

Spotted Sandpiper

Actitis macularius

Class: Aves
Order: Charadriiformes

Review Status: Peer-reviewed

Version Date: 07 December 2018

Conservation Status

NatureServe:

Agency:

G Rank: G5

ADF&G: Species of Greatest Conservation Need

IUCN: Least Concern

Audubon AK:

S Rank: S5B

USFWS:

BLM:

Final Rank		
Conservation category: VII. Yellow		
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	-37
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)

-6

Limited data available. Long-term (1993-2015) data from the Breeding Bird Survey in Alaska suggest a stable trend, but data are inadequate for estimating short-term trends (Handel and Sauer 2017). A stable trend is also assumed throughout this species' range in North America (Andres 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

Global population size estimated at 660,000 individuals, of which 10% to 30% breed in Alaska (ASG 2019). Estimated population size for Alaska is therefore between 66,000 and 198,000 individuals.

Range Size in Alaska (-10 to 10)

-10

Breeding range includes most of mainland Alaska from the Seward Peninsula and the Alaska Peninsula east to Canada, and from the Brooks Range south to southeast Alaska (Reed et al. 2013;

ACCS 2017a). Overwintering range is not well-understood but probably occurs along the eastern Pacific coast, from British Columbia to South America (Reed et al. 2013). Estimated breeding range is >400,000 sq. km.

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

Does not concentrate.

Reproductive Potential in Alaska

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

Unknown for Alaska, but elsewhere in North America females breed when they are <2 year old (Oring et al. 1983; Reed et al. 2013).

Number of Young (-5 to 5) 2

Limited data for Alaska, but clutch size is likely 4 eggs (Oring et al. 1983; Arimitsu et al. 2007; Reed et al. 2013). Studies from a population on Little Pelican Island, MN recorded a mean of 2.2 ± 1.1 SD clutches per year (Oring et al. 1983). Mean number of chicks per female was much lower, ranging from 0.00 to 6.67; mean number of fledglings ranged from 0.00 to 5.33 (Oring et al. 1983).

Ecological Specialization in Alaska

Dietary (-5 to 5) -5

Diet in Alaska is unknown. Elsewhere in North America, consumes a wide variety of aquatic and terrestrial invertebrates (flies, spiders, grasshoppers, worms, mollusks) and fish (Reed et al. 2013).

Habitat (-5 to 5) 1

Forages on shorelines and nests in thick vegetation and shrubs near fresh- and salt-water (Kessel 1989; Arimitsu et al. 2007; Johnson et al. 2008b; Reed et al. 2013; Schick et al. 2014).

Biological Total: -37

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). Open to subsistence harvest, but harvest is closed at certain times of the year (AMBCC 2018).

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

Habitat associations and distribution are somewhat known through multi-species bird surveys (e.g. Kessel 1989; Ruthrauff et al. 2007; Johnson et al. 2008b; Schick et al. 2014; DeCicco et al. 2015; Handel and Sauer 2017; Amundson et al. 2018; Savage et al. 2018), but species-specific surveys are needed to determine fine-scale habitat requirements.

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

Monitored locally on Breeding Bird Survey routes. These data can be used for long-term (20+ year) trends, but are inadequate for determining short-term trends (Handel and Sauer 2017). Some monitoring is also conducted outside of Alaska during migration, but trends cannot be determined because estimates of population size are highly variable between years (Andres et al. 2012a). Because statewide monitoring is not in place and because local monitoring is inadequate for providing trends at a scale that is meaningful to the management and conservation of this species, we rank this question as A- Not currently monitored.

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

The factors regulating populations in Alaska are unknown. Most of the information on this species has come from island populations in the eastern U.S., where Spotted Sandpipers are polyandrous. In these populations, female reproductive success is determined by the availability of mates (Lank et al. 1985). Intrasexual competition and agonistic behaviors limit access to males and therefore limit population growth (Oring et al. 1983; Lank et al. 1985). Naturally, competition may be especially intense at high population densities or when high-quality nest sites are limited (Oring et al. 1983). Nest predation was also a major factor limiting reproductive success, not only by increasing mortality but also because of its influence on effective sex ratios and mating opportunities (Oring et al. 1983; Lank et al. 1985). Food was abundant on this island and did not limit population growth (Lank et al. 1985). It is unknown whether competition and density-dependent factors are equally important in Alaska, where most of the population breeds on the mainland and where at least some populations are suspected to be monogamous (Kessel 1989).

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:	Not substantial
Seasonal Occurrence:	Breeding
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	>10%
% Global Population in Alaska:	25-74%
Peripheral:	No

References

- Alaska Center for Conservation Science (ACCS). 2017a. Wildlife Data Portal. University of Alaska Anchorage. Available online: <http://aknhp.uaa.alaska.edu/apps/wildlife>
- Amundson, C. L., C. M. Handel, D. R. Ruthrauff, T. L. Tibbitts, and R. E. Gill. 2018. Montane-breeding bird distribution and abundance across national parks of southwestern Alaska. *Journal of Fish and Wildlife Management* 9(1):180–207. DOI: 10.3996/062017-JFWM-050
- Andres, B. A., P. A. Smith, R. G. Morrison, C. L. Gratto-Trevor, S. C. Brown, and C. A. Friis. 2012a. Population estimates of North American shorebirds, 2012. *Wader Study Group Bulletin* 119(3):178-194.
- Arimitsu, M. L., J. F. Piatt, and M. D. Romano. 2007. Distribution of ground-nesting marine birds along shorelines in Glacier Bay, southeastern Alaska: An assessment related to potential disturbance by back-country users. *Scientific Investigations Report 2007-5278*, U.S. Geological Survey, Reston, VA, USA.
- Alaska Shorebird Group (ASG). 2019. Alaska Shorebird Conservation Plan, Version III. Alaska Shorebird Group, Anchorage, AK, USA. Available online: <https://www.fws.gov/alaska/mbmp/mbm/shorebirds/plans.htm>
- DeCicco, L., N. Hajdukovich, J. Johnson, S. Matsuoka, D. Tessler, and C. Wright. 2015a. Annual update: Gulf of Alaska autumn passerine migration 2014. Pages 1-3 in G. Baluss, ed. 2014 Summary of landbird projects for Boreal Partners in Flight. Available online: <https://alaska.usgs.gov/science/biology/bpif/meetings/index.php>
- Handel, C. M. and Sauer, J. R. 2017. Combined analysis of roadside and off-road breeding bird survey data to assess population change in Alaska. *The Condor* 119(3):557-575. DOI: 10.1650/CONDOR-17-67.1
- Johnson, J. A., B. A. Andres, and J. A. Bissonette. 2008b. Birds of the major mainland rivers of Southeast Alaska. General Technical Report PNW-GTR-739. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland, OR, USA.
- Kessel, B. 1989. *Birds of the Seward Peninsula, Alaska: Their biogeography, seasonality, and natural history*. University of Alaska Press, Fairbanks, AK, USA.

Lank, D. B., L. W. Oring, and S. J. Maxson. 1985. Mate and nutrient limitation of egg-laying in a polyandrous shorebird. *Ecology* 66(5):1513–1524. DOI: 10.2307/1938014

Migratory Bird Treaty Act (MBTA). 1918. U.S. Code Title 16 §§ 703-712 Migratory Bird Treaty Act.

Naves, L. C. 2015. Alaska subsistence bird harvest, 2004-2014 data book. Special Publication No. 2015-05, Alaska Department of Fish and Game, Division of Subsistence, Anchorage, AK, USA.

Oring, L. W., D. B. Lank, and S. J. Maxson. 1983. Population studies of the polyandrous spotted sandpiper. *The Auk* 100(2):272–285.

Reed, J. M., L. W. Oring, and E. M. Gray. 2013. Spotted Sandpiper (*Actitis macularius*), version 2.0. In Poole, A. F., ed. *The Birds of North America*. Cornell Lab of Ornithology, Ithaca, NY, USA. DOI: 10.2173/bna.289

Ruthrauff, D. R., T. L. Tibbitts, R. E. Gill, and C. M. Handel. 2007. Inventory of montane-nesting birds in Katmai and Lake Clark National Parks and Preserves. Report NPS/AKRSWAN/NRTR-2007/02, U.S. Geological Survey Alaska Science Center, Anchorage, AK, USA.

Savage, S., T. L. Tibbitts, K. Sesser, and R. S. A. Kaler. 2018. Inventory of lowland-breeding birds on the Alaska Peninsula. *Journal of Fish and Wildlife Management* 9(2): 637-658. DOI: 10.3996/082017-JFWM-070

Schick, T., R. Gates, N. Jones, A. Hovis, and T. Morgan. 2014. Shorebird distribution, abundance, and habitat associations in the proposed Susitna-Watana hydroelectric project area, interior Alaska, summary of 2013 results (BCR 4). Pages 55-59 in Cooper, E., ed. *Annual summary compilation: new or ongoing studies of Alaska shorebirds*. Available online: https://www.fws.gov/alaska/mbsp/mbm/shorebirds/working_group.htm Accessed 25-Oct-2018.

Alaska Center for Conservation Science
Alaska Natural Heritage Program
University of Alaska Anchorage
Anchorage, AK