Red-throated Loon

Gavia stellata

Class: Aves
Order: Gaviiformes

Review Status: Peer-reviewed **Version Date:** 03 April 2018

Conservation Status

NatureServe:	*Agency:*		
G Rank: G5	ADF&G: Species of Greatest Conservation Need	IUCN: Least Concern	Audubon AK: Watch
S Rank: S4B,S4N	USFWS: Bird of Conservation Concern	BLM: Sensitive	

Final Rank

Conservation category: **III. Orange**

high status and low biological vulnerability and action need

Category	Range	Score
Status	-20 to 20	6
Biological	-50 to 50	-22
Action	-40 to 40	-8

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

Alaskan populations south of the Brooks Range experienced a drastic decline from the 1970s to the 2000s (Groves et al. 1996; Mallek and Groves 2012a). Current trends vary by region. Some populations, such as those on the Yukon-Kuskokwim Delta, are still declining (Larned et al. 2012a; Stehn et al. 2013; Platte and Stehn 2015). In contrast, ten-year trends are stable or increasing in surveyed areas of interior and western Alaska, and on the Arctic Coastal Plain (Mallek and Groves 2012a; D. Rizzolo, USFWS, pers. comm.). Given the high density of breeding individuals on the Yukon-Kuskokwim Delta (Mallek and Groves 2012a), we rank this question as B- Suspected declines.

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) -6

Unknown, but likely between 10,000 and 25,000. In 2011, the Alaska-Yukon Waterfowl Breeding Population Survey estimated 12,000 individuals on breeding grounds south of the Brooks Range (Mallek and Groves 2012a). Additionally, several thousand individuals breed on the Arctic Coastal

Plain (Stehn et al. 2013).

Range Size in Alaska (-10 to 10) -8

Breeds along coastlines from southeast Alaska north to the Arctic Coastal Plain, though most common in northern and western Alaska (Groves et al. 1996; Rizzolo et al. 2020). A small portion of the population also breeds in interior Alaska (Mallek and Groves 2012a). Individuals that breed in Alaska overwinter as far south as Mexico and Japan, though some remain in Alaska (McCloskey et al. 2018). Wintering range is restricted to the Aleutian Islands and the Gulf of Alaska (McCloskey et al. 2018; Rizzolo et al. 2020), and is estimated to be ~260,000 sq. km, calculated in GIS from range maps by ACCS (2017a).

Population Concentration in Alaska (-10 to 10) -10

Loons nest in solitary pairs; during migration, they typically fly in small flocks (Rizzolo et al. 2020). During the breeding season, most of the population is concentrated along coastlines. More research is needed on their distribution during migration. McCloskey et al. (2018) identified several stopover sites in southeast, southcoastal, and western Alaska. Given the population size and range of this species, we assume that number of sites >250.

Reproductive Potential in Alaska

Age of First Reproduction (-5 to 5) -3

Very little data available, but likely 2-3 years (Russell 2002; Rizzolo et al. 2020).

Number of Young (-5 to 5) 3

Produces a single clutch of 1 to 2 eggs (Bergman and Derksen 1977; Eberl and Picman 1993; Rizzolo et al. 2020).

Ecological Specialization in Alaska

Dietary (-5 to 5) 1

Populations in interior Alaska rely only on freshwater fish and invertebrates. Coastal populations primarily eat small, marine fish, which they also feed to their young (Bergman and Derksen 1977; Reimchen and Douglas 1984; Rizzolo 2017; Rizzolo et al. 2020). Several studies have noted high rates of starvation in chicks, and suggested that their survival is limited by the availability of high-lipid marine prey (Bergman and Derksen 1977; Ball 2004; Rizzolo et al. 2014). The importance of specific marine resources is thought to make this species susceptible to changes in oceanic conditions (Ball 2004; Rizzolo 2017).

Habitat (-5 to 5) 1

Limited knowledge of habitat associations. In Alaska, nests in coastal tundra habitats and at lower densities along shorelines of small ponds and lakes (Bergman and Derksen 1977; Reimchen and Douglas 1984; Eberl and Picman 1993). Also nests on alpine lakes in British Columbia, where nests were found on lakes that ranged in size from 1 to 112 ha (Reimchen and Douglas 1984). Overwinters in coastal waters, but specific habitat requirements have not been studied (Rizzolo et al. 2020).

Biological Total: -22

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**

Management Plans and Regulations in Alaska (-10 to 10) -10

Protected under the Migratory Bird Treaty Act (MBTA 1918). Subsistence harvest is permitted and is subject to regulations (AMBCC 2020). Recreational hunting is not allowed.

Knowledge of Distribution and Habitat in Alaska (-10 to 10) 2

Distribution during the breeding season is captured by aerial surveys on the Arctic Coastal Plain, and in western and interior Alaska (Stehn et al. 2013; Platte and Stehn 2015; Mallek and Groves 2012a). Some knowledge of habitat associations during the breeding season (see Habitat section). Comparatively litte is known about their distribution and habitat preferences during migration and over the winter; McCloskey et al. (2018) studied migration routes, including stopover sites, of 32 loons from 4 geographically separate populations in Alaska.

Knowledge of Population Trends in Alaska (-10 to 10) -2

Populations are monitored annually across many parts of their breeding range through multi-species, breeding population surveys (Larned et al. 2012a; Mallek and Groves 2012a; Platte and Stehn 2015).

Knowledge of Factors Limiting Populations in Alaska (-10 to 10) 2

Some consensus of important factors during the breeding season. Nest predation and limited availability of high-quality food are thought to affect nest-site distribution and to be major sources of juvenile mortality (Davis 1972; Bergman and Derksen 1977; Petersen 1979; Eberl and Picman 1993; Ball 2004; Rizzolo et al. 2014). Red-throated loons appear to largely avoid competing for habitat with Pacific loons by selecting different nest-site characteristics (Davis 1972; Bergman and Derksen 1977). There is concern about the effects of climate change on the abundance of predators, nest-site habitat, and availability of the marine prey base (Haynes et al. 2014b; Ball 2004; Schmutz 2013; Rizzolo et al. 2014; USFWS 2014a). Additional research is needed to determine what factors affect the population and its distribution on wintering grounds; possible factors include environmental contaminants, harvest rates, and oceanic conditions (Schmutz et al. 2009; Schmutz 2013). Reasons for this species' decline in Alaska remain unknown.

Action Total: -8

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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