Rock Sandpiper, Pribilof

Class: Aves
Order: Charadriiformes

Calidris ptilocnemis ptilocnemis

Note: This assessment refers to this subspecies only.

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

Conservation Status

NatureServe:	*Agency:*		
G Rank: G5T2T3	ADF&G: Species of Greatest Conservation Need	IUCN: Least Concern	Audubon AK: Yellow
S Rank: S3B,S2N	USFWS: Bird of Conservation Concern	BLM:	

Final Rank

Conservation category: **IV. Orange**

unknown status and high biological vulnerability and action need

Category	Range	Score
Status	-20 to 20	0
Biological	-50 to 50	4
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) 0

Unknown (ASG 2019).

Distribution Trend in Alaska (-10 to 10) 0

Unknown.

Status Total: 0

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

Estimated population size is 19,800 individuals (95% CI = 17,853-21,930; Ruthrauff et al. 2012).

Range Size in Alaska (-10 to 10) 8

Breeding is restricted to four Bering Sea islands: St. Paul, St. George, St. Matthew, and Hall (Ruthrauff et al. 2012). Estimated breeding range is <530 sq. km (Ruthrauff et al. 2012). Wintering range is uncertain, though most of the population is believed to overwinter in upper Cook Inlet (Ruthrauff et al. 2012; Ruthrauff et al. 2013b), with some individuals overwintering near Izembek Lagoon (Gill et al. 2002b).

Population Concentration in Alaska (-10 to 10) 2

Only breeds on 4 islands (Ruthrauff et al. 2012). In the winter, almost all of the population is found along upper Cook Inlet, with high concentrations occurring along specific stretches of coastline (Gill and Tibbits 1999; Ruthrauff et al. 2013b).

Reproductive Potential in Alaska

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

Limited data suggest that approximately ~25% of the population first breeds at <2 years (Gill et al. 2002b). We assume that most females first breed when they are between 2 and 3 years old and therefore rank this question as C.

Number of Young (-5 to 5) 1

Normally 4 eggs per clutch, with a single clutch per year (Gill et al. 2002b).

Ecological Specialization in Alaska

Dietary (-5 to 5) 1

During the non-breeding season, feeds almost exclusively on the bivalve Macoma balthica, which is an abundant in upper Cook Inlet where most of the population overwinters (Gill and Tibbitts 1999; Ruthrauff et al. 2013b; Ruthrauff et al. 2015). Availability of smaller, higher quality M. balthica is likely crucial for meeting energetic requirements during the harsh winter season (Ruthrauff et al. 2018). During the breeding season, they consume terrestrial invertebrates, especially spiders and beetles (Gill et al. 2002b).

Habitat (-5 to 5) 1

During non-breeding, forages on mudflats in upper Cook Inlet and roosts on sea ice and shorelines (Ruthrauff et al. 2013b). During breeding, inhabits graminoid and dwarf shrub tundra meadows, as well as sandy beaches (Gill et al. 2002b).

Biological Total: 4

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). Closed to recreational and subsistence harvesting (ADFG 2018e; AMBCC 2018).

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

Distribution and broad habitat associations during breeding and non-breeding are known (Gill and Tibbitts 1999; Gill et al. 2002b; Ruthrauff et al. 2012; Ruthrauff et al. 2013b). Additional research is needed to determine the extent of their wintering range (Ruthrauff et al. 2012) and their distribution during migration (Gill et al. 2002b).

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

No monitoring program is currently in place. Estimates of population size are available from surveys conducted on its breeding (from 2001 to 2003; Ruthrauff et al. 2012) and on wintering gorunds (from 1997 to 2012; Ruthrauff et al. 2013b), but plots would have to be revisited to assess trends.

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

Some knowledge of this subspecies' winter ecology. Studies on energetics and foraging ecology suggest that this subspecies is particularly well-adapted to winter conditions, and is therefore less susceptible to overwinter starvation than other shorebird species (Ruthrauff et al. 2013a; 2013b;

2013c; 2015). That being said, high winter mortality may occur in years with severe and prolonged winter conditions (Gill and Tibbits 1999). Predation is not likely to be limiting during the winter season (Ruthrauff et al. 2013b; 2013c). In contrast, little is known about factors that might limit this population during the breeding season. Ruthrauff et al. (2012) found important differences in the density of individuals across the four islands on which they breed. The authors attribute these differences to natural variation in the amount of suitable nesting habitat between sites, though habitat alteration by reindeer may also influence habitat suitability (Ruthrauff et al. 2012). On both breeding and wintering grounds, environmental contaminants are not thought to be of concern (Nesvacil et al. 2016). Because of its small population size and restricted distribution year-round, the Pribilof Rock Sandpiper is considered vulnerable to stochastic and localized effects (Ruthrauff et al. 2012; Warnock 2017b).

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:	None or Prohibited
Seasonal Occurrence:	Year-round
Taxonomic Significance:	Subspecies
% Global Range in Alaska:	>10%
% Global Population in Alaska:	Endemic
Peripheral:	No

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