

Harbor seals in Iliamna Lake, Alaska are genetically very different from marine seal populations across the Pacific Ocean



Iliamna Lake harbor seals. Photo by Donna Hauser. Research conducted under NOAA scientific research permit 15126-03.

Overview: A new scientific study on harbor seals in Iliamna Lake, Alaska, has uncovered remarkable genetic differences between the seals living in the freshwater Iliamna Lake and nearby marine seals in Bristol Bay. These findings suggest that Iliamna Lake's population, which numbers about 400 seals (based on NOAA's most recent assessment), is genetically unique and differs from other harbor seal populations across the entire Pacific Ocean, from Japan to California and other areas of Alaska. The study will be published soon in an upcoming issue of *Biology Letters* and involved scientists from Florida Atlantic University, University of Alaska Fairbanks, University of Washington, NOAA's Alaska Fisheries Science Center, and North Pacific Wildlife Consulting.

Key Points:

- **Genetic Divergence:** The seals in Iliamna Lake are genetically different from those in nearby marine areas like Bristol Bay, indicating limited to no interbreeding with marine populations.
- **Sampling Iliamna seals:** Scientists used tissue samples from subsistence hunters and DNA from scat samples collected from small islands in the lake.
- **Historical Presence:** Indigenous Knowledge indicates that seals have been present in the lake for centuries, with the earliest written record dating back 200 years to Russian explorers.
- **Research Collaboration:** The findings highlight the need for ongoing research and collaboration with Indigenous communities to understand the seals better and ensure their long-term survival.

For more information, contact:

Donna Hauser (dhauser2@alaska.edu) or Greg O'Corry-Crowe (gocorryc@fau.edu)

Forthcoming publication: Ferrer T, Boveng P, Hauser DDW, Withrow D, Burkanov V, Quinn TP, O'Corry-Crowe G. 2024 Genetic and evolutionary divergence of harbour seals (*Phoca vitulina*)