



## Alaska National Parks News Release

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### Katmai Bear Data Reviewed

The National Park Service and the Alaska Department of Fish and Game have conducted several aerial surveys of bears in the Katmai region over the past 27 years. Collectively, these surveys have informed those who manage bear hunting and other public uses on the Alaska Peninsula. Some of the surveys are directly comparable, meaning they were done at the same time of year with the same methodology. Others differed in their scope. In every case, there are inescapable margins of error due to the difficulty of seeing bears from the air, weather which precludes flying in certain locations, and errors in counting or extrapolating data. Additionally, using data from small areas to draw landscape-scale conclusions can produce incorrect results.

Over time, however, as certain counts are repeated and different portions of the Alaska Peninsula and Katmai National Preserve bear population are surveyed, a relatively clear picture emerges. We believe these data support our conclusion that bear populations are healthy and that there are high concentrations of bears in Katmai National Park and Preserve.

We draw those conclusions from several findings.

#### Data from harvested bears:

Summary of ADFG sealing data on bears harvested in Katmai Preserve.

<b>PRESERVE HARVESTS – 9C</b>	<b>25 YEAR AVERAGE</b>	<b>AVERAGE SINCE 2000</b>	<b>2005 HARVEST</b>
PRESERVE HARVEST	15	29.3	35
RESIDENT HUNTERS (%)	5 (32)	13 (43)	11 (31)
NONRESIDENT HUNTERS(%)	10 (68)	17 (57)	24 (69)
MALE BEARS (%)	10 (67)	21 (73)	23 (66)
FEMALE BEARS (%)	5 (33)	8 (27)	12 (34)
MEAN SKULL SIZE – MALE	23.2	23.8	24.5
MEAN AGE – MALE	7.4	7.9	9.2

Comparing recent harvest data with the 25-year average shows little change other than the actual number of bears taken by hunters, and the number of hunters.

Since the brown bear hunt is almost exclusively a trophy hunt, most hunters prefer to target larger male bears. Harvests in which male bears make up more than 60% of the total harvest are generally indicative of healthy population parameters. These data from the national preserve show the percentage of males in the harvest has remained essentially unchanged over time.

Similarly, if the harvested bears were getting smaller and younger, it could indicate over-harvesting of older, larger bears. These harvest data do not reflect reductions in age or size of bears harvested within the preserve.

The conclusion we draw from the data is that while the average harvest has increased since 2000, there is a high likelihood that the overall population is stable or growing.

**August surveys:**

Year	Drainages <sup>1</sup>	Reps	Average Count	% Singles**	% Offspring	Estimated Number of bears in Katmai Preserve during August***
1979*	M & F	1	21	--	--	--
1983*	M & N	1	25	--	--	--
1986*	M & N	1	4	--	--	--
2005*	All Major****	1	91	46	39	189
2006	All Major****	3	159	38	41	331
2007	All Major****	3	279	42	38	581

<sup>1</sup> SHOWS WHICH CREEKS WERE SURVEYED. M = MORAINE CREEK, F = FUNNEL CREEK, N= NANUKTUK CREEK.

\* INSUFFICIENT REPLICATION AND/OR AREA SURVEYED FOR EXTENSIVE ANALYSIS

\*\* 30-50% range indicates harvests are sustainable

\*\*\* Estimate based on a sightability correction factor developed for bear stream surveys on the Alaska Peninsula (Erickson and Siniff 1963, Sellers *in prep*). This is approx. the same value used as a correction factor for brown bear surveys on Kodiak Island (Van Daele, personal comm.).

\*\*\*\* All major drainages included M, F, & N, which together yielded 76% of the counted bears in the preserve during 2005, 2006, and 2007.

Moraine Creek and Nanuktuk Creek are two of the major salmon streams in Katmai National Preserve along which bears congregate in the late summer and fall. Multiple flights in 2006 and 2007 along those and other streams produced estimates of 331 and 581 bears in the preserve.

Thirty-five bears were harvested in the preserve during the two-year period that included the spring and fall hunting seasons preceding the 2006 survey, and the spring and fall following the 2006 survey. The average annual harvest over that two-year period (17/18 bears/year average) was slightly more than 5 percent of the estimated population of 331 bears – a figure which wildlife biologists consider conservative.

Excluding two large lakes, the preserve is about 386 square miles. The August population estimates of 331-581 bears suggest an average density of about one bear per square mile within the preserve. This represents a high density compared to many other locations in Alaska.

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The NPS and ADFG do not have precise estimates of the bear population in the preserve before 2005. However, the available fall bear count data is suggestive of increasing bear numbers. Survey flights in the 1980s found no more than 25 bears along Moraine and Nanuktuk creeks.

The bears sighted on Moraine and Nanuktuk creeks in 2005, 2006 and 2007 constituted 41%-63% of all the bears sighted within the preserve. The other drainages surveyed in the preserve during 2005-2007 had not been counted in the 1980s, and it is unclear from the historical data whether biologists believed there were significant numbers of bears in other locations within the preserve at that time. Consequently, any conclusions we might make about overall population size during the 1980's would be speculative, but increased bear activity throughout the area is one conclusion that is supported anecdotally by area residents and visitors.

### **Spring surveys:**

Another method of estimating the population of bears is to conduct surveys in the spring, when the bears are out of their dens and visible, because foliage hasn't yet leafed-out. Bears are also generally closer to their dens in the spring (as compared with fall counts when they are generally congregated along salmon streams, which may or may not be close to dens).

Three spring estimates of population have been over the past 17 years.

The first of these, in 1990 ([Sellers and Miller 1991](#)), estimated a population of 195 bears within Katmai Preserve and the Alagnak River drainage outside of Katmai National Preserve (portions of which are managed by the NPS).

In 1993, aerial surveys of just the preserve produced a population estimate of 131 to 184 bears ([Sellers et al. 1999](#)).

More recently, in 2004-5, a different method was used to estimate the bear population in a large portion of Game Management Unit 9c ([Olson and Putera in prep](#)). This unit includes the preserve, as well as the much larger Katmai National Park and some non-park land to the west of Katmai. This work produced an estimate of 2,255 bears in Unit 9c, with a margin of error of +/- 306 bears.

The 2004-5 work also produced an estimation of huntable population in NE portion of Unit 9. This was based on survey work by NPS and ADFG in 9A, 9B, and 9C with extrapolation to a small corner of 9B not surveyed.

<b>NE UNIT 9 POPULATION</b>	<b>ESTIMATE</b>	<b>AVERAGE ANNUAL HARVEST (%)</b>
POPULATION ESTIMATE NE UNIT 9	1100-1500	63 (4.2-5.7)

This “hunnable population” was the estimated number of bears that were within in those areas that were open to sport hunting, including the preserve and other areas outside of NPS jurisdiction. The estimate did not include bears in Katmai or Lake Clark National Parks, nor did it account for bears on state lands that were closed to hunting. During these two years, the average annual harvest was 63 bears, a conservative percentage (4.2% - 5.7%) of the estimated population in the larger area.

Although these figures are not directly related to the National Park Service’s mission of maintaining a high concentration of bears in Katmai, they do suggest that the broader management of bear hunting in the region is conservative. The data also indicate that bears face similar harvest rates in the preserve as areas open to sport hunting nearby.

**Summary**

Data for managing wildlife populations over large areas are rarely as complete as managers could hope for, and the Alaska Peninsula data is no exception. Nevertheless, ADFG finds the data for this region as good as or better than any in Alaska for similar management situations. Based on all the evidence we know, the National Park Service is confident that it is meeting its Congressional responsibility for a “high concentration” of brown/grizzly bears.

Different opinions and conclusions about methods and means of hunting, and the the allowances for various activities on lands within the National Park System or those managed by the state of Alaska, may be addressed by policy-making bodies such as the United States Congress or the Alaska Legislature.

The National Park Service and the Alaska Department of Fish and Game will continue to gather data on bears in Katmai National Park and Preserve and on the Alaska Peninsula in order to present policy makers with the best science available to further inform their decision making.