

## **Moose Management Report and Plan, Game Management Unit 1B:**

Report Period 1 July 2015–30 June 2020, and  
Plan Period 1 July 2020–30 June 2025

**W. Frank Robbins**



2025



## **Moose Management Report and Plan, Game Management Unit 1B:**

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Plan Period 1 July 2020–30 June 2025

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This species management report and plan was reviewed and approved for publication by Thomas V. Schumacher, Regional Supervisor for Region I 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 moose (*Alces alces*) in Game Management Unit 1B for the 5 regulatory years 2015–2019 and plans for survey and inventory management activities in the next 5 regulatory years, 2020–2024. 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 moose management report of survey and inventory activities that was previously produced every 2 years.

## I. RY15–RY19 Management Report

### Management Area

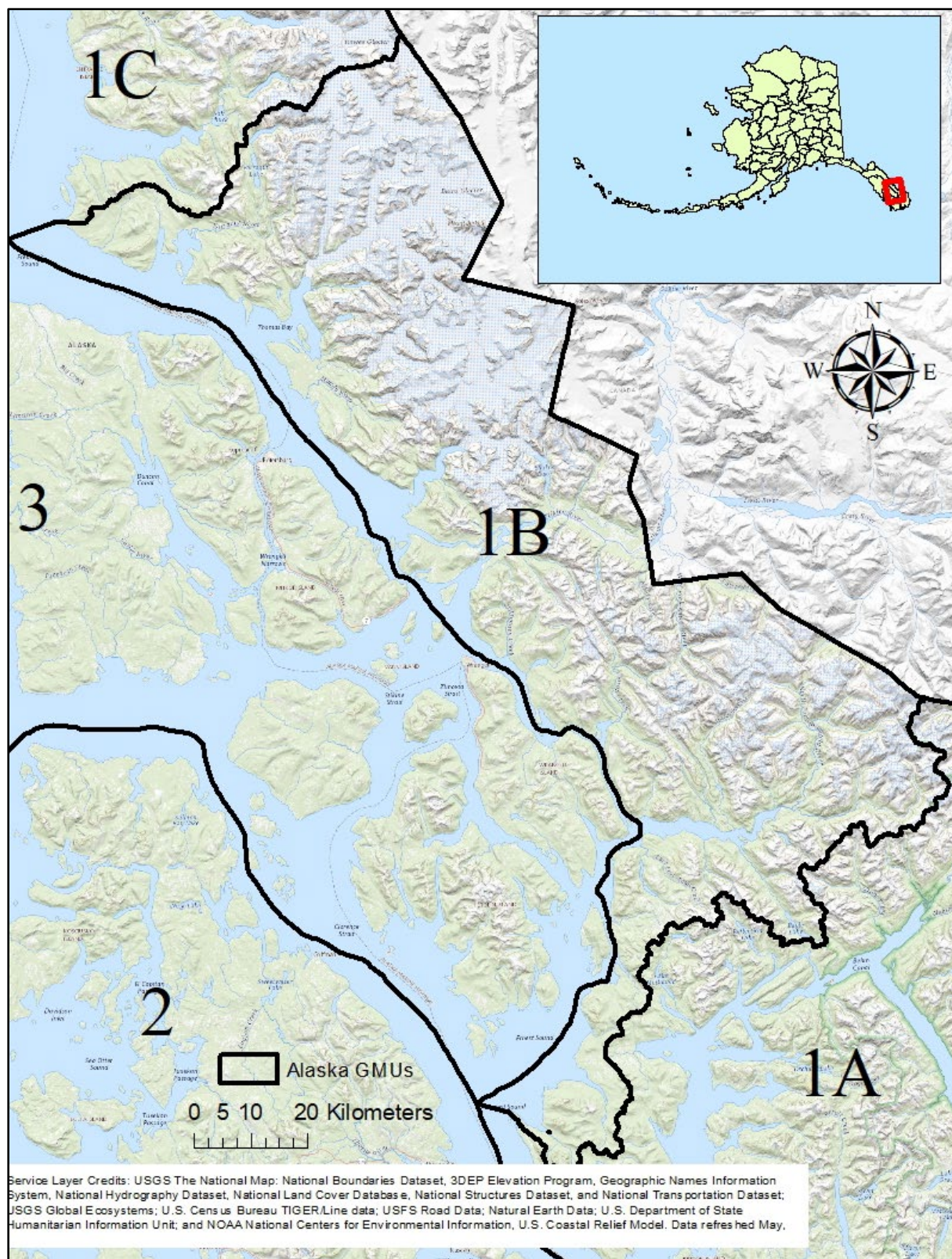
Game Management Unit 1B consists of approximately 3,000 mi<sup>2</sup> (7,770 km<sup>2</sup>) of land area on the central Southeast Alaska mainland, extending from Cape Fanshaw south to Lemesurier Point and northeast of those points to the Canadian Border (Fig. 1). There are no major communities in Unit 1B; however, small settlements exist at Point Agassiz near Thomas Bay, on Farm Island in the Stikine Delta, and at Meyers Chuck on the Cleveland Peninsula.

The Stikine River is a transboundary mainland river system that originates in the Spatsizi Plateau of British Columbia and bisects the Coast Range before flowing into Sumner Strait near Wrangell, Alaska. About 30 miles (48.3 km) of the river lie within Alaska, flowing through a steep valley approximately 1–2 miles (1.2–1.9 km) wide. The area used by Stikine moose encompasses the Stikine River drainage and the Stikine River Delta and parts of adjacent drainages. The principal use area consists of about 55 mi<sup>2</sup> (142 km<sup>2</sup>) of riparian habitat that lies entirely within the boundaries of the Stikine–LeConte Wilderness Area. The Stikine River Delta is the largest intertidal wetland in Southeast Alaska and consists of 77 mi<sup>2</sup> (200 km<sup>2</sup>) of marsh and tidal flats (Craighead et al. 1984).

Most land area in Unit 1B is within the Tongass National Forest and under federal ownership, with smaller parcels under tribal, state, and private ownership. Elevation within Unit 1B ranges from sea level to 9,078 feet (2,767 meters). Predominant vegetative communities occurring at low-moderate elevations (<1,500 ft) (457 meters) include Sitka spruce (*Picea sitchensis*) and western hemlock (*Tsuga heterophylla*) coniferous forest, mixed-conifer muskeg, and deciduous riparian forests. Mountain hemlock (*Tsuga mertensiana*) dominated forest comprises a subalpine, timberline band between 1,500 and 2,500 feet (457 and 762 meters) elevation.

In addition to moose, big game species present and widely distributed throughout Unit 1B include mountain goats (*Oreamnos americanus*), Sitka black-tailed deer (*Odocoileus hemionus sitkensis*), black bears (*Ursus americanus*), brown bears (*U. arctos*), and wolves (*Canis lupus ligoni*).





**Figure 1. Map of Game Management Unit 1B, Southeast Alaska, regulatory years 2015–2019.**



## Summary of Status, Trend, Management Activities, and History of Moose in Unit 1B

Isolated populations of moose (*Alces alces*) occur in Unit 1B and are believed to be the *andersoni* subspecies. Moose are indigenous but recently established in Unit 1B. They colonized the area from interior British Columbia through the Coast Range via the Stikine River valley around the turn of the twentieth century. Since the mid-twentieth century, isolated populations of moose on the U.S. side of the Stikine River valley and at Thomas Bay have been hunted for food and trophies.

Moose occur in several areas of Unit 1B, with concentrations in the Stikine River drainage, and at Thomas Bay and Farragut Bay. Moose also occur south of the Stikine River around Virginia Lake, Mill Creek, and Aaron Creek, with a few moose occupying suitable habitat adjacent to Bradfield Canal. In the late 1940s and early 1950s, moose in Unit 1B began expanding their range outward from the Stikine River and Thomas Bay. The vast majority of moose harvested in the unit are taken either from the Stikine River drainage or in the vicinity of Thomas Bay.

Moose inhabiting the Alaska portion of the Stikine drainage represent the westernmost tip of a mainland population emanating from Canada. The Alaska portion of this population was estimated at 300 animals in 1983 (Craighead et al. 1984). Moose populations at Thomas Bay and Farragut Bay are isolated from populations in Canada by the Coast Mountains. For the most part, moose at Thomas Bay occupy an area that was heavily logged from the late 1950s through the early 1970s. The Thomas Bay moose population now appears to be in decline and will likely continue to decline as conifer regeneration in clearcuts matures and reduces forage production.

Information on the distribution of moose in Unit 1B is derived primarily from hunter harvest locations, observations by state and federal biologists, and anecdotal reports from the public. Except for a single radiotelemetry study of Stikine River moose conducted during the early 1980s (Craighead et al. 1984), no recent radiotelemetry studies have been conducted on moose in the unit, and little is currently known about moose movement patterns. Craighead et al. (1984) found minimal movement of Stikine moose between Canada and Alaska, and no major seasonal migrations across the international border. Collared moose were most often found at elevations below 2,000 feet (610 meters), with 60% of telemetry locations below 100 feet (31 meters).

In 1995 antler restrictions were implemented in the Stikine River drainage and as a result now apply to moose hunting throughout Unit 1B. From 1995 to 2008 the entire RM038 hunt area, including Unit 1B, was managed with season dates of 15 September–15 October, and a 1-bull bag limit with a spike-fork, 3-brow tine, or 50-inch antler restriction. These antler restrictions were originally developed for Alaska–Yukon moose (*Alces alces gigas*) on the Kenai Peninsula, and then in 1995 the same antler restrictions were applied to Western Canada moose (*Alces alces andersoni*) inhabiting the central Southeast Alaska Panhandle.

Speculation existed that the moose antler restrictions in effect 1995–2008 were overly protective when applied to the smaller *andersoni* subspecies. For genetic, nutritional, or environmental reasons, moose in the central Panhandle area do not develop antler configurations that correlate well with age. Moose in the RM038 hunt area seldom acquire antler spreads in excess of 50 inches. It was widely believed that the spike-fork, 3-brow tine, or 50-inch antler restrictions

failed to partition the harvest among various age classes as intended and were protecting mature bulls in excess of those needed for timely and complete breeding of cows. Modifying the moose antler restrictions to allow the harvest of bulls with 2 brow tines on both antlers had been proposed by the public. At the time, however, the department lacked sufficient information on the age structure of these bulls, because bulls with 2 brow tines on both antlers were among the protected segment of the population, and as a result could not allow their harvest without risking overharvest. The antler restrictions in place at the time did a good job of constraining the moose harvest to sustainable levels given the high level of interest and participation in the RM038 moose hunt.

At the request of the department, in 2004 the Board of Game (the board) established a limited number of any-bull drawing permit hunts within portions of the RM038 hunt area, including Unit 1B. The any-bull drawing hunts were intended to gather information on the age structure and antler characteristics of the segment of the bull population otherwise protected under the existing antler restrictions. After 3 seasons of limited any-bull harvest, the department felt it had sufficient information to safely recommend that the spike-fork, 3 brow tine, or 50-inch antler restrictions be modified to also allow the harvest of bulls with 2 brow tines on both antlers.

Analysis of the antler and age data collected from the any-bull drawing permit hunts in Units 1B and 3 indicated that the median age of a bull with 2 brow tines on both antlers is 6-years. Under the existing selective harvest, most bulls with 2 brow tines on both antlers were in an age class considered suitable for harvest. It appeared that liberalizing the antler restrictions on the bag limit to allow harvest of bulls with 2 brow tines on both sides would provide additional harvest opportunity without jeopardizing the health of the RM038 moose herd.

In fall 2008, based largely on age and antler data collected during the any-bull moose drawing permit hunts conducted from 2005 to 2008, the board authorized liberalization of the moose antler restrictions for the RM038 hunt area. As a result, beginning with the 2009 season, the RM038 antler restrictions allowed the harvest of bulls that possessed spike-fork antlers, 50-inch antlers, 3 or more brow tines on at least 1 antler, or 2 or more brow tines on both antlers.

As of the RY15–RY19 reporting period, the antler restrictions in place for moose in the RM038 hunt area, including Unit 1B, are among the most liberal in the state. The liberal antler restrictions, combined with a month-long season that fully encompasses the rut, afford hunters with ample opportunity to harvest a moose. If not for several factors, including that much of Unit 1B is remote and inaccessible to hunters and dense coniferous forests hamper moose sightability, the population might otherwise be incapable of sustaining such liberal antler restrictions and season dates.

### Stikine River Area

The Stikine River area refers to the portion of 1B located north of LeConte Bay and LeConte Glacier. The focus of moose management in Unit 1B is on the Stikine drainage and immediate area. Moose also occur and are occasionally hunted in drainages on the mainland coast south of the Stikine River to the head of Bradfield Canal. Hunting regulations for the Stikine drainage apply to these areas as well, and Stikine data include harvest from these areas.

Observations of Stikine moose show that they are more often associated with vegetation in early successional stages than with advanced stages. Alder and willow dominated vegetation types are used most frequently, and Stikine moose thrive where there is a wide mix of habitat types in an area. During heavy rain, snow, or strong winds, Stikine moose seek shelter in old-growth spruce stands. Because the Stikine valley is subject to heavy snow accumulation, the availability of old-growth spruce may be essential to winter survival of moose there. Willow and red osier dogwood are the preferred browse species, and both occur in abundance in the area (Craighead et al.1984).

### Thomas Bay Area

The Thomas Bay area refers to the portion of 1B located south of LeConte Bay and LeConte Glacier, including Farragut Bay. Thomas Bay moose are believed to have immigrated from the nearby Stikine River. There were no moose in the area in 1930, but homesteaders on the Muddy River report that moose moved in as early as 1937, when a large bull was seen by several people. Leif Loseth, a dairy farmer, recalls killing a bull moose as early as 1942. Mr. Loseth said that the population grew at a rapid rate after 1937 with moose seeming to immigrate from the direction of Horn Cliffs and the Muddy River glacier. With the advent of roads associated with clearcut logging in the early 1950s, residents of Petersburg became aware of the moose and more hunters were attracted to the area each year.

U.S. Fish and Wildlife Service records indicate that 3 bulls were taken in the Thomas Bay area in 1953. Harvest reports for the Thomas Bay area were sporadic until the 1970s. The average annual reported take in 1972 through 1988 was 14 bulls. The highest reported harvests occurred during 1988, 1992, and 1993, each with 27 bulls taken.

In response to hunter desires, vehicle restrictions were implemented in 1978 that prohibit the use of motorized land vehicles for hunting moose. One result of the vehicle restriction is the extensive use of bicycles by moose hunters. Some hunters obtain annual U.S. Forest Service permits to maintain tent platforms.

Moose populations at Thomas Bay responded favorably to the initial increase in available browse resulting from extensive clearcut logging between 1958 and 1975. Since that time the dense, closed-canopy forests resulting from natural regeneration of second growth stands have reduced available understory browse vegetation, and the annual moose harvest has declined.

## **Management Direction**

### **EXISTING WILDLIFE MANAGEMENT PLANS**

Region I developed a moose management plan in the late 1980s (ADF&G 1990) that was intended to guide management objectives and strategies through RY94 for most of the region, excluding the Gustavus area of Unit 1C and Unit 3. That plan was never formally updated.

## GOALS

Regionwide moose management goals were established during creation of the Region I moose management plan (ADF&G 1990). The following goals are general and applicable to the entire region:

1. To maintain, protect, and enhance moose habitat and other components of the ecosystem.
2. To maintain viable populations of moose in their historic range throughout the region.
3. To manage moose on a sustained yield basis.
4. To manage moose in a manner consistent with the interests and desires of the public.
5. To manage primarily for meat, rather than trophy hunting of moose.
6. To manage for the greatest hunter participation possible consistent with maintaining viable populations, sustained yield, subsistence priority, and the interests and desires of the public.
7. To provide opportunities to view and photograph moose for the benefit of nonhunters (nonconsumptive users) of moose.
8. To develop and maintain a database useful for making informed management decisions.

## CODIFIED OBJECTIVES

### Amounts Reasonably Necessary for Subsistence Uses

Prior to 2006, state law contained a positive customary and traditional use finding for moose in the Stikine River drainages, specifying that the amount reasonably necessary for subsistence (ANS) was an annual harvest of 40 moose. In fall 2006, the Alaska Board of Game expanded the customary and traditional use finding beyond the Stikine drainages to include all of Units 1B and 3. As a result, the ANS of 40 moose now applies to all of Units 1B and 3.

### Intensive Management

In 1998 the Alaska Board of Game made negative determinations for Intensive Management (5 AAC 92.108) of moose populations in Unit 1B and 3. Aside from the customary and traditional use determination and ANS of 40 moose per year from Unit 1B and 3 combined, no other population or harvest objectives have been prescribed by law or regulation.

## MANAGEMENT OBJECTIVES

The existing management objectives for Unit 1B were established and described in the moose management report for RY10–RY14 and plan for RY15–RY19 (Lowell 2018), which replaced the previous management objectives that were established in 1990. Because it is not currently possible to estimate moose abundance in the area, the posthunt number of moose was eliminated as an objective for the Stikine River and Thomas Bay. The total number of hunter-days effort was also discontinued as an objective and replaced with catch per unit effort (CPUE), expressed

as hunter-days per harvested moose. Average annual hunter harvest and hunter success objectives were also adjusted for the Stikine River and Thomas Bay areas (Lowell 2018).

#### Stikine River Area

- Provide for an annual harvest of  $\geq 24$  moose.
- Provide for a catch per unit effort (CPUE) of 55 hunter-days per harvested moose.
- Provide for a hunter success rate of at least 14%.

#### Thomas Bay Area

- Provide for an annual harvest of  $\geq 9$  moose.
- Provide for a catch per unit effort (CPUE) of 60 hunter-days per harvested moose.
- Provide for a hunter success rate of at least 13%.

### **MANAGEMENT ACTIVITIES**

#### 1. Population Status and Trend

The number of moose observed and reported by hunters on registration hunt reports provides some of the limited information on population composition in the unit. Because these data are based on anecdotal accounts from hunters, there is a high likelihood of replicate sightings, and the data must be interpreted cautiously. The accuracy of the hunter sighting information is not known, but during the report period it was more consistent than the Stikine aerial survey results, supporting the idea that the population is stable. Hunter observations have been validated with biological data for detecting change in abundance and age-sex composition of moose in Norway (Solberg and Saether 1999) and Sweden (Ericsson and Wallin 1999).

ACTIVITY 1.1. Monitor minimum abundance and age and sex ratios in the Stikine River drainage by aerial counts one or more times per year when conditions allow.

#### *Data Needs*

Estimates of abundance and age-sex composition are commonly used to inform harvest strategies.

#### *Methods*

Winter aerial population surveys are conducted annually along the Stikine River drainage to count moose and when possible, gather age and sex composition data. Data are recorded on a survey form. Dense coniferous forest, variable snowfall, and inclement weather make thorough surveys difficult. Population surveys should be conducted during periods when there is 100% snow cover, but this is not always possible due to inequitable distribution of snow cover from the river delta to the international border. Also, except in instances when early snowfall facilitates aerial surveys prior to antler drop, surveys have to be conducted under less than ideal conditions to obtain age and sex composition data. In general, aerial surveys of the Stikine River tend to yield higher counts when surveys are conducted in late winter, when animals are congregated on

winter range and tend to be sedentary. However, it is not possible to obtain reliable herd composition counts during late winter months after bulls have shed their antlers. Distinguishing yearling moose from adults also becomes more difficult. During late winter aerial surveys, no attempts are made to differentiate between bulls and cows; however, the numbers of adults and calves are still recorded.

Aerial surveys of the Stikine River moose population date back to the mid-1950s. Since the early 2010s, population surveys have been conducted exclusively with a helicopter (Hughes 500), which provides greater maneuverability than fixed-wing aircraft. Except where dense coniferous forest severely reduces sightability of moose, a pilot and single observer maintain approximately 500-foot altitude above ground level and fly transects separated by approximately 400 to 500 meters depending on ground cover vegetation.

### *Results and Discussion*

Results of the Stikine River area counts are difficult to interpret because poor weather and/or survey conditions often prevent flights during the optimum fall and early winter period. Due to dense coniferous forest cover across most of Unit 1B, only moose in the Stikine River drainage can be routinely seen from the air, and then only when adequate snow cover, favorable survey weather, and aircraft availability coincide. As a result, survey results can vary widely from year to year, and without a sample of radiocollared moose, sightability cannot be estimated. Aerial surveys, therefore, represent minimum counts. The Stikine River drainage makes up less than 2% of Unit 1B. There are currently no unitwide estimates of moose numbers in Unit 1B.

Only one moose survey of the Stikine River was completed from 2015 to 2019. A total of 120 moose, 97 adults and 23 calves, were observed during a survey conducted in November 2015. A survey was attempted in 2016 but was aborted due to high winds. No other surveys were conducted during this report period due to poor survey conditions and limited pilot and observer availability.

Although dense vegetation in portions of the drainage substantially reduces the effectiveness of the aerial survey technique, and inadequate survey conditions prior to antler drop frequently hinder our ability to regularly obtain information on sex and age composition for the Stikine River herd, no satisfactory alternative has been discovered.

### *Recommendation for Activity 1.1.*

Continue this activity.

ACTIVITY 1.2. Monitor abundance and age and sex ratios of moose through observations reported by hunters on required registration permit hunt reports.

### *Data Needs*

As discussed in Activity 1.1, aerial surveys of the unitwide moose population are impractical. Hunter observations of moose provide a unitwide index to relative abundance and composition.

## Methods

Since 1997, all RM038 hunters have been asked to report the number of moose (by sex and age class), wolves, and bears they observed during the hunting season. Similar to information on hunter effort and harvest, observations by hunters are reported on mandatory registration permit hunt reports.

## Results and Discussion

Table 1 summarizes unitwide moose sightings reported by hunters participating in RM038. The average number of moose reported ranged from 5.1 to 7.8 moose per hunter.

Differences between hunter reports and aerial survey findings may be explained by hunters seeing the same moose several times over a period of days and several different hunters reporting sightings of the same moose, whereas individual moose are only sighted once during aerial surveys. The more conservative aerial survey data are used to inform management decisions.

**Table 1. Number of moose observed and reported by moose hunters on registration hunt reports, Unit 1B, Southeast Alaska, regulatory years 2015–2019.**

Regulatory year	Number of hunters	Bulls	Cows	Calves	Total	Bull-to-cow ratio	Calf-to-cow ratio
2015	188	624	617	228	1,469	101:100	37:100
2016	168	434	499	193	1,126	87:100	39:100
2017	179	352	555	136	1,043	63:100	25:100
2018	201	399	438	185	1,022	91:100	42:100
2019	161	330	495	149	974	67:100	30:100

## Recommendations for Activity 1.2.

Efforts to monitor the abundance of moose and the age and sex composition of the population using hunter observations through required registration permit hunt reports should be continued.

## 2. Mortality-Harvest Monitoring and Regulations

### ACTIVITY 2.1. Monitor hunter harvest, effort, and success.

## Data Needs

Gather data on hunter harvest, effort, and success as another way of monitoring hunter interest and as an indicator of moose abundance in the unit.

## Methods

Hunters in Unit 1B must possess an RM038 registration permit before taking to the field in search of moose. At the time the permit is issued hunters are also provided with a mail-in hunt report card. Submitting a hunt report is mandatory for all permittees for each trip taken, whether they hunt or not, and regardless of success. The mail-in hunt report card can also be completed online at [www.hunt.alaska.gov](http://www.hunt.alaska.gov). Hunt reports provide the department with information, including



the number of participants in the hunt, number of days hunted, date and location of hunt, transportation method, and use of commercial services.

### *Season and Bag Limit*

Seasons and bag limits for residents and nonresidents are identical.

Bag Limit	Season
1 bull with spike-fork antlers, 50-inch antler spread, 3 or more brow tines on 1 antler, or 2 or more brow tines on both antlers. By registration permit only.	15 September–15 October

### *Results and Discussion*

Table 2 summarizes which of the Unit 1B moose management objectives were, or were not, met during the report period.

#### Stikine River Area

- The harvest objective of at least 24 moose annually in the Stikine River area was met only in RY17 when 27 moose were harvested.
- The CPUE management objective of 55 hunter-days per harvested moose was met during RY16, RY18, and RY19.
- The overall success rate for Stikine River moose hunters was 13%. The management objective of 14% annual hunter success was met during 3 out of 5 years of the report period: RY15, RY17, and RY19. In RY16 and RY18 the success was 10%.

#### Thomas Bay Area

- The harvest objective of at least 9 moose annually in the Thomas Bay area (including Farragut Bay) was met during 4 of 5 years of the report period. In RY18 the objective was close to being met, with 8 bulls harvested.
- The CPUE management objective of 60 hunter-days per harvested moose was met during RY18 only. Hunter-days per harvested moose averaged 41 and ranged from 30 to 79.
- The overall success rate for moose hunters in the Thomas and Farragut bays area was 20%, ranging from a low of 11% in RY18, to a high of 23% in RY16, RY17, and RY19. The area met the management objective of 13% annual hunter success during 4 out of 5 years of the report period.

**Table 2. Progress toward moose management objectives, Unit 1B, Southeast Alaska, regulatory years 2015 through 2019.**

Stikine River area <sup>a</sup>	Plan Objective	2015	2016	2017	2018	2019	5-year average
Annual hunter harvest	24	23	17	27	16	21	21
Catch per unit effort (CPUE) <sup>b</sup>	55	53	80	47	75	57	60
Hunter success	14%	15%	10%	16%	10%	15%	13%

Thomas Bay area <sup>c</sup>	Plan Objective	2015	2016	2017	2018	2019	5-year average
Annual hunter harvest	9	13	16	17	8	12	13
Catch per unit effort (CPUE) <sup>b</sup>	60	43	33	39	79	30	41
Hunter success	13%	18%	23%	23%	11%	23%	20%

<sup>a</sup> The portion of Unit 1B located south of LeConte Bay and LeConte Glacier.

<sup>b</sup> Expressed as hunter-days per harvested moose.

<sup>c</sup> The portion of Unit 1B located north of LeConte Bay and LeConte Glacier, including Farragut Bay.

### Harvest by Hunters

Harvest levels and population characteristics can fluctuate from year to year as a result of both hunting and natural processes. Because antler restrictions are intended to focus harvest pressure on younger and older bulls, overwinter survival and the number of calves and yearlings recruited into the population can greatly influence harvest levels from one year to the next. During the reporting period (RY15–RY19), the Unit 1B moose harvest averaged 34 bulls per year, ranging from a low of 24 in RY18, to a high of 44 in RY17 (Table 3).

The average annual harvest from the Stikine River area (Unit 1B south of LeConte Bay and LeConte Glacier) was 21 moose per year, ranging from a low of 16 in RY18 to a high of 27 in RY17 (Table 4). The average annual harvest of 21 moose per year was slightly lower than the management objective of 24 moose per year.

During the report period the average annual harvest in the Thomas Bay area (Unit 1B north of LeConte Bay and LeConte Glacier, including Farragut Bay) was 13 moose per year, ranging from a low of 8 in RY18, to a high of 17 in RY17 (Table 5). The average annual harvest of 13 moose per year met the management objective of at least 9 moose per year.

### Permit Hunts

Action by the Alaska Board of Game effective 1 July 1995 put all of Units 1B and 3 and the portion of Unit 1C south of Point Hobart under one registration permit hunt (RM038).

**Table 3. Unitwide moose harvest, Unit 1B, Southeast Alaska, regulatory years 2015 through 2019.**

Regulatory year	Hunter harvest reported				Illegal <sup>a</sup>	Unknown	Total
	Male	(%)	Female	(%)			
2015	33	(100)	0	(0)	3	0	36
2016	30	(100)	0	(0)	3	0	33
2017	42	(100)	0	(0)	2	0	44
2018	18	(100)	0	(0)	6	0	24
2019	31	(100)	0	(0)	2	0	33

<sup>a</sup> Moose that failed to meet the antler restrictions.

**Table 4. Stikine River area moose harvest, Unit 1B, Southeast Alaska, regulatory years 2015 through 2019.**

Regulatory year	Hunter harvest reported				Illegal <sup>a</sup>	Unknown	Total
	Male	(%)	Female	(%)			
2015	21	(100)	0	(0)	2	0	23
2016	15	(100)	0	(0)	2	0	17
2017	27	(100)	0	(0)	0	0	27
2018	12	(100)	0	(0)	4	0	16
2019	20	(100)	0	(0)	1	0	21

*Note:* Stikine River area refers to the portion of Unit 1B located south of LeConte Bay and LeConte Glacier.

<sup>a</sup> Moose that failed to meet the antler restrictions.

**Table 5. Thomas Bay area moose harvest, Unit 1B, Southeast Alaska, regulatory years 2015 through 2019.**

Regulatory year	Hunter harvest reported				Illegal <sup>a</sup>	Unknown	Total
	Male	(%)	Female	(%)			
2015	12	(100)	0	(0)	1	0	13
2016	15	(100)	0	(0)	1	0	16
2017	15	(100)	0	(0)	2	0	17
2018	6	(100)	0	(0)	2	0	8
2019	11	(100)	0	(0)	1	0	12

*Note:* Thomas Bay area refers to the portion of Unit 1B located north of LeConte Bay and LeConte Glacier, including Farragut Bay.

<sup>a</sup> Moose that failed to meet the antler restrictions.

### Hunter Residency and Success

During RY15–RY19, the number of hunters in the Stikine River area averaged 156 annually, ranging from 140 to 171 hunters per year, and the hunter-days of effort averaged 1,246 per year, ranging from 1,191 to 1,352 hunter-days of effort annually. Hunter success averaged 13%, ranging from 10% to 16%.

During RY15–RY19, the number of hunters in the Thomas and Farragut bays area averaged 67 per year, ranging from 52 to 74 hunters per year, and the hunter-days of effort averaged

546 per year, ranging from 356 to 656 hunter-days of effort per year. Hunter success averaged 20%, ranging from 11% to 23%.

The majority of Unit 1B moose hunters are local residents and participation by nonlocal residents and particularly nonresidents is typically low. Residents of Wrangell typically hunt in the Stikine River area and Petersburg residents typically hunt in the Thomas and Farragut bays. During the report period, local residents represented 95% of successful hunters on the Stikine River, with nonlocal resident hunters representing just 5%. No nonresident moose hunters were successful in the Stikine area during RY15–RY19 (Table 6). Petersburg residents continued to dominate the Thomas Bay and Farragut Bay moose hunts. During the report period, local residents of Petersburg represented 97% of successful hunters in Thomas and Farragut bays, with nonlocal resident hunters representing 3%. No nonresidents attempted to hunt moose in Thomas Bay or Farragut Bay during RY15–RY19 (Table 7).

### Harvest Chronology

Harvest chronology for Unit 1B moose varies from year to year. In general, most bulls are killed during the first half of the season and the success rate typically declines as the season progresses (Table 8). During the RY15–RY19 report period, the percentages of the overall harvest from highest to lowest on the Stikine River occurred during the first, second, fourth, and third weeks of the season, respectively. The largest percentage of the harvest in the Thomas Bay Area occurred during the first and fourth weeks, followed by the third and second weeks of the season, respectively. Most hunters are in the field early in the season, and except for weekends, effort tends to drop off as the season progresses. Inclement weather does not appear to slow hunting effort early in the season.

### Transport Methods

Most hunters (92%) reported using boats to hunt moose in Unit 1B, with airplanes (2%) and unspecified transportation method (2%) being the next most common modes of transportation during this reporting period. Motorized land vehicles are prohibited for moose hunting in Unit 1B under conditions established for the RM038 registration hunt. However, motorized land vehicles may be used for other moose hunt related activities such as establishing camps, checking boats, and retrieving harvested moose.

### *Other Mortality*

Predators (wolves, black bears, and brown bears) exist on the Unit 1B mainland but the extent of predation on moose is unknown. The Unit 1B moose population is indigenous but recently established. Although Unit 1B moose are not a long-standing customary and traditional food source for local Alaska Natives, we have experienced an increase in the number of requests to harvest moose out-of-season for funerary and cultural education activities. Poaching of moose undoubtedly occurs in Unit 1B; however, the department does not know how prevalent it is.

### *Alaska Board of Game Actions and Emergency Orders*

No Board of Game actions took place, and no emergency orders were issued regarding Unit 1B moose during the RY15–RY19 report period.

**Table 6. Moose hunter residency and success by permit hunt, Stikine River area, Unit 1B, Southeast Alaska, regulatory years 2015 through 2019.**

Regulatory year	Successful					Unsuccessful					Total hunters
	Local <sup>a</sup> resident	Nonlocal resident	Nonresident	Total	(%)	Local <sup>a</sup> resident	Nonlocal resident	Nonresident	Total	(%)	
2015	22	1	0	23	(15)	125	3	2	130	(85)	153
2016	17	0	0	17	(10)	140	4	2	146	(90)	163
2017	26	1	0	27	(16)	131	12	1	144	(84)	171
2018	16	0	0	16	(10)	128	9	0	137	(90)	153
2019	18	3	0	21	(15)	118	1	0	119	(85)	140

*Note:* Stikine River area refers to the portion of Unit 1B located south of LeConte Bay and LeConte Glacier.

<sup>a</sup> Residents of Petersburg and Wrangell.

**Table 7. Moose hunter residency and success by permit hunt, Thomas Bay area, Unit 1B, Southeast Alaska, Thomas and Farragut bays regulatory years 2015 through 2019.**

Regulatory year	Successful					Unsuccessful					Total hunters
	Local <sup>a</sup> Resident	Nonlocal resident	Nonresident	Total	(%)	Local <sup>a</sup> resident	Nonlocal resident	Nonresident	Total	(%)	
2015	13	0	0	13	(18)	50	8	0	58	(82)	71
2016	16	0	0	16	(23)	47	6	0	53	(77)	69
2017	15	2	0	17	(23)	47	10	0	57	(77)	74
2018	8	0	0	8	(11)	58	5	0	63	(89)	71
2019	12	0	0	12	(23)	32	8	0	40	(77)	52

*Note:* Thomas Bay area refers to the portion of Unit 1B located north of LeConte Bay and LeConte Glacier, including Farragut Bay.

<sup>a</sup> Residents of Petersburg and Wrangell.

**Table 8. Moose harvest chronology, Unit 1B, Southeast Alaska, regulatory years 2015 through 2019.**

Area	Regulatory year	Number of Moose Harvested			
		15–21 September	22–28 September	29 September–5 October	6–15 October
Stikine River <sup>a</sup>	2015	12	3	5	3
	2016	7	3	4	3
	2017	16	2	3	6
	2018	5	7	0	4
	2019	7	7	4	3
Thomas Bay <sup>b</sup>	2015	5	3	1	4
	2016	8	3	3	2
	2017	3	2	5	7
	2018	2	0	3	3
	2019	1	3	5	3

<sup>a</sup> The portion of Unit 1B located south of LeConte Bay and LeConte Glacier.

<sup>b</sup> The portion of Unit 1B located north of LeConte Bay and LeConte Glacier, including Farragut Bay

### *Recommendations for Activity 2.1*

Hunter effort and success should continue to be monitored through a mandatory hunt report.

ACTIVITY 2.2. Monitor number, age, and antler configurations of harvested moose by requiring hunt reports, examining antlers, and collecting lower jaws during the required moose check-in process.

### *Data Needs*

The number and age distribution of harvested moose are used to monitor the Unit 1B moose population. The antler-restricted hunt strategy is designed to target young and older bulls for harvest, while protecting a sufficient number of bulls for breeding. Antler architecture and age data collected from harvested bulls are used to evaluate whether the antler restrictions continue to protect bulls that are 2–5 years old.

### *Methods*

Before acquiring an RM038 registration permit, all hunters are required to watch ADF&G’s video “Is This Moose Legal” (Updated in 2018) to familiarize themselves with moose antler architecture and antler restrictions. All successful hunters are required to present the antlers attached to the skull plate to ADF&G representatives to verify compliance with antler restrictions. They are also required to turn in the lower jaw for age determination. When presented, antlers are photographed and data are collected on the kill date, harvest location, antler spread, total number of points, and the number of brow tines on each antler. Tooth samples are submitted to a commercial laboratory (Matson’s Laboratory, Manhattan, MT) for cementum aging, which allows us to correlate antler architecture with age. This type of information has been used in the past to refine the RM038 antler regulations.

## *Results and Discussion*

Total bull harvest over the RY15–RY19 period was comprised of 24% yearling bulls, 58% in age cohorts 2 through 5 years old, and 18% in age cohorts 6-plus years old. Antler architecture in this area is weakly correlated with age. In contrast to antler-restricted hunts elsewhere in Alaska which protect specific age classes of bulls, usually 2–5 years old, antler restrictions in the RM038 hunt affect all age classes because bulls of any age may or may not develop antlers that meet the legal requirement. While the antler restrictions do not partition the harvest among the various age classes exactly as intended, they nonetheless do a good job of constraining the harvest to sustainable levels. The antler restrictions, combined with the fact that much of the unit is remote and difficult to access, ensure that enough bulls survive for breeding purposes.

When necessary, the level of noncompliance with antler regulations (illegal harvest) is used as a trigger for early season emergency closures to prevent overharvest. During the report period the percentage of bulls taken that failed to comply with the antler restrictions averaged 9% annually, ranging from 5% to 25% of the annual harvest (Tables 3 and 4). No emergency season closures were implemented during the report period.

## *Recommendations for Activity 2.2*

The number, distribution, age, and antler configurations of moose harvested in Unit 1B should continue to be monitored through mandatory hunt reports.

## 3. Habitat Assessment-Enhancement

ACTIVITY 3.1. Assess available moose browse and potential for improving moose forage.

### *Data Needs*

Moose habitat capability in Unit 1B is primarily coastal temperate rainforest with deciduous trees and shrubs along braided river systems. The capability of this somewhat atypical habitat to support moose is unknown and difficult to determine. With exception of the Stikine River drainage in the early 1980s (Craighead et al. 1984), no estimate has been made of the amount or quality of moose range in the unit.

In some areas of the Stikine, moose habitat is declining as a result of natural plant succession. Succession in some areas is transforming deciduous vegetation types (dominated by cottonwood trees, willows, etc.) into conifer stands. In other areas, climax deciduous vegetation is growing to sizes less valuable as moose browse.

At Thomas Bay, clearcut logging returned conifer stands to early successional vegetation types, which temporarily created or enhanced forage for moose within logged stands. This forage enhancement exists for only about the first 25 years of the 100 to 150 years of a timber harvest rotation. After that initial period, a closed canopy second-growth coniferous forest becomes established, shading out and eliminating forage species. The short-term advantages of clearcutting for moose may be offset by the longer period of reduced forage in the second-growth conifer forest and the loss of shelter habitat for moose during the time when the area is a clearcut. Maintaining deciduous forest habitat along river systems in an early stage of succession would result in less change in plant and ecological characteristics, and may be a better moose



range enhancement practice than clearcutting conifer stands. This management practice could be applied in recently glaciated areas to delay the development of coniferous forests.

In March 1997, ADF&G conducted precommercial thinning on approximately 380 acres of dense young second-growth stands on state land at Thomas Bay in an effort to enhance habitat for moose and deer. The project was completed in October 1998. Observations by staff and anecdotal reports from hunters indicated that moose and deer increased use of these thinned areas. While these efforts were successful, the area treated represents only a small fraction of the second-growth acreage that exists on the relatively small parcel of state land at Thomas Bay.

Because most productive forest land in the Thomas Bay area is under federal ownership and managed primarily for timber production, precommercial and commercial thinning of second growth stands is dictated by U.S. Forest Service silviculture practices and the availability of federal funding for thinning. The habitat capability and condition of moose range in Unit 1B is unknown. Therefore, we cannot assess whether population growth for a higher harvestable surplus is feasible.

Determining the distribution of major browse communities and level of browse offtake in key moose wintering areas such as Thomas Bay would help to gauge moose nutritional condition and identify potential enhancement sites.

#### *Methods*

No habitat enhancement projects were completed during the RY15–RY19 report period.

#### *Results and Discussion*

Due to limited staff capacity, DWC refrained from taking on a project to assess moose browse in Unit 1B during RY15–RY19.

#### *Recommendations for Activity 3.1*

Determine whether forage assessment or other habitat evaluation is feasible for habitat communities in Unit 1B and identify potential methods of browse enhancement.

### **NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS**

Both the state and federal subsistence hunts for Unit 1B moose are managed under a single state registration permit (RM038). Because proxy hunting for others is not allowed in antler-restricted moose hunts, state regulations prohibit hunters from harvesting moose on behalf of other individuals. However, under the designated hunter provision in federal subsistence regulations, any federally qualified hunter can harvest moose on behalf of another federally qualified beneficiary who is 10 years of age or older. Some individuals who are ineligible to obtain a state registration permit as a result of having failed to submit a mandatory hunt report during the preceding regulatory year can circumvent this regulation by acting as a federal designated hunter for another qualified subsistence user. Similarly, those who have already filled their bag limit by harvesting a legal or illegal moose can continue to hunt and harvest additional moose on behalf of a qualified beneficiary under the federal designated hunter provision. Public interest in the

RM038 moose hunt is increasing, and the department now routinely issues in excess of 1,000 permits each year for the opportunity to harvest 90–120 antler-restricted moose annually from Units 1B, 3, and southern 1C combined. The situation of individuals exploiting the federal designated hunter provision in order to harvest more than one moose has led to some public dissatisfaction with federal regulations.

### Data Recording and Archiving

- Permit Overlays
  - Hardcopies are retained in the Petersburg Area Office, and stored electronically in the division's data system, Wildlife Information Network (WinfoNet).
- Hunt Reports
  - Hardcopies are retained in the Petersburg Area Office and stored electronically in WinfoNet.
- Harvest Data
  - Entered electronically in WinfoNet; annual harvest summaries are compiled and stored on the area biologist and program technician desktop computers and are backed up on the network server.
- Antler Photos
  - Stored electronically on area biologist desktop computer and backed up on the network server.
- Antler Data
  - Recorded on tooth envelopes and entered electronically in WinfoNet. Hardcopies of tooth envelopes with antler data are stored in the Petersburg Area Office.
- Age Data
  - Electronic copies received from the laboratory are entered electronically in WinfoNet. Specimens and hardcopies are stored in Petersburg Area Office storage area.
- Stikine Survey Forms and Maps
  - Hardcopies are on file in the Petersburg Area Office, stored electronically on the area biologist desktop computer, and backed up on the network server.

### Agreements

ADF&G and the federal subsistence program have agreed to manage the state and federal subsistence hunts for Unit 1B moose under a single state registration permit (RM038) with concurrent season dates and bag limit.

### Permitting

None.

## Conclusions and Management Recommendations

During the report period the Unit 1B moose harvest averaged 34 bulls per year, ranging from a low of 24 in RY18 to a high of 44 in RY17 (Table 3). The average annual harvest during RY10–RY14 was also 34 bulls per year.

Following a long period of declining harvest culminating in an early season closure in 1995, the moose harvest from the Stikine River area has since rebounded and stabilized at levels in keeping with the 10-year average of 23 bulls annually. The moose harvest from the Stikine River area during RY15–RY19 averaged 21 bulls annually, ranging from 16 to 27 bulls per year (Table 4).

The Thomas Bay moose harvest began to decline in 2000 and in recent years has remained stable at low levels. The harvest in Thomas and Farragut bays during RY15–RY19 averaged 13 moose per year, ranging from 8 to 17 bulls per year (Table 5). Hunters continue to report seeing bulls in the area; however, few of those qualify as legal under the existing antler restrictions. It now appears that post-logging habitat changes have reduced carrying capacity, possibly resulting in low recruitment and causing moose to disperse to other areas. With the relatively low level of harvest at Thomas Bay in recent years, some traditional Thomas Bay hunters have sought other more productive moose hunting areas in Units 1B and 3 to hunt moose. The only way to prevent further decline of moose habitat will be to institute additional habitat enhancement measures.

During the report period, only one winter population survey was flown along the Stikine River drainage to count moose and gather composition data (adults and calves). The total number of moose observed during the 2015 aerial survey was 120. No Stikine moose surveys were completed between 2016 and 2019. No other moose habitat in Unit 1B can be surveyed due to dense coniferous forest cover.

Variation in winter severity and predation can influence both recruitment of young into the population and overwinter survival of moose. Winter-related reductions in recruitment, reduced overwinter survival, and the level of harvest during the preceding season can all influence the number of bulls available for harvest each year.

For genetic, nutritional, or environmental reasons moose in this unit do not develop antler configurations that correlate well with age. Unit 1B moose rarely achieve 50-inch antler spreads and damaged or atypical antler configurations are relatively common. The antler restrictions for RM038 moose were liberalized in 2009 to allow the harvest of bulls with 2 brow tines on both antlers. This regulatory change resulted in an increase in the annual harvest, which in turn sparked greater interest in Unit 3 moose hunting and increases in the number of hunters and hunter-days of effort.

Unit 1B, Unit 3, and the extreme southern portion of Unit 1C should continue to be managed by a common registration permit hunt, and the season dates should remain from 15 September through 15 October with a bag limit of 1 bull with spike-fork, 50-inch antlers, 3 or more brow tines on one antler, or 2 or more brow tines on both antlers.

## **II. Project Review and RY20–RY24 Plan**

### **Review of Management Direction**

#### **MANAGEMENT DIRECTION**

The antler restrictions currently in place for moose in Unit 1B are among the most liberal in the state. The liberal antler restrictions, combined with a month-long season that fully encompasses the rut, affords hunters with ample and sustainable opportunity to harvest a moose. If not for several factors, including the fact that Unit 3 currently supports an eruptive moose population, much of the unit is remote and inaccessible to hunters, and moose sightability is hampered by dense coniferous forests, the unit might otherwise be incapable of sustaining such liberal antler restrictions and season dates.

No changes are recommended to the management direction for moose in Unit 1B.

#### **GOALS**

The regionwide moose management goals established during creation of the Region I moose management plan (ADF&G 1990) remain. The following goals are general and applicable to the entire region:

1. To maintain, protect, and enhance moose habitat and other components of the ecosystem.
2. To maintain viable populations of moose in their historic range throughout the region.
3. To manage moose on a sustained yield basis.
4. To manage moose in a manner consistent with the interests and desires of the public.
5. To manage primarily for meat, rather than trophy hunting of moose.
6. To manage for the greatest hunter participation possible consistent with maintaining viable populations, sustained yield, subsistence priority, and the interests and desires of the public.
7. To provide opportunities to view and photograph moose for the benefit of nonhunters (nonconsumptive users) of moose.
8. To develop and maintain a database useful for making informed management decisions.

#### **CODIFIED OBJECTIVES**

##### Amounts Reasonably Necessary for Subsistence Uses

Prior to 2006, state law contained a positive customary and traditional use finding for moose in Stikine River drainages, specifying that an annual harvest of 40 moose was the Amount Reasonably Necessary for Subsistence (ANS). In fall 2006, the Alaska Board of Game expanded the customary and traditional use finding beyond the Stikine drainages to include all of Units 1B and 3. As a result, the ANS of 40 moose now applies to all of Units 1B and 3.

## Intensive Management

In 1998 the Alaska Board of Game made negative determinations for Intensive Management (5 AAC 92.108) of moose populations in Unit 1B and 3. Aside from the customary and traditional use finding for 40 moose per year from Unit 1B and 3 combined, no other population or harvest objectives have been prescribed by law or regulation.

## **MANAGEMENT OBJECTIVES**

The existing management objectives for moose in Unit 1B were adjusted in the RY15–RY19 plan section of the Unit 1B moose management report and plan (2018 Lowell) and are based on specific targets for annual hunter harvest, CPUE (hunter-days per harvested moose), and hunter success rate (Table 8). No changes to the RY15–RY19 management objectives are recommended for RY20–RY24.

### Stikine River Area

- Provide for an annual harvest of  $\geq 24$  moose.
- Provide for a catch per unit effort (CPUE) of 55 hunter-days per harvested moose.
- Provide for a hunter success rate of at least 14%.

### Thomas Bay Area

- Provide for an annual harvest of  $\geq 9$  moose.
- Provide for a catch per unit effort (CPUE) of 60 hunter-days per harvested moose.
- Provide for a hunter success rate of at least 13%.

In the absence of information on the number, distribution, sex and age ratios, and other population characteristics of moose in much of Unit 1B, annual harvest trends and other hunt statistics will also be used to evaluate our ability to maintain sustainable populations and harvest of moose in the unit.

- Monitoring trends in the number of bulls taken, and the spatial distribution of the harvest.
- Monitoring trends in the age structure of harvested bulls.
- Monitoring trends in the antler configurations of harvested bulls.
- Using the level of noncompliance with antler regulations as a trigger for early season closures to prevent overharvest.

## REVIEW OF MANAGEMENT ACTIVITIES

### 1. Population Status and Trend

ACTIVITY 1.1. Monitor minimum abundance and age and sex ratios in the Stikine River drainage by aerial counts one or more times per year when conditions allow.

#### *Data Needs*

Minimum abundance counts, and age and sex composition counts are needed to evaluate whether the hunt strategy is appropriate for the population.

#### *Methods*

Conduct 1 to 2 winter population surveys annually along the Stikine River drainage to count moose, and when possible, gather age composition data (calves and adults). If favorable survey conditions occur prior to antler drop, teams will gather sex composition data (bulls and cows) as well. Fly surveys at an elevation of 500 feet above ground level using a Hughes 500 or similar helicopter with one observer along transects 400 to 500 meters apart, depending on ground cover vegetation.

ACTIVITY 1.2. Monitor abundance and age and sex ratios of moose through observations of hunters reported on required registration permit hunt reports.

#### *Data Needs*

Estimates of abundance and age and sex composition are commonly used to inform harvest strategies. Unitwide aerial surveys of the Unit 1B moose population impractical due to environmental factors. Hunter observations of moose provide a unitwide index to relative abundance and composition.

#### *Methods*

Since 1997, all RM038 hunters have been asked to report the number of moose (by sex and age class), wolves, and bears they observed during the hunting season. Similar to information on hunter effort and harvest, observations by hunters are reported on mandatory registration permit hunt reports.

### 2. Mortality-Harvest Monitoring

ACTIVITY 2.1. Monitor hunter harvest, effort, and success.

#### *Data Needs*

Hunter effort and success are measured to monitor hunter interest and as an indirect measure of moose abundance.

#### *Methods*

Hunters in Unit 1B must possess an RM038 registration permit before taking to the field in search of moose. At the time the permit is issued hunters are also provided with a mail-in hunt

report card. Submitting a hunt report is mandatory for all permittees for each trip taken, whether they hunt or not, and regardless of success. The mail-in hunt report card can also be completed online at [www.hunt.alaska.gov](http://www.hunt.alaska.gov), regardless of success. Hunt reports provide the department with information, including the number of participants in the hunt, number of days hunted, date and location of hunt, transportation method, and use of commercial services.

ACTIVITY 2.2. Monitor number, age, and antler configurations of harvested moose by requiring hunt reports, examining antlers, and collecting lower jaws during the required moose check-in process.

#### *Data Needs*

The number and distribution of harvested moose, including the number of bulls taken within the various age classes, are used to monitor the Unit 1B population. The antler-restricted hunt strategy is designed to target young and older bulls for harvest, while protecting the prime age class of bulls for breeding. Antler architecture and age data collected from harvested bulls is used to evaluate whether the antler restrictions continue to protect bulls that are 2–5 years old.

#### *Methods*

All successful hunters are required to present the antlers of harvested moose to ADF&G representatives to verify compliance with the RM038 antler restrictions. When presented, antlers are photographed and data are collected on the kill date, harvest location, antler spread, total number of points, and the number of brow tines on each antler. Hunters are also required to submit the lower jaw of harvested moose for age determination. Tooth samples are submitted to a commercial laboratory (Matson's Laboratory, Manhattan, MT) for cementum aging, which allows us to correlate antler architecture with age. This type of information has been used in the past to refine the RM038 antler regulations.

### 3. Habitat Assessment-Enhancement

ACTIVITY 3.1. Assess available moose browse and potential for improving moose forage.

#### *Data Needs*

Determining the distribution of major browse communities and level of browse offtake in key moose wintering areas such as the Stikine River drainage and at Thomas and Farragut bays would help gauge moose abundance relative to carrying capacity and identify potential enhancement sites. However, because of its wilderness designation, moose habitat enhancement activities are not possible within the Stikine River drainage. Deer occur in isolated pockets in Unit 1B, and the Thomas Bay area is one such pocket. A preliminary browse survey conducted at Thomas Bay indicated there is likely some degree of dietary overlap between moose and deer. Determining the level of browse offtake attributed to each species may be difficult.

#### *Methods*

ADF&G will cooperate with the U.S. Forest Service or the Division of Forestry of Alaska Department of Natural Resources to identify previously harvested forest stands where moose forage production could be enhanced using precommercial or commercial thinning treatments.



## NONREGULATORY MANAGEMENT PROBLEMS OR NEEDS

Both the state and federal subsistence hunts for Unit 1B moose are managed under a single state registration permit (RM038). Under the designated hunter provision in federal subsistence regulations, any federally qualified hunter can harvest moose on behalf of another federally qualified beneficiary who is 10 years of age or older. Some individuals who are ineligible to obtain a state registration permit as a result of having failed to submit a mandatory hunt report during the preceding regulatory year can circumvent this regulation by acting as a federal designated hunter for another qualified subsistence user. Similarly, those who have already harvested a legal or illegal moose, thereby filling their bag limit, can continue to harvest additional moose for any federally qualified beneficiary under the federal designated hunter provision. The situation of individuals exploiting the federal designated hunter provision in order to harvest more than one moose has led to some public dissatisfaction with federal regulations.

### Data Recording and Archiving

- Permit Overlays
  - Hardcopies will be retained in the Petersburg Area Office, and stored electronically in the division's data system, WinfoNet.
- Hunt Reports
  - Hardcopies will be retained in the Petersburg Area Office and stored electronically in WinfoNet.
- Harvest Data
  - Entered electronically in WinfoNet; annual harvest summaries will be compiled and stored on the area biologist and program technician desktop computers and are backed up on the network server.
- Antler Photos
  - Stored electronically on area biologist desktop computer and backed up on the network server.
- Antler Data
  - Recorded on tooth envelopes and entered electronically in WinfoNet. Hardcopies of tooth envelopes with antler data will be stored in the Petersburg Area Office.
- Age Data
  - Electronic copies received from the laboratory will be entered electronically in WinfoNet. Specimens and hardcopies will be stored in the Petersburg Area Office storage area.
- Stikine Survey Forms and Maps
  - Hardcopies will be kept on file in the Petersburg Area Office, stored electronically on the area biologist desktop computer, and backed up on the network server.

### Agreements

ADF&G and the federal subsistence program have agreed to manage the state and federal subsistence hunts for Unit 1B moose under a single state registration permit (RM038) with concurrent season dates and bag limit.

## Permitting

None.

## **References Cited**

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