RY24–RY28.

Acknowledgments

ADF&G mourns the tragic loss of Hans Munich in July 2024. Hans provided helicopter support for brown bear research throughout Southeast Alaska. His expertise in flying was critical to the success of several studies. This included the installation of trail cameras across Baranof Island just days before the plane accident that took his life. Hans was a close friend to several ADF&G employees. His friendship and stellar piloting abilities will be sorely missed.

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