

Whiskered Auklet

Aethia pygmaea

Class: Aves
Order: Charadriiformes

Review Status: Peer-reviewed

Version Date: 11 February 2019

Conservation Status

NatureServe: Agency:

G Rank: G4 ADF&G: Species of Greatest Conservation Need IUCN: Least Concern Audubon AK: Yellow

S Rank: S4 USFWS: Bird of Conservation Concern 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	2
Biological	-50 to 50	-16
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. There are some data to suggest that populations have recovered following the eradication of introduced foxes on the Aleutian Islands (Williams et al. 2003), but recent trend data are not available. Like other auklets, it is difficult to obtain reliable colony counts and trend data because whiskered auklets nest in crevices and population data are not collected at monitored colonies (Byrd et al. 2005; Dragoo et al. 2019).

Distribution Trend in Alaska (-10 to 10)

2

Introduced foxes had a drastic effect on the distribution and population numbers of whiskered auklets, but islands have likely been recolonized following the eradication of foxes (Williams et al. 2003).

Status Total: 2

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

Uncertain, but >25,000. Williams et al. (2003) estimated a population size at least 116,000 individuals. This estimate is highly uncertain because it is very difficult to estimate the population size of crevice-nesters such as whiskered auklets.

<i>Range Size in Alaska (-10 to 10)</i>	-2
In Alaska, breeds on the Aleutian Islands west of Unimak Island (Denlinger 2006). Large concentrations occur on the Islands of Four Mountains, the eastern and central Aleutian Islands, and Buldir Island (Williams et al. 2003). Wintering range is poorly understood, but is likely similar to breeding range (Byrd and Williams 1993b; Renner et al. 2008; Schacter and Jones 2018). Estimated range size is ~39,000 sq. km, based on a range map from ACCS (2017a) and a 16 km foraging buffer estimated by Byrd and Gibson (1980).	
<i>Population Concentration in Alaska (-10 to 10)</i>	-6
Whiskered auklets concentrate at colonies during the nesting season. There are between 25 and 250 colonies in Alaska, according to the North Pacific Seabird Data Portal (WSU 2013).	
<i>Reproductive Potential in Alaska</i>	
<u>Age of First Reproduction (-5 to 5)</u>	-3
In a study on Buldir Island, nearly all sampled individuals (94%) bred by age 3 (Jones et al. 2007).	
<u>Number of Young (-5 to 5)</u>	3
One egg per year (Byrd and Williams 1993b).	
<i>Ecological Specialization in Alaska</i>	
<u>Dietary (-5 to 5)</u>	1
Planktivorous. During the breeding season, whiskered auklets feed primarily on Neocalanus and euphausiid zooplankton, as well as small crustaceans (Decapoda, Amphipoda) and gastropods (Byrd and Williams 1993b; Bond et al. 2012; Evans et al. 2019). Their diet during the non-breeding season is unknown, but their winter distribution suggests that they may exploit a wider diversity of prey species than in the summer (Renner et al. 2008).	
<u>Habitat (-5 to 5)</u>	1
During breeding, occupies a variety of a habitats on remote oceanic islands including cliffs, talus, boulder beaches, and vegetated slopes (Knutson and Byrd 1982; Hunter et al. 2002; Schacter and Jones 2018). Nests in rock crevices or less frequently in burrows excavated by other animals (Hunter et al. 2002). Nest sites may be limited on Buldir Island (Knutson and Byrd 1982, but see Renner et al. 2017). Forages and overwinters in marine waters near breeding colonies (Byrd and Gibson 1980; Byrd and Williams 1993b; Schacter and Jones 2018). Occasionally returns on land during non-breeding (Schacter and Jones 2018).	
	Biological Total: -16

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

<i>Management Plans and Regulations in Alaska (-10 to 10)</i>	-10
Protected under the Migratory Bird Treaty (MBTA 1918). Open to subsistence harvesting except during the summer months (AMBCC 2018).	
<i>Knowledge of Distribution and Habitat in Alaska (-10 to 10)</i>	2
Biologists have documented the distribution of breeding colonies and at-sea distribution (WSU 2013; Drew and Piatt 2015). They have also studied habitat preferences for nesting and foraging, especially on Buldir Island (Knutson and Byrd 1982; Hipfner and Byrd 1993; Zubakin and Konyukhov 2001; Hunter et al. 2002; Renner et al. 2008). Important gaps remain in our knowledge of non-breeding distribution (but see Renner et al. 2008 and Schacter and Jones 2018).	

Knowledge of Population Trends in Alaska (-10 to 10) 2

Breeding colonies are difficult to count because individuals nest in underground crevices and colonies are on remote islands (Denlinger 2006). Although colony counts are not currently being conducted, biologists have been monitoring reproductive parameters annually on Buldir Island for decades (Evans et al. 2019). Some information on trends can also be gleaned from shipboard surveys of pelagic seabirds in the North Pacific Ocean (Drew and Piatt 2015).

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

At a regional scale, demographic parameters including adult survival and reproductive success are related to ocean climate conditions, which affect zooplankton availability and stormy weather (Jones et al. 2007; Bond et al. 2011b). Because of their foraging behavior, whiskered auklets may be more susceptible to stormy weather conditions than other seabirds. Further research is needed to ascertain the relative importance of inclement weather versus prey availability (Jones et al. 2007; Bond et al. 2011b; Bond et al. 2012). Predation, interspecific competition, and habitat quality and availability are localized factors whose importance varies across breeding colonies (Knudston and Byrd 1982; Williams et al. 2003). Predator eradication programs have allowed populations to recover and recolonize some islands (Williams et al. 2003; Croll et al. 2016).

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:	Not substantial
Seasonal Occurrence:	Year-round
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	>10%
% Global Population in Alaska:	≥75%
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>
- Bond, A. L., I. L. Jones, W. Sydeman, H. Major, S. Minobe, ..., and G. V. Byrd. 2011. Reproductive success of planktivorous seabirds in the North Pacific is related to ocean climate on decadal scales. *Marine Ecology Progress Series* 424:205-218. DOI:10.3354/meps08975
- Bond, A. L., I. L. Jones, J. C. Williams, and G. V. Byrd. 2012. Diet of auklet chicks in the Aleutian Islands, Alaska: similarity among islands, interspecies overlap, and relationships to ocean climate. *Journal of Ornithology* 153(1):115-129. DOI: 10.1007/s10336-011-0704-3
- Byrd, G. V., and D. D. Gibson. 1980. Distribution and population status of whiskered auklet in the Aleutian Islands, Alaska. *Western Birds* 11:135-140.
- Byrd, G. V., and J. C. Williams. 1993b. Whiskered Auklet (*Aethia pygmaea*), 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.76
- Byrd, G. V., H. M. Renner, and M. Renner. 2005. Distribution patterns and population trends of breeding seabirds in the Aleutian Islands. *Fisheries Oceanography* 14(S1):139-159. DOI: 10.1111/j.1365-2419.2005.00368.x
- Croll, D. A., K. M. Newton, M. McKown, N. Holmes, J. C. Williams, ..., and B. R. Tershy. 2016. Passive recovery of an island bird community after rodent eradication. *Biological Invasions* 18(3):703-715. DOI: 10.1007/s10530-015-1042-9

- Denlinger, L. M., comp. 2006. Alaska Seabird Information Series. Unpublished report, U.S Fish and Wildlife Service, Migratory Bird Management, Anchorage, AK, USA.
- Dragoo, D. E., H. M. Renner, and R. S. A. Kaler. 2019. Breeding status and population trends of seabirds in Alaska, 2018. AMNWR 2019/03, U.S. Fish and Wildlife Service, Homer, AK, USA.
- Drew, G. S., and J. F. Piatt. 2015. North Pacific Pelagic Seabird Database (NPPSD): U.S. Geological Survey data release (ver. 3.0, February, 2020). DOI: 10.5066/F7WQ01T3 Available at: https://www.usgs.gov/centers/asc/science/north-pacific-pelagic-seabird-database?qt-science_center_objects=0#qt-science_center_objects
- Evans, S. A., D. J. Schultz, R. I. Galvan, and N. A. Rojek. 2019. Biological monitoring at Buldir Island, Alaska in 2019. Report AMNWR 2019/15, U.S. Fish and Wildlife Service, Homer, AK, USA.
- Hipfner, J. M., and G. V. Byrd. 1993. Breeding biology of the parakeet auklet compared to other crevice-nesting species at Buldir Island, Alaska. Colonial Waterbirds 16(2):128-138. DOI: 10.2307/1521431
- Hunter, F., I. Jones, J. Williams, and G. Byrd. 2002. Breeding biology of the Whiskered Auklet (*Aethia pygmaea*) at Buldir Island, Alaska. The Auk 119:1036.
- Jones, I. L., F. M. Hunter, G. J. Robertson, J. C. Williams, and G. V. Byrd. 2007. Covariation among demographic and climate parameters in whiskered auklets *Aethia pygmaea*. Journal of Avian Biology 38:450-461.
- Knutson, E. P., and G. V. Byrd. 1982. Breeding biology of crested, least, and whiskered auklets on Buldir Island, Alaska. The Condor 84(2):197-202. DOI: 10.2307/1367671
- Migratory Bird Treaty Act (MBTA). 1918. U.S. Code Title 16 §§ 703-712 Migratory Bird Treaty Act.
- Naves, L. C. 2018. Geographic and seasonal patterns of seabird subsistence harvest in Alaska. Polar Biology 41(6):1217–1236. DOI: 10.1007/s00300-018-2279-4
- Renner, M., G. Hunt, J. Piatt, and G. V. Byrd. 2008. Seasonal and distributional patterns of seabirds along the Aleutian Archipelago. Marine Ecology Progress Series 357:301-311. DOI:10.3354/meps07325
- Renner, H. M., L. R. Walker, C. F. Waythomas, J. C. Williams, and Y. B. Artukhin. 2017. Crevice-nesting auklets are early-successional species requiring disturbance to persist. Arctic, Antarctic, and Alpine Research 49(4):585–599. DOI: 10.1657/AAAR0017-051
- Schacter, C. R., and I. L. Jones. 2018. Confirmed year-round residence and land roosting of whiskered auklets (*Aethia pygmaea*) at Buldir Island, Alaska. The Auk 135(3):706–715. DOI: 10.1642/AUK-17-235.1
- Williams, J. C., G. V. Byrd, and N. B. Konyukhov. 2003. Whiskered auklets *Aethia pygmaea*, foxes, humans, and how to right a wrong. Marine Ornithology 31:175-180.
- World Seabird Union. 2013. North Pacific Seabird Colony Database. Available from: <http://axiom.seabirds.net/maps/north-pacific-seabirds/>
- Zubakin, V., and N. B. Konyukhov. 2001. Breeding biology of the whiskered auklet (*Aethia pygmaea*): Postnesting period. Biology Bulletin 28:31-39.