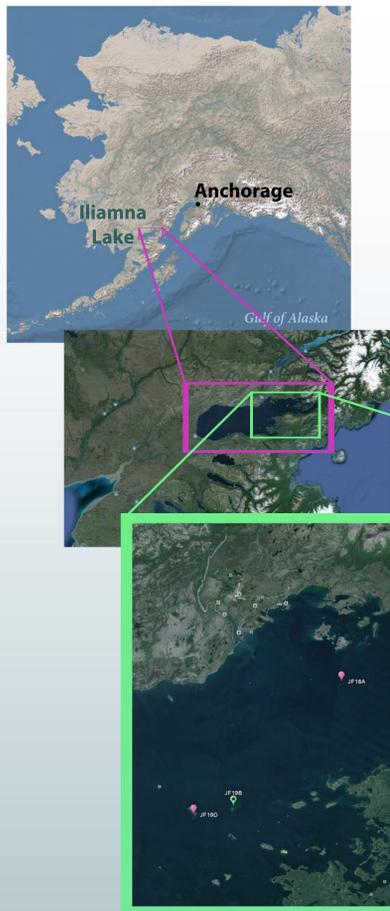


# Freshwater Seals of Iliamna Lake: Recent Population Updates



This information and general overview is intended for informational purposes only and does not constitute a recommendation or endorsement of any product or service. For more information, please contact the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, or the National Marine Fisheries Service.



David Withrow<sup>1</sup>, Jennifer Burns<sup>2</sup>, Peter Boveng<sup>1</sup>, Jay Ver Hoef<sup>1</sup>, and Greg O'Corry-Crowe<sup>3</sup>

<sup>1</sup> NOAA, Alaska Fisheries Science Center  
National Marine Mammal Laboratory  
Seattle, WA 98115

<sup>2</sup> University of Alaska Anchorage  
Department of Biological Sciences  
Anchorage, AK 99508

<sup>3</sup> Florida Atlantic University  
Harbor Branch  
Fort Pierce, FL 34946



Iliamna Lake, a large freshwater lake located approximately 365 km southwest of Anchorage, is home to a small, potentially isolated, group of harbor seals.



Although the seals have access to Bristol Bay via the (115 km long) Kvichak River, it remains unclear whether all or some proportion of the seals remain in the lake year-round.



Seals in Iliamna Lake have been seen hauled out on 24 different islands within the lake, and are occasionally sighted around river mouths, but never along the lake's shoreline. These areas are relatively free from predators and disturbance (bears, wolves, man).



Four sites (JF16C, JF16EF, JF16H, and JF19B) make up 90% of all sightings; and 22%-31% of the seals hauled out at these locations in late July and early August are classified as pups.



We estimated, in a recent population analysis (Ver Hoef et al., 2014), that the number of seals in the lake is around 400, with an intrinsic growth rate of 5% per year. This is similar to the average annual harvest as estimated from household surveys (ADF&G Subsistence Division, 2013).



On August 8th, 2014, a NMML aerial survey team recorded 356 seals hauled out, our highest count ever.



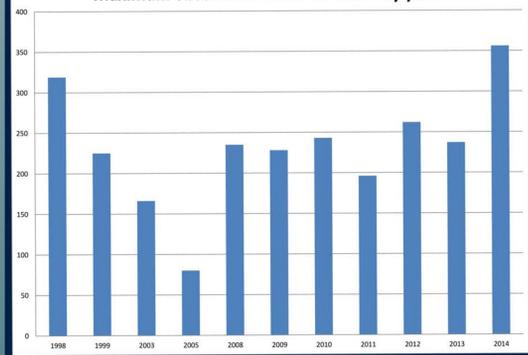
11 useable genetic samples, collected by hunters in 5 different years over a 14 year period, and during both the winter/spring and fall hunts, yielded a single mtDNA haplotype. This low haplotype diversity is suggestive of low genetic diversity (or high degree of relatedness) within the population. However a larger sample size and greater number of genetic markers are required for definitive conclusions about the degree of diversity within the lake's seals.

90% of all seals were found on 4 main sites

NMML Site Names	Previous Names	TOTALS	
		all years - all surveys 1984-2014	% of Total
JF15A	L101	9	0.09
JF15C	L1, clew, Q10; L115	84	0.81
JF15D		3	0.03
JF16A		13	0.13
JF16C	L102; S1 Seal Is.	1126	10.88
JF16D	L103; S2	78	0.75
JF16E&F	L104 & L105	3395	32.81
JF16G	L106	25	0.24
JF16H	L114 ABR; JF16new	1925	18.60
JF16J	L117 ABR	2	0.02
JF16K	L118 ABR	57	0.55
JF16L	L119 ABR	222	2.15
JF16M	L116 ABR	71	0.69
JF16N		15	0.14
JF16O		5	0.05
JF16P		14	0.14
JF16Q		3	0.03
JF16R		3	0.03
JF16S	L112 ABR; JF16M	232	2.24
JF19B	L107; Th1	2820	27.25
JF19D	L109; Th2	153	1.48
Winter		93	0.90

Grand Total = 10348

Maximum observed number of seals by year



Number of Seals Observed by Date

