

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	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	8/15/1998	8/22/1998	8/31/1999	8/6/2003	8/10/2005	7/24/2008	7/25/2008	8/2/2008	8/3/2008	8/15/2008	8/20/2008	
Observer	Observer	TC Kline	TC Kline	TC Kline	TC Kline	Mathison & Kline	Small	Small	Small	Withrow	Withrow	Withrow/Yano	Withrow/Yano	Withrow/Yano/London	London	Withrow/Yano	Withrow/Yano						
Abundance	Abundance					1st (95% Conf)	ADF 8/0	ADF 8/0	ADF 8/0	ADF 8/0	NAME	NAME	NAME	NAME	NAME	NAME	NAME	NAME					
Waypoint & Count	Waypoint & Count																						
Previous WPT	New WPT (NMML)																						
Latitude	Latitude																						
Longitude	Longitude																						
LI DEW01	JF184	N55.71370	W158.57450									2	0	0	0	0	3	1	0	0	0	0	0
LI DEW01	JF184	N55.71818	W154.35548									58	0	26	0	0	130	57	122	17	0	0	
LI DEW01	JF184	N55.74550	W152.35851	77	75	0	20	65	103	62		11	0	0	0	0	0	0	2	0	17	0	
LI DEW02	JF180	N55.72220	W154.41801									104	184	135	0	0	0	0	0	31	1	164	174
LI DEW02	JF180	N55.75100	W154.43800									29	0	0	135	17	0	0	0	0	0	0	
LI DEW02	JF180	N55.75000	W154.48100									9	0	0	2	2	0	0	0	0	0	0	
LI DEW03	JF188	N55.73100	W154.48801									0	0	0	0	0	0	0	0	0	0	0	
LI DEW02	JF18A	N55.75980	W154.48800									0	0	0	0	0	0	0	0	0	0	0	
LI DEW02	JF180	N55.55880	W154.85500									48	24	57	28	78	18	19	63	0	0	54	39
LI DEW02	JF190	N55.52880	W154.85500									0	0	0	0	0	0	0	0	0	0	7	3
LI DEW04	JF18A	N55.52810	W154.85200									0	0	0	0	0	0	0	0	0	0	0	0
LI DEW04	JF18A	N55.68950	W154.69533									0	0	0	0	0	0	0	0	0	0	0	0
TOTAL						67	103	105	64	122	137	351	218	225	171	162	181	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 (Mathison 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.



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