

Recent Counts of Freshwater Seals in Alaska's Lake Iliamna

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All Known Counts of Harbor Seals in Lake Iliamna, Alaska

Date	Observer	Definition	8/6/1984	8/26/1987	8/10/1987	7/5/1988	8/23/1991	8/24/1991	8/25/1991	8/26/1991	8/27/1991 AM	8/27/1991 PM	8/13/1998	8/22/1998	8/23/1999	8/6/2003	8/10/2005	7/24/2008	7/25/2008	8/2/2008	8/3/2008	8/15/2008	8/20/2008						
			TC Kline	TC Kline	TC Kline	TC Kline	Mathisen & Kline	Small	Small	Small	Withr.	Withrow/Withrow/Yano	Withrow/Yano	Withrow/Yano/London	London	Withrow/Yano	Withrow/Yano	Withrow/Yano											
Waypoint & Count																													
Previous WPT	New WPT (NMML)	Latitude																											
LC11	JF15A	N59.7170											2	0	0	0	0	3	1	0	0	0	0						
LI DEW01	JF15A	N59.7170															100	0	0	2	0	0	0						
LI DEW11	JF15A	N59.7170																		122	17	0	0						
LI DEW12	JF15A	N59.7170																		2	0	17	0						
LI01_S2	JF15D	N59.74450	77	35	0	30							11	0	0	0	0	0	0	17	0	0	0						
LI01_S3	JF15D	N59.72220					65			103	02		28							60									
LI01_S4	JF15E	N59.75120																											
LI05	JF15F	N59.74830																											
LI06	JF15G	N59.75300																											
LI DEW03	JF15B	N59.73120																											
LI DEW02	JF15A	N59.72600																											
LI07_T01	JF15B	N59.55800					2		0	53	36		62							62									
LI06_T02	JF15D	N59.53800																											
LI DEW04	JF15A	N59.52810																											
LI02	JF15A	N59.68850																											
TOTAL							67		103		105		64		102		137		321	248	225	171	162	151	82	235	24	232	216

Abstract

Lake Iliamna, a freshwater lake located 362 km (225 mi) southwest of Anchorage, is home to a small breeding colony of harbor seals (*Phoca vitulina*). Iliamna is the largest lake in Alaska, measuring 124 km (77 mi) long and 35 km (22 mi) wide. These seals are known to live in the lake year round. Although the lake is connected to Bristol Bay via the Kvichak River 120 km (75 mi) in length, there are no known accounts of immigration or emigration. The only other instance of a freshwater population of harbor seals is the subspecies (*P. v. mellonae*) that inhabits Lacs des Loups Marins on the Ungava Peninsula of northern Québec, Canada. Worldwide, there are only four other lake dwelling seals, (all believed to be, or descended from, ringed seals). They inhabit the freshwater Lake Baikal, (*P. sibirica*); Lake Saimaa (*P. hispida saimensis*); Lake Ladoga (*P. h. ladogensis*) and the saltwater (1.2%) Caspian Sea, (*P. caspica*).

In a continuing effort to monitor harbor seal abundance, distribution, and trend throughout Alaska, scientists from NOAA's National Marine Mammal Laboratory (NMML) flew six surveys of Lake Iliamna in July and August 2008. These surveys occurred at different times of day and varying weather conditions to understand how covariates such as date, time of day, and weather, influence seal haul-out. The counts, unadjusted for covariates, indicated that there were at least 235 seals at the lake during the survey period. This compares with counts of 137 in 1991 (Mathisen and Kline, 1992); 321 in 1998 (Small, 2001); 225 in 1999 (Small, 2001); and 102 in 2005 (NMML, unpublished data).

Iliamna seals deserve special attention. Aside from their atypical habitat, it is unknown whether these seals are genetically-isolated from other harbor seals in Bristol Bay. Potential impacts from development of the Pebble gold and copper mines, about 24 km from the lake, are of concern for these seals' conservation status and continued availability for a small subsistence harvest by Alaska Native hunters.

