

Rock Sandpiper, Bering Sea

Class: Aves
Order: Charadriiformes

Calidris ptilocnemis tschuktschorum

Note: This assessment refers to this subspecies only.

Review Status: Peer-reviewed

Version Date: 03 December 2018

Conservation Status

NatureServe: Agency:

G Rank: G5 ADF&G: Species of Greatest Conservation Need IUCN: Least Concern Audubon AK:

S Rank: S4B, S3N USFWS: BLM: Sensitive

Final Rank		
Conservation category: V. Orange		
unknown status and either high biological vulnerability or high action need		
Category	Range	Score
Status	-20 to 20	0
Biological	-50 to 50	-24
Action	-40 to 40	12
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)

-10

Estimated population size is 50,000 (Morrison et al. 2006).

Range Size in Alaska (-10 to 10)

-8

Breeds on Nunivak and St. Lawrence Islands and along the coasts of the Yukon-Kuskokwim Delta and the Seward Peninsula (Kessel 1989; Johnson et al. 2009; Gibson and Withrow 2015). Winter range is most restricted: in Alaska, overwinters from Prince William Sound (Isleib and Kessel 1973) to southeast Alaska (Howe et al. 2000). Estimated size of wintering range is ~102,000 sq. km.

Population Concentration in Alaska (-10 to 10)

-6

Can concentrate in large numbers when staging and molting (Isleib and Kessel 1973; Gill et al.

2002b). Given population size, we assume that number of sites >25.

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

Produces a single clutch unless the first one fails. On the Yukon Delta National Wildlife Refuge (NWR), mean clutch size for first nests was 3.9 ± 0.4 eggs (Johnson et al. 2009).

Ecological Specialization in Alaska

Dietary (-5 to 5)

1

Limited data are available. During non-breeding season, diet is marine-based and consists of roe, crustaceans, insect larvae, and mollusks (Gill et al. 2002b). The bivalve *Macoma balthica* appears to be a particularly important food source in the winter for this and other Rock Sandpiper subspecies (Gill et al. 2002b; Ruthrauff et al. 2013b). 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 primarily in rocky intertidal zones (Gill et al. 2002b; Ruthrauff et al. 2013a) and has been observed roosting on piers and other anthropogenic structures (Gill et al. 2002b). During breeding, inhabits both low-lying and alpine tundra meadows dominated by dwarf shrub or dwarf shrub-graminoid vegetation (Kessel 1989; Gill et al. 2002b; Johnson and McCaffery 2004; Johnson et al. 2009). Usually nests close to the coast, though nests have also been found further inland as well as near human settlements (Kessel 1989; Gill et al. 2002b).

Biological Total: -24

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

Breeding range and habitat associations are well understood (Gill and Handel 1990; Gill et al. 2002b; Johnson and McCaffery 2004; Johnson et al. 2009). Staging areas and wintering range in Alaska are not well-known.

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

10

There is currently no monitoring program in place in Alaska that can provide data on population trends. Recent efforts such as PRISM surveys are promising (Bart and Johnston 2012), but this program is still in its infancy and multi-year data are not available. PRISM surveys within the range of the Bering Sea Rock Sandpiper were conducted in 2002 and provided an initial estimate of population size (McCaffery et al. 2012). However, plots would have to be revisited in order to obtain population trend estimates.

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

10

Few studies have been conducted on the Bering Sea Rock Sandpiper. Johnson et al. (2009)

monitored nesting ecology on the Yukon Delta NWR. Annual adult survival was high, but nest success was low especially when compared to populations nesting in Chukotka, Russia. Predation was the main cause of nest failures on the Yukon Delta (Johnson et al. 2009). It is unknown whether this factor is also limiting elsewhere in its Alaskan breeding range. Other recent research includes studies by Ruthrauff et al. (2013a; 2013c; 2015) on the energetics and foraging ecology of Rock Sandpipers, and a study on environmental contaminants by Perkins et al. (2016), which revealed that levels of blood mercury concentrations in Rock Sandpipers in Yukon Delta NWR were the lowest of the 10 shorebird species that were surveyed. These studies did not identify any potentially limiting factors on populations of *C. ptilocnemis tschuktschorum*.

Action Total: 12

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:	≥75%
Peripheral:	No

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