

# Black Turnstone

Class: Aves  
Order: Charadriiformes

*Arenaria melanocephala*

**Review Status:** Peer-reviewed

**Version Date:** 04 March 2019

## Conservation Status

NatureServe: Agency:

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

S Rank: S3N,S4B      USFWS:      BLM:

<b>Final Rank</b>		
Conservation category: <b>VII. Yellow</b>		
low status and either high biological vulnerability or high action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status	-20 to 20	-6
Biological	-50 to 50	-18
Action	-40 to 40	4
<b>Higher numerical scores denote greater concern</b>		

**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

Data are limited, but the population is suspected to be stable (Andres et al. 2012a; ASG 2019).

*Distribution Trend in Alaska (-10 to 10)* 0

Unknown. A current concern is whether sea level rise and the increased frequency and severity of storms in the Bering Sea region will change the quality of preferred nesting habitat (coastal salt grass meadows). The extent of these meadows could be reduced through flooding or erosion, or rendered less suitable through increased silt and debris from more intense storms (A. Taylor, UAA, pers. comm.).

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

95,000 (Andres et al. 2012a).

*Range Size in Alaska (-10 to 10)* -2

Breeds along the western coast of Alaska within a narrow coastal band from Point Hope south to the Alaska Peninsula and Nunivak Island (Handel and Gill 2001). During non-breeding, found on islands and along the coast of southeast and southcoastal Alaska, north and west to the Kenai Peninsula and

Kodiak Island (Handel and Gill 2001). Also overwinters along the eastern Pacific coast south to Mexico (Handel and Gill 2001). Range size is most restricted during breeding and is estimated to be ~83,400 sq. km., based on summer range map from ACCS (2017a).

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

-6

Number of breeding sites is likely >25 but <250 (see Fig 2 in Handel and Gill 1992). During the breeding season, the Yukon-Kuskokwim Delta (YKD) supports 85% of the global population and 65% is concentrated within 2 km of the shore (Handel and Gill 1992). The rest of the population is scattered in small flocks at various breeding sites in southwestern and western Alaska (Handel and Gill 1992; Handel and Gill 2001). In the 1990s, Montague Island was a critical stopover site during spring migration, though numbers have decline dramatically in recent years (Bishop 2011). Other stopover sites have not been identified.

*Reproductive Potential in Alaska*

Age of First Reproduction (-5 to 5)

-3

Unknown (Handel and Gill 2001). The related Ruddy Turnstone (*Arenaria interpres*) typically breeds at 2 years of age, though some may breed as late as 3 or 4 years (Nettleship 2000). We assume average breeding age for the Black Turnstone is between 2 to 3 years of age.

Number of Young (-5 to 5)

1

A single, 4-egg clutch is laid per year unless the first one is lost (Handel and Gill 2001).

*Ecological Specialization in Alaska*

Dietary (-5 to 5)

1

During breeding season, consumes terrestrial and aquatic invertebrates such as adult and larval flies, beetles, spiders, and bivalves; also consumes a high proportion of seeds (Handel and Gill 2001). In contrast, diet during the non-breeding season is mostly marine-based and includes herring roe, barnacles, gastropods, and bivalves (Handel and Gill 2001).

Habitat (-5 to 5)

1

During non-breeding, found on shorelines of various substrates including sandy, rocky, and gravel beaches, as well as mud and sand flats (Handel and Gill 2001). During breeding, largely restricted to coastal meadows, and especially salt grass meadows, within a few kilometers of the shoreline (Kessel 1989; Handel and Gill 1992 and references therein). Handel and Gill (1992) estimated that salt grass meadows support 25% of the breeding population. Also nest at low densities in coastal graminoid and dwarf shrub meadows, as well as further inland on lowland tundra sites and along major rivers (Handel and Gill 1992). There is some concern that sea level rise and changes in storm frequency and intensity in the Bering Sea region may reduce the amount or quality of nesting habitat (A. Taylor, UAA, pers. comm.). It is unknown how the species (or its habitat) will respond to these perturbations.

Biological Total: -18

**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 harvest and subsistence harvest (ADFG 2018e; AMBCC 2018).

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

2

Distribution has been captured through multi-species surveys throughout most of its range (e.g. Isleib

and Kessel 1973; Andres and Browne 1998; Gill and Tibbitts 1999; Matz et al. 2011) and habitat associations are well-described on the YKD (Handel and Gill 1992). Additional surveys are needed to understand breeding distribution and habitat outside of the main concentration at the Yukon-Kuskokwim Delta since northern and inland range extents remain uncertain (Handel and Gill 1992). Surveys are also needed to identify staging and stopover areas. Geolocators deployed in 2011 and 2013 are expected to provide much-needed insight on migratory patterns (Taylor et al. 2015).

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

2

Long-term trend data is available from Christmas Bird Counts conducted on wintering grounds in Alaska and elsewhere, with a strong "reliability" score (Andres et al. 2012a).

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

10

Little is known about the factors that limit this population. On the YKD, Handel and Gill (2000) recorded very high rates of inter-annual return for both males and females, which suggests that adult survival rates are high. Predation appeared to be the main cause of nest failure, but nest and brood survival rates were also high (Handel and Gill 2000). In recent years, scientists have noticed a large decline in the number of individuals at Montague Island during spring migration (Bishop 2011). It is unknown whether this decline is due to a shift in individuals' migration pattern or is indicative of a population decline (Bishop 2011), and research to answer this question is ongoing (Taylor et al. 2015). An additional concern is whether sea level rise and the increased frequency and severity of storms in the Bering Sea region will change the quality of preferred nesting habitat (A. Taylor, UAA, pers. comm.).

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.

<b>Harvest:</b>	None or Prohibited
<b>Seasonal Occurrence:</b>	Year-round
<b>Taxonomic Significance:</b>	Monotypic species
<b>% Global Range in Alaska:</b>	>10%
<b>% Global Population in Alaska:</b>	Endemic
<b>Peripheral:</b>	No

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