

Pacific Loon

Class: Aves
Order: Gaviiformes

Gavia pacifica

Note: Previously considered conspecific with the Arctic loon, *Gavia arctica*, as *G. a. pacifica*. As currently applied, *G. arctica* refers to populations breeding in Eurasia, with a small population on Alaska's Seward Peninsula, while the Pacific loon is widely distributed throughout much of the Alaskan state.

Review Status: Peer-reviewed

Version Date: 03 April 2018

Conservation Status

NatureServe: Agency:

G Rank: G5

ADF&G:

IUCN: Least Concern

Audubon AK: Watch

S Rank: S5B,S4N USFWS:

BLM:

Final Rank		
Conservation category: IX. Blue		
low status and low biological vulnerability and action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status	-20 to 20	-6
Biological	-50 to 50	-32
Action	-40 to 40	-4
Higher numerical scores denote greater concern		

Status - variables measure the trend in a taxon's population status or distribution. Higher status scores denote taxa with known declining trends. Status scores range from -20 (increasing) to 20 (decreasing).

Score

Population Trend in Alaska (-10 to 10)

-6

Population estimates have fluctuated in the last ten years, and this species may be declining in some parts of its breeding range (Mallek and Groves 2011; Larned et al. 2012a). However, at present the statewide population is considered stable (Mallek and Groves 2011; Larned et al. 2012a).

Distribution Trend in Alaska (-10 to 10)

0

Unknown.

Status Total: -6

Biological - variables measure aspects of a taxon's distribution, abundance and life history. Higher biological scores suggest greater vulnerability to extirpation. Biological scores range from -50 (least vulnerable) to 50 (most vulnerable).

Score

Population Size in Alaska (-10 to 10)

-10

>25,000. In 2011, population size for interior Alaska and the Yukon-Kuskokwim Delta was estimated at 53,100 individuals (Mallek and Groves 2011). An additional ~28,000 individuals are estimated to breed on the Arctic Coastal Plain (ACP; Larned et al. 2012a).

<i>Range Size in Alaska (-10 to 10)</i>	-8
Breeding range includes most of the state, from St. Lawrence Island east to the Canadian border and from the Kenai Peninsula south to the Arctic Coastal Plain (Russell 2002; Mallek and Groves 2011). During the winter, occurs from Prince William Sound to southeast Alaska (Russell 2002). Winter range is most restricted and is estimated at ~176,000 sq. km.	
<i>Population Concentration in Alaska (-10 to 10)</i>	-10
Nests singly or in pairs. In the winter, typically found in pairs or small groups of up to 70 individuals, but thousands of individuals have been reported over the course of several weeks at herring spawning sites (Russell 2002; Sullivan et al. 2002). Given the size of the Pacific loon population, we expect that the number of sites at any given point in time is >250.	
<i>Reproductive Potential in Alaska</i>	
<u>Age of First Reproduction (-5 to 5)</u>	-3
Minimum age thought to be 2 years (Russell 2002).	
<u>Number of Young (-5 to 5)</u>	3
Produces a single clutch with 1 to 2 eggs per year (Petersen 1989; Russell 2002; Rizzolo and Schmutz 2007).	
<i>Ecological Specialization in Alaska</i>	
<u>Dietary (-5 to 5)</u>	-5
Feeds on fish, insect larvae, and aquatic invertebrates including mollusks and shrimp; occasionally consumes plant matter (Petersen 1989; Russell 2002). Birds breeding near the Arctic coast make use of both freshwater and marine resources, suggesting some flexibility in their diet and foraging behavior (Rizzolo 2017). The availability of high-energy prey such as fish appears to play a positive role in chick survival and therefore parental reproductive success (Rizzolo 2017).	
<u>Habitat (-5 to 5)</u>	1
Nests near lakes and ponds on coastal and inland tundra, and in forested wetlands (Petersen 1979; Petersen 1989; Heglund et al. 1994; Haynes et al. 2014b). On the Arctic Coastal Plain, Pacific Loons nested on islands and peninsulas that were sheltered from wind, waves, and predators, and that had short vegetation (Haynes et al. 2014b). Nests have been found near lakes and ponds ranging in size 1 ha to > 40 ha (Petersen 1979; Petersen 1989; Heglund et al. 1994; Ruggles 1994). Because loons are not agile on land, elevated shorelines are inaccessible for nest sites (Haynes et al. 2014b). These specific nest requirements have led some researchers to suggest that the availability of nest sites may be limiting, especially where Pacific loons compete with Yellow-billed loons (Earnst et al. 2006; Haynes et al. 2014b). In the winter, inhabits coastal and offshore waters (Russell 2002), but little is known about the winter habitat of Pacific Loons in Alaska.	
Biological Total:	-32

Action - variables measure current state of knowledge or extent of conservation efforts directed toward a given taxon. Higher action scores denote greater information needs due of lack of knowledge or conservation action. Action scores range from -40 (lower needs) to 40 (greater needs).

Score

<i>Management Plans and Regulations in Alaska (-10 to 10)</i>	-10
Protected under the Migratory Bird Treaty Act (MBTA 1918). Recreational hunting is not permitted. Open for subsistence harvest, but only at certain times of the year (AMBCC 2020).	
<i>Knowledge of Distribution and Habitat in Alaska (-10 to 10)</i>	2
Distribution during breeding is well-understood, and habitat use on breeding grounds has been studied across most of their Alaskan range, including western Alaska (Petersen 1979; 1989; Earnst et	

al. 2006; Schmidt et al. 2014), the Arctic Coastal Plain (Bergman and Derksen 1977; Kertell 1996; Haynes et al. 2014b), interior Alaska (Heglund et al. 1994), and southcentral Alaska (Ruggles 1994). Little is known about migration, or about the distribution and habitat use of Pacific Loons that overwinter in Alaska.

Knowledge of Population Trends in Alaska (-10 to 10)

2

Population trends are monitored annually through multi-species aerial surveys on the Arctic Coastal Plain (Larned et al. 2012a), the Yukon-Kuskokwim Delta (Mallek and Groves 2011; Platte and Stehn 2015), and parts of northwestern, interior, and southcentral Alaska (Mallek and Groves 2011). Population estimates and visibility correction factors are not available for all of these surveys (e.g. Platte and Stehn 2015). Repeated aerial surveys in 2011 and 2013 suggest that traditional surveys may be underestimating population size in northwestern Alaska (Schmidt et al. 2014)

Knowledge of Factors Limiting Populations in Alaska (-10 to 10)

2

Some consensus about the factors that regulate nest success. Predation is a main factor of nest success, and may be higher in years when the abundance of alternative prey such as small mammals is low (Petersen 1979; Haynes et al. 2014b). The availability of high-energy prey such as fish appears to play a positive role in chick survival and therefore parental reproductive success (Rizzolo 2017). Competition with yellow-billed loons may limit the availability of nest sites, since yellow-billed loons appear to be the stronger competitor (Earnst et al. 2006; Haynes et al. 2014a; Haynes et al. 2014b; Schmidt et al. 2014). Lake dynamics such as high water levels, strong waves, and shifting ice can cause nest failures and affect the timing of nest initiation (Petersen 1979; Haynes et al. 2014b). Human disturbance at nest sites can lead to nest abandonment (Petersen 1979; Uher-Koch et al. 2015), though in some cases pond impoundments are used as nest sites (Kertell 1996). There is some concern that climate change may affect the availability and distribution of suitable nest sites, for example through changes in shoreline characteristics and water levels, including lake drying (Haynes et al. 2014b; USFWS 2014). Additional research is needed to determine which factors affect populations over the winter and during migration.

Action Total: -4

Supplemental Information - variables do not receive numerical scores. Instead, they are used to sort taxa to answer specific biological or management questions.

Harvest:	Not substantial
Seasonal Occurrence:	Year-round
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	>10%
% Global Population in Alaska:	<25%
Peripheral:	No

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