

# Whimbrel

Class: Aves  
Order: Charadriiformes

*Numenius phaeopus hudsonicus*

Note: Skeel and Mallory (2020) recognize 4 whimbrel subspecies globally. Only one subspecies, *N. p. hudsonicus*, breeds in North America. *N. p. hudsonicus* is divided into two, disjunct breeding populations: the eastern population, which breeds in Manitoba and Ontario along the western and southern banks of Hudson Bay, and the western population, which breeds from Alaska to the Northwest Territories (Skeel and Mallory 2020). This assessment focuses specifically on whimbrels that breed in Alaska, which are part of the broader, western population. Percent global population and range size are considered relative to the global population of *N. p. hudsonicus* only.

**Review Status:** Peer-reviewed

**Version Date:** 29 November 2018

## Conservation Status

NatureServe:

Agency:

G Rank: G5

ADF&G: Species of Greatest Conservation Need

IUCN: Least Concern

Audubon AK: Yellow

S Rank: S3S4B

USFWS: Bird of Conservation Concern

BLM: Sensitive

Final Rank		
Conservation category: <b>V. Orange</b>		
unknown status and either high biological vulnerability or high action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status	-20 to 20	0
Biological	-50 to 50	-36
Action	-40 to 40	12
<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)*

0

Unknown (Andres et al. 2012a; 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

Population size of the western population of *N. p. hudsonicus* is estimated at 40,000 individuals, of which >90% breed in Alaska (ASG 2019). Estimated population size for Alaska is therefore ~36,000.

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

-10

Breeds along the coasts of northern and western Alaska, from the Arctic Coastal Plain south to Cape

Peirce and east to Canada (Kessel 1989; Petersen et al. 1991; Johnson et al. 2007a). Also breeds in interior Alaska e.g. the Talkeetna Mountains, the Alaska Range, the White Mountains (Skeel and Mallory 1996; McIntyre et al. 2015; see Table 2.1 in Harwood 2016). Breeding range >400,000 sq. km. Spring and fall staging areas may be more restricted (C. Harwood, USFWS, pers. comm.), but fall outside the scope of this question.

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

-10

Aggregate in small flocks in coastal areas during fall migration including along the Yukon-Kuskokwim Delta south to the Gulf of Alaska and west to the Aleutian Islands (Gill et al. 1981; Handel and Dau 1988; Skeel and Mallory 1996; Gibson and Byrd 2007). Number of staging areas is unknown, but given population size and size of flocks i.e. up to a few thousand but usually much smaller i.e. 25 or less (Gill et al. 1981; Handel and Dau 1988; Gibson and Byrd 2007), number of sites is estimated to be >250.

*Reproductive Potential in Alaska*

Age of First Reproduction (-5 to 5)

-3

Unknown for western population, but population in eastern North America first breeds at 3 years of age (Skeel 1983).

Number of Young (-5 to 5)

1

Single clutch per year, typically with 4 eggs, though clutches of 3 and 5 have also been reported (Kessel 1989; Pirie 2008; Harwood et al. 2016; Weiser et al. 2018b).

*Ecological Specialization in Alaska*

Dietary (-5 to 5)

-5

Omnivorous. On breeding grounds, consumes invertebrates and berries (Kessel 1989; McCaffery 1996b; Skeel and Mallory 1996). At coastal staging locations, their diet consists of marine invertebrates such as mollusks, crustaceans, and worms (Kessel 1989; Skeel and Mallory 1996).

Habitat (-5 to 5)

1

During breeding, inhabit dwarf-shrub tundra meadows and nest on tussock mounds, often near water (Kessel 1989; McCaffery 1996b; Harwood et al. 2016). In interior Alaska, nest sites may be in tundra patches within a larger boreal forest habitat (Harwood et al. 2016). Nesting habitat appears flexible (Harwood et al. 2016 and references therein), but there are limited data for Alaska. Interestingly, whimbrels are patchily distributed even within landscapes of suitable habitat, suggesting that additional habitat requirements or social factors may be at play (C. Harwood, USFWS, pers. comm.). During spring and fall migration, stage along the coast and forage in intertidal zones (Gill et al. 1981; Kessel 1989; Ruthrauff et al. 2007).

Biological Total: -36

**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 (ADFG 2018e) and subsistence harvest (AMBCC 2018), though minimal harvest does occur (Naves 2015). A conservation plan has been prepared for this species (Wilke and Johnston-González 2010), though it is not legally binding.

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

2

Distribution and broad habitat associations during the breeding season have been captured by multi-

species surveys throughout most of its range in Alaska including the Kenai Peninsula (Matz 2017), southwest Alaska (Petersen et al. 1991; Amundson et al. 2018), western Alaska (Kessel 1989), the North Slope (Tibbitts et al. 2006; Brown et al. 2007; Johnson et al. 2007a), and central Alaska (McIntyre et al. 2015), though distribution in central Alaska is not well-known (Harwood et al. 2016). Detailed studies on habitat associations are lacking, but see Harwood et al. (2016) for whimbrels nesting in interior Alaska.

*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 conducted in northern and western Alaska are promising (Bart and Johnston 2012), but this program is still in its infancy and multi-year data are not available. Whimbrels have recently been monitored on the Chiloé Island in Chile (Andres et al. 2018) and most of these wintering birds likely breed in Alaska (C. Harwood, USFWS, pers. comm.).

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

10

Very little is known about the factors that limit whimbrel populations, both in Alaska and elsewhere in its range. Reproductive failure in western Alaska was not caused by predation or inclement weather (McCaffery 1996b), and data were not available to assess the availability of invertebrate prey. Predation has been documented as a major source of egg mortality elsewhere (Skeel 1983; Grant 1991), and may be locally important for some Alaskan populations, though this remains unknown. Human harvesting is not permitted in Alaska (AMBCC 2017) and is not believed to be a major factor in its non-breeding range (Andres et al. 2018). Habitat loss through shrub encroachment has been linked to population declines in central Canada (Ballantyne and Nol 2015) and suitable habitat in Alaska is expected to decline by 2100 as a result of climate change (Marcot et al. 2015). Demographic parameters are largely unknown for Alaska and this species is only monitored as part of multi-species surveys, precluding assessments of limiting or regulating factors.

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.

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

## References

- Alaska Department of Fish and Game (ADFG). 2020c. 2020-2021 Migratory game bird hunting regulations summary. Anchorage, AK, USA.
- 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.
- Andres, B. A., J. A. Johnson, S. T. Saalfeld, and J. Rojas Valenzuela. 2018. Apparent annual survival of adult Whimbrels in the Pacific Americas Flyway. *Wader Study* 125(2):115–121. DOI: 10.18194/ws.00108

- Alaska Shorebird Group (ASG). 2019. Alaska Shorebird Conservation Plan, Version III. Alaska Shorebird Group, Anchorage, AK, USA. Available online: <https://www.fws.gov/alaska/mbasp/mbm/shorebirds/plans.htm>
- Ballantyne, K., and E. Nol. 2015. Localized habitat change near Churchill, Manitoba and the decline of nesting Whimbrels (*Numenius phaeopus*). *Polar Biology* 38(4):529–537. DOI: 10.1007/s00300-014-1615-6
- Bart, J., and V. Johnston, eds. 2012. Arctic shorebirds in North America: A decade of monitoring. University of California Press, Berkeley, CA, USA.
- Brown, S., J. Bart, R. B. Lanctot, J. A. Johnson, S. Kendall, D. Payer, and J. Johnson. 2007. Shorebird abundance and distribution on the coastal plain of the Arctic National Wildlife Refuge. *The Condor* 109(1):1–14. DOI: 10.1650/0010-5422(2007)109[1:SAADOT]2.0.CO;2
- Gibson, D. D., and G. V. Byrd. 2007. Birds of the Aleutian Islands, Alaska. Nuttall Ornithological Club, Cambridge, MA, USA.
- Gill, R. E., Jr., M. R. Petersen, and P. D. Jorgensen. 1981. Birds of the northcentral Alaska Peninsula, 1976-1980. *Arctic* 34(4):286–306. DOI: 10.14430/arctic2532
- Grant, M. C. 1991. Nesting densities, productivity and survival of breeding whimbrel *Numenius phaeopus* in Shetland. *Bird Study* 38(3):160–169. DOI: 10.1080/00063659109477085
- Handel, C. M. and C. P. Dau. 1988. Seasonal occurrence of migrant whimbrels and bristle-thighed curlews on the Yukon-Kuskokwim Delta, Alaska. *The Condor* 90(4):782-790. DOI: 10.2307/1368835
- Harwood, C. M. 2016. Breeding ecology of Whimbrels (*Numenius phaeopus*) in interior Alaska. MSc thesis, University of Alaska Fairbanks, AK, USA.
- Harwood, C. M., R. E. Gill Jr., and A. N. Powell. 2016. Nesting ecology of whimbrels in boreal Alaska. *Wader Study* 123(2):99-113. DOI: 10.18194/ws.00037
- Johnson, J. A., R. B. Lanctot, B. A. Andres, J. R. Bart, S. C. Brown, S. J. Kendall, and D. C. Payer. 2007a. Distribution of breeding shorebirds on the Arctic Coastal Plain of Alaska. *Arctic* 60(3):277-293. DOI: 10.14430/arctic220
- Kessel, B. 1989. Birds of the Seward Peninsula, Alaska: Their biogeography, seasonality, and natural history. University of Alaska Press, Fairbanks, AK, USA.
- Marcot, B. G., M. T. Jorgenson, J. P. Lawler, C. M. Handel, and A. R. DeGange. 2015. Projected changes in wildlife habitats in Arctic natural areas of northwest Alaska. *Climate Change* 130(2):145–154. DOI: 10.1007/s10584-015-1354-x
- Matz, G. 2017. Kachemak Bay shorebird monitoring project: 2017 report. Pages 21-23 in Jochum, K., ed. Annual summary compilation: new or ongoing studies of Alaska shorebirds, December 2017. Available online: [https://www.fws.gov/alaska/mbasp/mbm/shorebirds/working\\_group.htm](https://www.fws.gov/alaska/mbasp/mbm/shorebirds/working_group.htm) Accessed 26-Nov-2018.
- Migratory Bird Treaty Act (MBTA). 1918. U.S. Code Title 16 §§ 703-712 Migratory Bird Treaty Act.
- McCaffery, B. J. 1996b. The status of Alaska's large shorebirds: A review and an example. *International Wader Studies* 8:28–32.
- 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.
- Petersen, M. R., D. N. Weir, and M. H. Dick. 1991. Birds of the Kilbuck and Ahklun Mountain region, Alaska. *North American Fauna* 76:1-158.
- Petersen, M. R., D. N. Weir, and M. H. Dick. 1991. Birds of the Kilbuck and Ahklun Mountain region, Alaska. *North American Fauna* 76:1-158.
- Pirie, L. D. 2008. Identifying and modeling whimbrel *Numenius phaeopus* breeding habitat in the outer Mackenzie Delta, Northwest Territories. MSc thesis, University of Victoria, Victoria, British Columbia, CAN.
- 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.
- Skeel, M. A. 1983. Nesting success, density, philopatry, and nest-site selection of the Whimbrel (*Numenius phaeopus*) in

different habitats. *Canadian Journal of Zoology* 61(1):218–225. DOI: 10.1139/z83-027

Skeel, M. A., and E. P. Mallory. 1996. Whimbrel (*Numenius phaeopus*), version 2.0. In Poole, A. F., and F. B. Gill, eds. *The Birds of North America*. Cornell Lab of Ornithology, Ithaca, NY, USA. DOI: 10.2173/bna.219

Tibbitts, T. L., D. R. Ruthrauff, R. E. Gill, Jr., and C. M. Handel. 2006. Inventory of montane-nesting birds in the Arctic Network of National Parks, Alaska. Report NPS/AKARCN/NRTR-2006/02/, Arctic Network Inventory and Monitoring Program, National Park Service, Alaska Region, Fairbanks, AK, USA.

Weiser, E. L., S. C. Brown, R. B. Lanctot, H. R. Gates, K. F. Abraham, R. L. Bentzen, ..., B. K. Sandercock. 2018b. Effects of environmental conditions on reproductive effort and nest success of Arctic-breeding shorebirds. *Ibis* 160(3):608–623. DOI: 10.1111/ibi.12571

Wilke, A. L., and R. Johnston-González. 2010. Conservation plan for the whimbrel (*Numenius phaeopus*), version 1.1. Manomet Center for Conservation Sciences, Manomet, MA, USA.

---

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