

SPECIES
MANAGEMENT REPORT

Alaska Department of Fish and Game
Division of Wildlife Conservation
(907) 465-4190 P.O. BOX 115526
JUNEAU, AK 99811-5526

CHAPTER 1: BLACK BEAR MANAGEMENT REPORT

From: 1 July 2010

To: 30 June 2013

LOCATION

GAME MANAGEMENT UNIT: Unit 1A (5,300 mi²)

GEOGRAPHICAL DESCRIPTION: That portion of Unit 1 lying south of Lemesurier Point, including all drainages into Behm Canal and excluding all drainages into Ernest Sound.

BACKGROUND

HABITAT DESCRIPTION

Unit 1A includes portions of the Cleveland Peninsula and Misty Fjords National Monument on the mainland, and Revillagigedo (Revilla), Gravina, Annette, and Duke Islands. Most high quality mainland black bear habitat in Unit 1A is confined to a relatively narrow band of forested landscapes between saltwater and the high elevation peaks and ice fields of the coastal mountains. An exception is the broader bays and lower peaks of southern Cleveland Peninsula. Revilla Island has many productive salmon streams, large tracts of young age clear cut stands, and productive forest that provides high quality habitat. Gravina, Annette, and Duke Islands generally have lower-quality black bear habitat. A few large mainland river valleys, such as the Unuk, Chickamin, Blossom, Wilson, Keta, and Marten, as well as many Revilla Island stream systems, support salmon and other anadromous fish. Black bears compete with coastal brown bears for foraging opportunities along most of the productive salmon streams in the area.

Portions of Revilla, Gravina, and Annette Islands have been logged and have clear-cuts with habitats in various stages of regeneration. As is the case elsewhere in Southeast Alaska, habitat changes continue to occur from clear-cut logging. Although early succession stages (3–20 years after logging) provide black bears with an abundance of plant foods, later stages result in the disappearance of understory plants as conifer canopies close and sunlight does not penetrate to the forest floor. Second-growth stands lack large hollow trees and root masses used for denning habitat. Although logging may create food for bears in the short term, the long-term result of logging will likely be a decline in bear numbers (Suring et al. 1988).

ADF&G has estimated approximately 890 square miles of forested habitat on the Unit 1A mainland and 1,600 additional square miles of forested habitat on the Unit 1A islands and a portion of the lower Cleveland Peninsula within Unit 1A. Large portions of Unit 1A are designated wilderness within the Misty Fjords National Monument.

Bear distribution near Ketchikan is significantly influenced by human garbage. Although bears have probably always been numerous locally, the availability of this attractive alternative food source promotes high bear densities. Additionally, restrictions against firearm discharge within urban areas provide a refuge from harvest near the city, allowing the bear population to sustain high densities in this area. At the same time, the high human density in the area and differing attitudes toward responsible garbage handling results in a high level of human–bear conflict.

HUMAN USE HISTORY

Black bears have long been hunted in Unit 1A for trophies and food. Sealing of black bears was first required in 1973. From sealing we gather information about successful hunts and collect biological data from hunter’s bears. Until 2009, hunters have not been required to obtain a hunt registration permit or harvest report for black bears; thus, effort data for unsuccessful hunters has been unavailable. The Board of Game (BOG) passed a proposal at its 2008 meeting that requires all black bear hunters to obtain a harvest ticket and associated harvest report prior to hunting. Harvest reports will provide the department with effort data from successful, as well as unsuccessful hunters. Up until now, we have only been able to collect information on hunt effort for successful hunters from sealing data. Information from all hunters should shed additional light on the state of bear populations. We can also use hunter contact information from the reports to survey hunters about other aspects of bear hunting. As was expected, the first few years of this new regulation have been a huge learning curve for hunters. Compliance during this reporting period (RY2010-2012) has been spotty and harvest ticket data has not always aligned with bear sealing data. As hunters and license vendors get used to this new regulation, compliance will improve and we should begin collecting meaningful data during the next reporting period.

Seasons and bag limits.

Since statehood, the black bear hunting season has extended from 1 September through 30 June, and the annual bag limit for residents has been 2 bears, only 1 of which can be a blue or glacier bear. Nonresident and resident bag limits were the same until 1990, when the nonresident limit was reduced to 1 bear per year. There has been a major change in the bear hunting regulations in Southeast Alaska (Units 1–3) during this reporting period. Beginning with RY2012, all unguided nonresidents are required to draw a tag. The Unit 1A draw hunt for unguided nonresidents (DL 016) runs 1 September to 30 June. The Department issued 75 tags, respectively for RY2012, 2013 and 2014. This reduced hunting opportunity for unguided nonresidents is reflected in the lower recent harvest totals (Table 1). Black bear seasons and bag limits remain unchanged for Alaska residents and nonresidents accompanied by a registered guide.

Baiting

In 1982 it became legal to bait black bears year-round. However, in 1988, the Board of Game limited baiting in Southeast Alaska to the 15 April–15 June period. This was the same year that ADF&G records began to accurately document the number of bait permits issued. Beginning fall 1996, hunters were required to salvage the edible meat of all spring black bears killed in Southeast Alaska during 1 January–31 May. This was a compromise for hunters at a time when bear baiting faced opposition across the state. The salvage rule and bear baiting in general continue to be contentious issues, with proposals for and against these regulations coming before the BOG each cycle.

Historical harvest patterns

Annual harvest in Unit 1A increased from about 25 bears in the 1970s and early 1980s to 60 bears by the late 1980s. During the 1990s the mean annual hunter harvest was 64 bears/year, with a range of 33 to 97 bears. During this reporting period an average of 73 bears were harvested each year with a range of 57–85 (Table 1). The reduced harvest of RY2012 is a direct result of the new draw hunt that limited unguided nonresident hunters.

Resident hunters historically accounted for about 75% of the Unit 1A harvest until the late 1990s when nonresidents began harvesting around 50% of the 1A bears. This pattern of nonresident harvest remained steady through 2007 and has been declining since with a low of 32% in RY2012 (Table 2). There is no guide requirement for nonresident hunters, and most out-of-state hunters have historically hunted without a registered guide in this unit. Nonresident hunters must purchase locking tags and must affix them to a bear immediately after it is harvested. The costs of hunting for nonresidents, including a nonresident big game hunting license (\$85), nonresident big game locking tag (\$225–\$300), and expensive transportation, do not seem to limit the interest of nonresident hunters who pursue black bears in Unit 1A. However, starting in RY2012 nonresidents are limited by the number of draw tags the department makes available each year.

Boats historically have been the favored mode of transport by Unit 1A bear hunters, with highway vehicles ranking a distant second. Many bears frequent the beaches in search of grasses and sedges during the early spring, making them visible and accessible to hunters. The majority of hunters target male bears. By using the spot-and-stalk technique along the many miles of beaches in the spring, hunters are able to observe multiple animals and be selective before harvesting a bear. Consequently, approximately 74% of the Unit 1A annual bear harvest occurs during spring (April–June) (Table 3).

Prior to the recent drawing permit requirement fluctuations in annual harvest were more linked to human activity (such as logging and associated road building) and weather during hunting seasons than to changes in bear abundance. The harvest increase in the 1990s may have been linked to an increase in hunting effort by residents and nonresidents alike and may also have been associated with renewed logging in some areas. Logging activity not only opens up more areas to hunting by providing good access, it also brings more humans in contact with bears. During some of the peak logging years in the mid 1980s and early 1990s, highway vehicles provided more than 25% of the hunter transport. During this reporting period, vehicles accounted for only 14% of the hunter transport, though this is slightly higher than the 10–year average of 8% (Table 4).

Some logging roads historically open to hunters are being closed as part of an effort by the U.S. Forest Service (USFS) to reduce road maintenance costs and liability. The net effect will reduce the number of drivable road miles available to hunters by over one third. That will mean going from more than 300 miles of drivable roads currently available in the Ketchikan area to about 100 miles of roads that will remain open to motorized vehicles (USDA 2009). Many of the roads being closed are not connected to Ketchikan’s main road system and require the use of a boat to access them before offloading a truck or 4-wheeler to drive to the hunting area.

By state regulation, starting in 1996, the edible meat from spring black bears must be salvaged for human consumption, but the meat from fall bears does not require salvaging. Many hunters

find meat from spring bears very palatable, whereas hunters rarely consider fall bears taken in Southeast Alaska edible because of the salmon component in the bears' diet.

Historical harvest locations

Hunters harvest bears throughout the unit, although the highest harvests continue to come from Wildlife Analysis Areas (WAAs) 406 (Carroll Inlet), 407 (George Inlet and the Ward Cove–Harriet Hunt Lake road), and 510 (northwest Revilla Island). On the mainland, WAA 822 (Boca De Quadra) also contributes substantially to the harvest. Because of its proximity to Ketchikan, WAA 406 is a popular recreational area for Ketchikan residents. U.S. Coast Guard personnel stationed at the Shoal Cove Loran Station along Carroll Inlet regularly harvest bears in that area. WAA 407 is also easily accessed by Ketchikan residents, by boat via George Inlet and by vehicle up the Ward Cove–Harriet Hunt Lake road system. Ketchikan residents and personnel from the Neets Bay fish hatchery account for several bears taken in WAA 510 each season. WAA 822 is accessible by boat from Ketchikan and remains a very popular place to hunt. Most defense of life or property (DLP) and reported vehicle collisions occur in WAA 408 along the Ketchikan road system (Table 6).

History of urban bear management in Ketchikan

Responding to bear calls in Ketchikan continues to consume large amounts of staff time. Tasks include responding to complaints, explaining proper garbage handling and providing public safety precautions. We continue to work with the Ketchikan Police Department and Alaska Wildlife Troopers (AWT) to reduce bear–human conflicts. We use all of the available media sources to promote public service messages, and we also conduct several local education programs geared toward awareness and prevention. The combination of these efforts and good cooperation with the other agencies seems to be making a positive change, with fewer nuisance calls and fewer bears being killed in recent years.

In 2006 ADF&G and the Ketchikan City Council formed a working group to develop a city ordinance to require residents to secure garbage. During late 2007 the Ketchikan City Council passed an ordinance to track and cite offenders and to make it usable between multiple agencies. This has helped a great deal with situations where residents refuse to secure garbage and continue to create irresistible food attractions within the community.

MANAGEMENT DIRECTION

MANAGEMENT OBJECTIVES

- Maintain a male:female ratio of 3:1 in the harvest.
- Maintain an average male spring skull size of at least 17.5 inches.
- Minimize human–bear conflicts by providing information and assistance to the public and to other agencies.

Age, genetics, and environmental factors such as habitat and forage quality combine to influence black bear skull size. Sealing records indicate that mature Unit 1A black bears generally have smaller skulls than bears from the nearby Unit 2. The skull size management objective of 17.5

inches for males harvested in the spring was established in the early 1990s after harvest data analysis showed this to be the long-term average.

Skull size is used as a management tool because we believe that a change in mean skull size may indicate changes in population size and composition and provide some measure of the sustainability of the harvest levels. A decreasing average skull size may indicate a decline in that segment of the population composed of large, older bears and could indicate an overall population decline. An increasing average skull size could indicate a reduction in the proportion of younger bears in the population. Probably the most appropriate use of skull size data at this time is as an indicator of some change in the population or in hunter effort. We use skull size in conjunction with other harvest data to make our best assessment of current bear population trends.

Harvest sex ratio is the other common parameter for monitoring black bear populations. It is relied upon as a primary means of assessing population status in 19 states and provinces and as supporting information for population assessment in another 8 areas (Garshelis 1990). A changing sex ratio in harvest is thought by some bear biologists to reflect changes in the population. As a measure of harvest intensity, we expect the sex ratio to change with cohort age. In the younger age classes, males will outnumber females in the harvest. However, the higher harvest mortality of males causes their numbers to decline more rapidly with age. Males remain more vulnerable and the ratio of males to females in the harvest declines with age because of the progressive depletion of males. A 3:1 sex ratio in favor of more males in the harvest has been suggested to be a sustainable yield from a healthy bear population (Bunnell and Tait 1980).

METHODS

Black bear hides and skulls taken by successful hunters were sealed by ADF&G staff, public safety staff, and designated sealers. Biological and hunt information collected at the time of sealing included sex, skull size (length and width), pelage color, date and location of kill, number of days hunted, transportation method, guide use, and hunter use of commercial services. A premolar was collected from most bears and sent to Matson's Laboratory (Montana) for age determination.

Harvest data are organized by regulatory year (RY). A regulatory year runs from 1 July through 30 June (e.g., RY10 = 1 July 2010–30 June 2013).

RESULTS AND DISCUSSION

POPULATION STATUS AND TREND

Information obtained during sealing cannot be used directly to measure population trends. Although harvest information gained from sealing records, such as average skull sizes, average ages, and sex ratios, may provide some indication of black bear population trends, in the absence of accompanying demographic data, correlations between these measures and harvest sustainability will continue to elude us. Black bear research along the southern Southeast mainland and associated islands is needed to identify population parameters, so that we might better assess population trends and current bear harvest sustainability.

Population Size

No black bear population studies have been conducted in Unit 1A. Estimates of population size or density are difficult and expensive to obtain. The species generally inhabits forested areas, where aerial surveys are impractical. Vast, remote areas in the unit also make studies difficult and expensive to undertake. Conservative black bear density estimates for Unit 1A are based on studies in similar habitats in western Washington state in the 1960s (Poelker and Hartwell 1973) where they estimated 1.4 bears/mi². Wood (1990) and Larsen (1995) calculated a slightly higher density of 1.5 bears/mi² for most of the forested islands and mainland, and lower densities for the mainland and unproductive island habitats.

Population Composition

Our management objective of a 3:1 male-to-female harvest ratio is aimed at assuring a minimal harvest of female bears. We lack reliable information on the composition of the bear population, but use the harvest sex ratio for insight into the availability of male bears in the population. On a very gross scale, if the harvest of females increases, we may interpret that to suggest there are fewer large male bears available to hunters. This is more difficult recently because our hunter population seems to be changing. Recently we have more nonresident hunters anxiously harvesting the first bear they see rather than waiting for a good trophy male. Managers are optimistic that with the new drawing hunt in place for unguided nonresidents, hunters will place more value on black bear hunting opportunities and focus on larger, more mature bears.

Distribution and Movements

Black bears are thought to be more numerous on the islands of Unit 1A than on the mainland, however, population estimates for Unit 1A black bears are not available.

Black colored pelage is most common and occurs throughout the bears' range. The cinnamon color phase occurs in mainland portions of the unit and occasionally on Revilla Island. Black bears with glacier (blue) pelage are also found in Unit 1A. Kermode bears, or those with white pelage, have been reported in extreme southern mainland portions of the unit along the Portland Canal but to date none have been harvested.

MORTALITY

Harvest

<u>Season</u>	<u>Bag limit</u>
1 September–30 June	Resident hunters: 2 bears, not more than 1 of which may be a blue or glacier bear
1 September–30 June	Nonresident hunters using registered guides: 1 bear
1 September–30 June (DL016)	Nonresident hunters not using registered guides: 1 bear by drawing permit only.

Game Board Action and Emergency Orders: At the 2010 meeting, in response to unsustainable black bear harvests in some parts of Southeast Alaska the BOG established draw hunts for all nonresident black bear hunters not using registered guides. The justification for these hunts can

be found in Board of Game Direction on Black Bear Guide Allocations and Harvests in Southeast Alaska (ADFG 2011).

We issued no emergency orders affecting black bears in Unit 1A during this report period.

Hunter harvest. Hunters harvested 78, 85, and 57 bears during 2010, 2011, and 2012 seasons respectively. The most recent 3-year average ($\bar{x} = 73$ bears) was slightly lower than the previous 7-year average ($\bar{x} = 79$ bears) and lower than the previous 3-year reporting period (RY2007–2009) average of 88 bears (Table 1).

Miller (1990) suggested it would be more important to monitor the number of females in the harvest rather than percentage of males. Taylor (1986) noted the effect of hunting pressure on breeding females was critical in sustained yield management. Males typically compose over 75% of the bears killed in Unit 1A, and during the past 10 years 81% of the harvest has been male bears. The 3-year average male harvest for this reporting period is 82% (Table 1).

The average male skull size during this report period was 17.9 inches. We continue to meet our management objective of 17.5-inch average for male bears during the spring harvest. The skull size data for all seasons shows only a slight variation between yearly and spring-only male skull size. Female skull size average for this reporting period was 16.2 inches and has remained virtually identical to the previous 7-year average of 16.1 inches (range 15.8 inches–16.6 inches) (Table 5).

The annual average number of successful hunters during this report period (73) was slightly lower than the previous 7-year average of 79 (range 48–102). The number of successful hunters in 2006 (102) is the historic record. The following season, 2007 holds the record for hunter days with 276. Days in the field per successful hunter during this reporting period has remained stable for the past 10 years (range 2.3–2.6) (Table 5).

Hunter residency and success. The nonresident harvest of black bears in Unit 1A has varied historically but the current 10-year trend is that non-residents harvest on average, 44% of the bears in the unit (Bethune 2011). During the 2010, 2011 and 2012 seasons, 38%, 35% and 32% respectively, of successful hunters were nonresidents. Managers believe this downward trend in nonresident harvest could be linked to the draw hunt implementation and the increased interest in hunting the adjacent Prince of Wales Island bears. Alaska residents not living in Unit 1A (nonlocal) historically harvest only approximately 5% of the bears in this area. During this report period, nonlocal residents harvested just 7% of Unit 1A bears. However, 2011 did have the highest nonlocal harvest of the past decade, with 10 nonlocal hunters accounting for 12% of the harvest (Table 2).

Harvest chronology during report period. Unit 1A bears are most visible and accessible during the spring, when they are on the beaches feeding on sedges and grasses. The hides are also most prime during this same period. During this report period, May continued to be the most popular month for Unit 1A harvest (44%), followed by June (26%) and September (24%). The May trend during the past 3 years is down slightly from the previous 7-year average of 52% (Table 3).

Bait stations. Bear baiting has never been popular in Unit 1A. Only 2–5 bait permits are issued annually and bears are just sporadically harvested using this method. During the 3 years of this report period only 6 bears were reported killed in Unit 1A using bait (Table 1).

Hunting with dogs. Hunting bears with dogs in Unit 1A requires a permit. Hunting with dogs has never been popular in this unit, and permits are issued only occasionally. No permits were issued to hunt bears with dogs in Unit 1A during this report period.

Guided hunter harvest. Guided black bear hunts are not as popular in Unit 1A as in some other nearby Units such as 2 and 3, but most that are conducted are sold as part of combination or add on hunts. Only 4 guides operated black bear hunts in Unit 1A during this reporting period. During the past 3 years, guides have conducted an average of 6 successful hunts (range 5–8) in Unit 1A. The 10-year average is also 6 guided bears per year (ADFG WinfoNet). The highest harvest by guided hunters on record for Unit 1A was during the 1999 and 2002 seasons, when 14 guided clients took bears during each of these years.

Transport methods. Boats continue to be the most popular mode of transportation used by all types of bear hunters in Unit 1A. During this reporting period 78% of successful hunters used boats to access hunting areas in Unit 1A. This is the lowest percentage of hunters using a boat to black bear hunt for the past decade. The use of highway vehicles in 2011 and 2012 (12% and 26% respectively) were some of the highest uses of highway vehicles on record (Table 4). The high use of vehicles in 2012 is likely an effect of the draw hunt. With fewer nonresidents hunting the unit a higher percentage of locals harvested bears in the Unit (Table 2).

Other mortality

Wounding loss. Wounding loss may be a significant source of mortality for Unit 1A bears, but this is based on anecdotal information with little documentation. Forest understory is dense, and frequent rainfall complicates the task of tracking wounded animals. At the time of sealing, hunters sometimes volunteer that they shot at additional bears while hunting but were unable to determine if they hit the animal. Nonresident hunters probably wound more animals than residents because of unfamiliarity with local conditions and vegetation, distance, and bear behavior. Based on reports from hunters, guides and collared bears in Unit 2 (Porter and Bethune unpublished), managers estimate wounding losses up to 25%.

HABITAT

Assessment

Several more timber sales are planned in Unit 1A. Proposed sales on Gravina Island include construction of additional roads into the interior of the island. The Alaska Mental Health Trust Authority began doing selective cutting using helicopters on the north side of Gravina Island during 2005. This timber harvest removed much of the large cedar stands from the north face of the island. The State of Alaska also released a large timber sale in the center of Gravina and that timber was removed in 2006 and 2007. Additional state land units are in the planning phase in the center of Gravina Island and will be clear cut by end of 2017. The Forest Service has prepared several timber sales targeting most of the remaining large timber on the central and northern portions of Gravina Island. However, most of the remaining Federal timber sales are

included in the new Federal road less areas and consequently will not be cut unless exceptions are made through congress for individual timber sales. Collectively, these timber sales target some of the most important (to black bear and deer) old-growth areas. With better access due to road building we anticipate more hunters and consequently an increase in black bear harvest.

During this reporting period, large timber operations have been conducted on Sealaska Corporation land on the Cleveland Peninsula, resulting in the loss of important habitat for black bears, deer and mountain goats. These clearcut logging operations are currently on-going and will finish late 2015.

Second-growth stands at many previously logged Revilla Island sites are now reaching the closed canopy stem-exclusion stage, and we expect forest productivity to decline and result in lower bear densities. New clearcut areas will provide abundant forage for black bears resulting in more bears in the next 10–20 years. After that period we expect bear numbers to decline as forest regrowth reaches the stem exclusion stage.

Enhancement

No habitat enhancement projects specifically meant to benefit black bears have been attempted in the unit. Although intended as a silviculture practice, precommercial thinning and pruning has been performed in some young second-growth stands. Although not the primary intent, this effort provides a benefit to wildlife by improving and extending habitat suitability in the short-term by permitting sunlight to reach the forest floor and increase understory production. These benefits are short-lived (20–25 years), after which time canopy closure again results in loss of understory vegetation. The long-term effects of clearcut logging even with precommercial thinning will eventually be detrimental to black bear populations.

NONREGULATORY MANAGEMENT PROBLEMS AND NEEDS

Non-hunting issues. Margaret Creek, located on Revilla Island approximately 20 miles north of Ketchikan, is a contentious area. There is an improved U.S. Forest Service trail leading to an existing fish weir and recently improved view platform, providing access for bear viewing. Several air charter services now provide bear viewing trips from Ketchikan for visiting cruise ship passengers. There have been several clashes with hunters and bear viewers in past years. Signs are now posted and a Forest Supervisor's order closed the immediate area around the bear viewing platform and access trail to the discharge of firearms. At the 2010 Board of Game meeting following extensive public discussion regarding bear viewing and appropriate buffer zones near this established bear-viewing site, bear hunting regulations were changed. Starting in September 2010, it became illegal to hunt bears one quarter mile either side of Margaret Creek from salt water upstream to Margaret Lake. This now provides a buffer between bear viewers and bear hunters and seems to have reduced user conflict.

Neets Bay, also on Revilla Island, has recently developed into a substantial bear-viewing site. Southern Southeast Regional Aquaculture Association (SSRAA) operates a salmon hatchery at this site and contracts with air charter services to transport cruise ship passengers to the site for bear viewing. SSRAA provides a natural history/bear guide who escorts tourists from the dock to the viewing site.

Urban bear management activities. Household garbage, bird feeders, pet foods, and small livestock such as chickens continue to attract bears to urban locations. We are working with the police departments, city managers, and AWT to provide educational material on how to reduce bear encounters by residents of Unit 1A. Combined, AWT, Ketchikan Police Department, and the Ketchikan ADF&G office currently receive 200–500 calls annually (down from 800–1000 calls previously) from residents asking for help with food-conditioned bears. While responding to these calls, we inform the public about their responsibilities and options. The City of Ketchikan has distributed approximately 2000, 90-gallon roller-cans to residents in an attempt to reduce the availability of garbage to bears and this seems to be helping in some areas. Fish and Game staff also spent time talking to school classes about bear safety and bear awareness. All of these efforts seem to be paying off recently. Nuisance bear calls are down by about 25%, and the number of bears killed under defense of life or property is also down during this report period.

The Ketchikan landfill site was closed in 1994, and many food-conditioned bears near town were either captured and relocated or killed. Prior to that dump closure an average of 2–8 bears per year were killed each year in Ketchikan. Since 1997, an average of 10 bears (range 5–20) have been killed annually. Residents continue to provide opportunities for bears to access human foods and are currently educating new bears. Consequently, bears are common around town in the summer and fall, and are periodically killed either by ADF&G, enforcement officers, or frustrated local residents. A total of 11 bears were killed under DLP/nuisance situations across the entire unit during this report period, which is similar to the last report period when 13 were listed as DLP/nuisance bear kills (Table 1). We continue to educate the public about proper garbage handling to prevent bears from becoming food conditioned and reduce the public safety issues and needless killing of bears.

CONCLUSIONS AND RECOMMENDATIONS

Black bears are an important big game species in Southeast Alaska, and the Unit 1A harvest continues to be important for both residents and nonresidents.

The 2012 season saw a reduction in the black bear harvest due to the new unguided nonresident draw hunt (DL016). This is likely indicative of future harvests until managers believe there are additional surpluses of bears and can increase the number of permits. When the draw hunt was implemented, managers were concerned about unsustainable harvests on nearby Prince of Wales Island. Units 1 and 3 were included in the draw partially due to fears that if those units were left as a general hunt there would be a significant shift in hunter effort to these neighboring units. Unit 1A was historically not as popular a black bear hunt area as nearby Unit 2. Consequently, leftover Unit 1A permits have been available on a first come, first served basis over-the-counter for those hunters who did not draw Unit 2 and are still looking for alternative black bear hunting opportunities in Southeast Alaska.

The current harvest ratio, proportion of females, average skull size, and age structure of the harvest all suggest a stable bear population. Harvest records indicate the annual kill remains low relative to our crude population estimate. Harvest records also indicate a healthy male component and have not shown any discernible changes in skull size, age, or sex parameters.

As local bear viewing interest continues to grow with commercial tourism, we will undoubtedly be faced with allocation issues related to both human safety and bear preservation, requiring

compromise by hunters and wildlife watchers. Urban bears continue to occupy staff time, although we are making some headway in this arena, and public education efforts continue. The only effective way to address this issue is to involve city decision makers so the responsibility of managing bear attractants is placed on each member of the community.

As logging continues and large tracts of previously logged habitat rapidly convert to second growth forest, hunters will lose the visibility to locate bears in these areas that previously allowed successful spot and stalk hunting for black bears. We also anticipate reductions in Unit 1A bear numbers due to habitat changes, and consequently we expect fewer bears available for harvest. Research is needed to better identify and understand the life history and demographics of Unit 1A black bears.

REFERENCES CITED

- ADF&G (Alaska Department of Fish and Game). 2011. Board of Game direction on black bear guide allocations and harvests in Southeast Alaska. Juneau.
- Bethune, S. 2011. Subunit 1A black bear management report. Pages 1–20 [In] P. Harper, editor. Black bear management report of survey and inventory activities 1 July 2007–30 June 2010. Alaska Department of Fish and Game, Division of Wildlife Conservation, Federal Aid in Wildlife Restoration Project 17.0, Juneau.
- Bunnel, F. L. and D. Tait. 1980. Bears in models and in reality—implications to management. Pages 15–25 [In] C.J. Martinka, editor. Bears—their biology and management. U.S. Government Printing Office, Washington, DC.
- Garshelis, D. L. 1990. Monitoring effects of harvest on black bear populations in North America: a review and evaluations of techniques. Pages 120–144 in Clark, J.D., and K.G. Smith, editors. Proceedings of the Tenth Eastern Workshop on Black Bear Research and Management.
- Larsen D. N. 1995. Black bear harvests and management, Prince of Wales and adjacent islands. Unpublished report, Alaska Department of Fish and Game, Division of Wildlife Conservation, Ketchikan.
- Miller, S. D. 1990. Population management of bears in North America. International Conference on Bear Research and Management. 8:357–373.
- Poelker, R. J. and H. D. Hartwell. 1973. Black bear of Washington. Biological Bulletin No. 14. Federal Aid Project W-71-R. Olympia, Washington.
- Suring, L. H., E. J. Degayner, R. W. Flynn, T. McCarthy, M. L. Orme, R. E. Wood, and E. L. Young. 1988. Habitat capability model for black bear in southeast Alaska. USDA Forest Service, Tongass National Forest.
- Taylor, M. 1986. Risk analysis for black bear populations. Eastern Workshop Black Bear Research and Management. 8:174–184.

USDA (United States Department of Agriculture) Forest Service. 2009. Access travel management plan environmental assessment Ketchikan-Misty Fjords. Ketchikan-Misty Fjords Ranger District. Tongass National Forest, Alaska.

Wood, R. E. 1990. Black bear survey-inventory progress report. Pages 1–6 [In] S. O. Morgan, editor. Annual report of survey-inventory activities. Part IV. Black bear. Vol. XX. Alaska Department of Fish and Game Federal Aid in Wildlife Restoration Progress Report. Project. W-23-2, Study 17.0, Juneau.

PREPARED BY:

Stephen Bethune
Wildlife Biologist II

APPROVED BY:

Ryan Scott
Regional Management Coordinator

Please cite information taken from this section, and reference as:

Bethune, S. and B. Porter. 2014. Unit 1A black bear management report. Chapter 1, pages 1-1 through 1-20 [In] P. Harper and Laura A. McCarthy, editors. Black bear management report of survey and inventory activities 1 July 2010–30 June 2013. Alaska Department of Fish and Game, Species Management Report, ADF&G/DWC/SMR-2014-5, Juneau.

The State of Alaska is an Affirmative Action/Equal Opportunity Employer. Contact the Division of Wildlife Conservation at (907) 465-4190 for alternative formats of this publication.

Table 1. Unit 1A black bear harvest, RY2003–2012.

Regulatory year	Reported										Total estimated kill ^c							
	Hunter kill					Nonhunting kill ^a					M		F		Unk		Total	
	M	F	Unk	Total	Baited ^b	M	F	Unk	Total	M	(%)	F	(%)	Unk	Total			
2003																		
Fall 2003	6	8	0	14	0	2	0	0	2	8	(50)	8	(50)	0	16			
Spring 2004	32	8	0	40	1	1	0	0	1	33	(80)	8	(20)	0	41			
Total	38	16	0	54	1	3	0	0	3	41	(72)	16	(28)	0	57			
2004																		
Fall 2004	12	7	0	19	0	1	1	0	1	13	(62)	8	(38)	0	21			
Spring 2005	24	5	0	29	1	2	0	0	2	26	(84)	5	(16)	0	31			
Total	36	13	0	48	1	3	1	0	4	39	(75)	13	(25)	0	52			
2005																		
Fall 2005	13	13	0	26	0	2	0	0	2	15	(54)	13	(46)	0	28			
Spring 2006	53	8	0	61	0	1	1	0	2	54	(89)	9	(11)	0	63			
Total	66	21	0	87	0	3	1	0	4	69	(76)	22	(24)	0	91			
2006																		
Fall 2006	17	8	0	25	0	0	1	0	1	17	(65)	9	(35)	0	26			
Spring 2007	70	7	0	77	0	0	1	0	1	70	(90)	8	(10)	0	78			
Total	87	15	0	102	0	0	2	0	2	87	(84)	17	(16)	0	104			
2007																		
Fall 2007	18	8	0	26	0	6	2	0	8	24	(71)	10	(29)	0	34			
Spring 2008	61	14	0	75	1	0	0	0	0	61	(81)	14	(19)	0	75			
Total	79	22	0	101	1	6	2	0	8	85	(78)	24	(22)	0	109			
2008																		
Fall 2008	16	5	0	21	0	2	1	0	3	18	(75)	6	(25)	0	24			
Spring 2009	59	5	0	64	0	1	0	0	1	60	(92)	5	(8)	0	65			
Total	75	10	0	85	0	3	1	0	4	78	(88)	11	(12)	0	89			

Table continues next page

Table 1. continued.

Regulatory year	Reported										Total estimated kill ^c							
	Hunter kill					Nonhunting kill ^a					M		F		Unk		Total	
	M	F	Unk	Total	Baited ^b	M	F	Unk	Total	M	(%)	F	(%)	Unk	Total			
2009																		
Fall 2009	12	6	0	18	0	0	0	0	0	12	(67)	6	(33)	0	18			
Spring 2010	52	7	0	59	0	1	0	0	1	53	(88)	7	(12)	0	60			
Total	64	13	0	77	0	1	0	0	1	65	(83)	13	(17)	0	78			
2010																		
Fall 2010	17	6	0	23	0	0	0	0	0	17	(74)	6	(26)	0	23			
Spring 2011	49	6	0	55	1	0	0	0	0	49	(89)	6	(11)	0	55			
Total	66	12	0	78	1	0	0	0	0	66	(85)	12	(15)	0	78			
2011																		
Fall 2011	14	5	0	19	0	0	5	0	5	14	(58)	10	(42)	0	24			
Spring 2012	54	12	0	66	4	1	0	0	1	55	(82)	12	(18)	0	67			
Total	68	17	0	85	4	1	5	0	6	69	(76)	22	(24)	0	91			
2012																		
Fall 2012	11	4	2	17	0	3	2	0	5	14	(64)	6	(36)	2	22			
Spring 2013	35	5	0	40	1	0	0	0	0	35	(88)	5	(12)	0	40			
Total	46	9	2	57	1	3	2	0	5	49	(79)	11	(18)	2	62			

^a Includes DLP kills, research mortalities, and other known human-caused mortality.

^b Bears reported harvested over bait.

^c Percent by sex based only on known harvest total

Table 2. Unit 1A residency of successful black bear hunters, RY2003–2012.

Regulatory year	Local ^a resident	(%)	Nonlocal resident	(%)	Nonresident	(%)	Total
2003	24	(45)	4	(7)	26	(48)	54
2004	21	(44)	3	(6)	24	(50)	48
2005	41	(47)	1	(1)	45	(52)	87
2006	51	(50)	3	(3)	48	(47)	102
2007	43	(43)	4	(4)	54	(53)	101
2008	44	(52)	7	(8)	34	(40)	85
2009	42	(55)	1	(1)	34	(44)	77
2010	46	(59)	2	(3)	30	(38)	78
2011	45	(53)	10	(12)	30	(35)	85
2012	36	(63)	3	(5)	18	(32)	57
Average	39	(51)	4	(5)	34	(44)	77

^a Local hunters are those hunters that reside in Unit 1A.

Table 3. Unit 1A black bear hunter harvest chronology by month^a, RY2003–2012.

Regulatory year	Harvest periods												<i>n</i>
	Sep	(%)	Oct	(%)	Nov	(%)	Apr	(%)	May	(%)	Jun	(%)	
2003	13	(24)	1	(2)	0	(0)	1	(2)	30	(55)	9	(17)	54
2004	16	(33)	3	(6)	0	(0)	1	(2)	23	(48)	5	(11)	48
2005	23	(26)	3	(4)	0	(0)	2	(2)	39	(45)	20	(23)	87
2006	22	(21)	2	(2)	1	(1)	1	(1)	56	(55)	20	(20)	102
2007	23	(23)	1	(1)	2 ^b	(2)	3	(3)	55	(54)	17	(17)	101
2008	20	(24)	1	(1)	0	(0)	6	(7)	42	(49)	16	(19)	85
2009	16	(20)	2	(3)	0	(0)	2	(3)	44	(57)	13	(17)	77
2010	20	(25)	3	(4)	0	(0)	4	(5)	35	(45)	16	(21)	78
2011	18	(21)	1	(1)	0	(0)	1	(1)	36	(43)	29	(34)	85
2012	14	(24)	2	(3)	1	(2)	1	(2)	26	(46)	13	(23)	57
Average	19	(24)	2	(2)	0	(0)	2	(2)	39	(51)	16	(21)	77

^a Does not include bears killed during closed season.

^b Includes one December kill.

Table 4. Unit 1A transportation methods use in harvesting black bears, RY2003–2012.

Regulatory year	Transport												<i>n</i>
	Air	(%)	Boat	(%)	Highway vehicle	(%)	Walk	(%)	ORV	(%)	Unk	(%)	
2003	2	(4)	48	(88)	2	(4)	1	(2)	1	(2)	0	(0)	54
2004	1	(2)	45	(94)	2	(4)	0	(0)	0	(0)	0	(0)	48
2005	0	(0)	81	(93)	5	(6)	1	(1)	0	(0)	0	(0)	87
2006	1	(1)	89	(87)	4	(4)	4	(4)	4	(4)	0	(0)	102
2007	0	(0)	88	(87)	7	(7)	4	(4)	1	(1)	1	(1)	101
2008	0	(0)	81	(96)	2	(2)	2	(2)	0	(0)	0	(0)	85
2009	3	(4)	63	(81)	7	(9)	2	(3)	2	(3)	0	(0)	77
2010	1	(1)	67	(86)	6	(8)	3	(4)	1	(1)	0	(0)	78
2011	2	(2)	64	(76)	10	(12)	5	(6)	2	(2)	2	(2)	85
2012	0	(0)	40	(70)	15	(26)	0	(0)	2	(4)	0	(0)	57
Average	1	(1)	67	(87)	6	(8)	2	(3)	1	(1)	0	(0)	77

Table 5. Unit 1A successful black bear hunter effort, mean skull size, and mean age, RY2003–2012

Regulatory year	Hunter effort			Mean skull size ^a (inches)				Average age (years) ^b			
	Total days	Nr hunters	Mean days per hunter	Male	<i>n</i> ^c	Female	<i>n</i> ^c	Male	<i>n</i> ^c	Female	<i>n</i> ^c
2003											
Fall 2003	32	14	2.3	18.4	6	16.2	8	9.0	6	6.0	6
Spring 2004	108	40	2.7	18.3	32	15.8	8	9.9	32	5.5	8
Total/Average	140	54	2.6	\bar{x} =18.4	38	\bar{x} =16.0	16	\bar{x} =9.8	38	\bar{x} =5.7	14
2004											
Fall 2004	57	19	3.0	18.7	12	15.6	8	8.5	10	5.1	7
Spring 2005	69	29	2.4	18.9	23	16.2	5	11.5	24	11.3	4
Total/Average	126	48	2.6	\bar{x} =18.8	35	\bar{x} =15.8	13	\bar{x} =10.6	34	\bar{x} =7.4	11
2005											
Fall 2005	46	26	1.8	17.4	12	15.7	13	7.5	13	7.9	13
Spring 2006	161	61	2.6	18.7	52	16.5	8	10.3	51	11.1	8
Total/Average	207	87	2.4	\bar{x} =18.5	64	\bar{x} =16.0	21	\bar{x} =9.7	64	\bar{x} =9.1	21
2006											
Fall 2006	50	25	2.0	16.9	17	15.8	8	7.2	17	9.7	7
Spring 2007	197	77	2.6	18.5	68	16.7	7	10.8	68	15.3	6
Total/Average	247	102	2.4	\bar{x} =18.2	85	\bar{x} =16.2	15	\bar{x} =10.1	85	\bar{x} =12.3	13
2007											
Fall 2007	48	26	1.8	17.5	19	16.1	8	7.2	17	12.1	8
Spring 2008	228	75	3.0	18.1	60	16.4	14	9.9	58	12.4	14
Total/Average	276	101	2.7	\bar{x} =18.0	79	\bar{x} =16.3	22	\bar{x} =9.3	75	\bar{x} =12.3	22
2008											
Fall 2008	58	21	2.8	17.2	16	16.1	5	7.8	15	7.8	4
Spring 2009	151	64	2.4	18.1	58	16.2	5	8.1	58	12.2	5
Total/Average	209	85	2.5	\bar{x} =17.9	74	\bar{x} =16.1	10	\bar{x} =8.0	73	\bar{x} =10.2	9

Table continued next page

Table 5. continued.

Regulatory year	Hunter effort			Mean skull size ^a (inches)				Average age (years) ^b			
	Total days	Nr hunters	Mean days per hunter	Male	<i>n</i> ^c	Female	<i>n</i> ^c	Male	<i>n</i> ^c	Female	<i>n</i> ^c
2009											
Fall 2009	46	18	2.6	17.2	12	16.0	6	7.3	12	8.0	6
Spring 2009	150	59	2.5	18.1	52	15.8	7	10.9	51	14.3	7
Total/Average	196	77	2.5	\bar{x} =17.9	64	\bar{x} =15.9	13	\bar{x} =10.2	63	\bar{x} =11.4	13
2010											
Fall 2010	42	23	1.8	17.0	16	16.1	6	7.0	16	11.8	5
Spring 2011	140	55	2.5	17.9	48	15.9	5	8.9	46	10.4	5
Total/Average	182	78	2.3	\bar{x} =17.7	64	\bar{x} =16.0	11	\bar{x} =8.4	62	\bar{x} =11.1	10
2011											
Fall 2011	37	19	1.9	17.2	14	15.6	5	6.7	14	8.6	5
Spring 2012	178	65	2.7	18.1	52	16.5	11	9.7	49	9.9	11
Total/Average	215	84	2.6	\bar{x} =17.9	66	\bar{x} =16.2	16	\bar{x} =9.0	63	\bar{x} =9.5	16
2012											
Fall 2012	26	17	1.5	17.6	11	16.5	4	--	--	--	--
Spring 2013	112	40	2.8	18.1	33	16.7	5	--	--	--	--
Total/Average	138	57	2.4	\bar{x} =18.0	44	\bar{x} =16.6	9	--	--	--	--

^a Skull sizes equal length plus zygomatic width.

^b Bear ages for 2012 not available, results still pending from lab at time of printing.

^c *n* represents sample size. Totals included may not equal other tables due to damaged skulls or missing teeth at sealing.

Table 6. Unit 1A black bear harvest by Wildlife Analysis Area (WAA), RY2003–2012

WAA	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
0101	1	2	1	2	4	5	2	6	7	6
0303					1					
0404	2	1	2	5	8	3	3			2
0405	1	1		3	1	3	5	1		1
0406	8	9	18	24	20	17	18	23	18	11
0407	8	7	12	13	9	6	8	15	17	19
0408				3	2		1	1	2	
0509	4	4	7	3	4	6	4	3	6	2
0510	13	8	25	10	29	12	11	14	17	9
0511	1	1			1				2	
0612		1				1				
0613	1	1	1	2	5	6	3		3	1
0614	1			1						
0715	1		2	5	2	4	3	2	4	
0716		1	3	1	1	2	1		1	2
0717				1	1	1	1	1	2	
0718										
0719	1			1	1		1		1	
0820	4	3	2	2	1	1	1	1	1	
0822	2	7	12	20	8	12	9	4	2	1
0823	3		1					2		3
0824	1	2	1	6	2	5	2	4		
0825	2				1			1		
0826		1			1		3			