

Black Scoter

Class: Aves
Order: Anseriformes

Melanitta americana

Review Status: Peer-reviewed

Version Date: 28 February 2018

Conservation Status

NatureServe: Agency:

G Rank: G5 ADF&G: Species of Greatest Conservation Need IUCN: Near Threatened Audubon AK: Red

S Rank: S3S4B,S3 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	2
Biological	-50 to 50	-16
Action	-40 to 40	0
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)

2

The Pacific population of black scoters declined significantly from the 1970s to the 2000s (Bowman et al. 2015). However, data from 2004 to 2012 suggest that the population is now increasing in western Alaska, where most of the population breeds (Bowman et al. 2015). Data from the Arctic Coastal Plain (ACP) suggest that this species has declined from 1986 to 2017 (Wilson et al. 2018). However, because the ACP supports only a small proportion of the Alaskan breeding population, we rank this question as C- Past declines, but currently stable.

Distribution Trend in Alaska (-10 to 10)

0

Unknown.

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

The most recent estimate of minimum population size for Alaska is ~140,000 individuals (Stehn and Platte 2012, qtd. in Bowman et al. 2015). This estimate is based on black scoter surveys conducted in western Alaska from 2004 to 2012 (except 2011).

<i>Range Size in Alaska (-10 to 10)</i>	-8
Breeds mainly in western Alaska from the Seward Peninsula to Bristol Bay. Three primary breeding areas have been identified: the Bristol Bay Lowlands, the Yukon-Kuskokwim Delta, and Kotzebue Sound (Schamber et al. 2010b). However, breeding has been reported as far north as the Arctic Coastal Plain and on Kodiak Island in the south (Bordage and Savard 2011; Wilson et al. 2018b). Less common in interior Alaska, but some sightings in Denali National Park and near Anchorage (Bordage and Savard 2011). Overwinters on the Pribilof Islands and the Aleutian Islands, south to southeast Alaska (Bordage and Savard 2011). Wintering range is most restricted and is estimated at ~327,000 sq. km.	
<i>Population Concentration in Alaska (-10 to 10)</i>	2
Molt and migrate in large flocks. Large concentrations have been observed at several bays in western Alaska and the Gulf of Alaska (Herter et al. 1989; Smith et al. 2012a). Important staging areas are located in southwest Alaska and include Kamishak Bay and Nelson Lagoon (Alaska Peninsula), Kvichak Bay and Egegik Bay (Bristol Bay), and Kuskokwim Bay (Herter et al. 1989; Schamber et al. 2010a; SDJV 2015c). A satellite telemetry study found that ~75% of tagged individuals (N=77) used northeastern Bristol Bay (~3000 sq. km.) during spring migration (Schamber et al. 2010a). Staging areas likely <25.	
<i>Reproductive Potential in Alaska</i>	
<u>Age of First Reproduction (-5 to 5)</u>	-3
Uncertain, but thought to be 2 years (Bordage and Savard 2011).	
<u>Number of Young (-5 to 5)</u>	1
On the Yukon-Kuskokwim Delta, average clutch size from 2001 to 2004 was 7.5 (Schamber et al. 2010b). Most nests contained between 7 and 9 eggs, but ranged from 4 to 10 (Schamber et al. 2010b).	
<i>Ecological Specialization in Alaska</i>	
<u>Dietary (-5 to 5)</u>	1
Few data available for Alaska or elsewhere. At coastal sites, feeds predominantly on bivalves including mussels and clams (Bordage and Savard 2011). Other marine invertebrates (e.g. gastropods, amphipods, worms) and vegetation are consumed to a lesser extent (Bordage and Savard 2011). Diet in freshwater habitats is likely similar, but may include a higher proportion of insect larvae (Bordage and Savard 2011).	
<u>Habitat (-5 to 5)</u>	1
Nests on the Yukon-Kuskokwim Delta were concealed in densely vegetated, shrub edge habitat dominated by dwarf birch and Alaska spiraea (Schamber et al. 2010b). Nests were found to be relatively far from open water (average: 58 m), and Black Scoters avoided dry upland tundra (Schamber et al. 2010b). During migration and non-breeding, Black Scoters in northeastern Bristol Bay used shallow waters near the shoreline (Schamber et al. 2010a). Individuals appear to require ice-free water during winter (Bellrose 1980, qtd. in Schamber et al. 2010a).	
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 Act. Subsistence and sport hunting are permitted, and subject to regulations (ADFG 2018e; AMBCC 2018).	

<i>Knowledge of Distribution and Habitat in Alaska (-10 to 10)</i>	2
Distribution and habitat associations are not well-studied. Schamber et al. (2010a) used satellite telemetry data to identify important areas in northeastern Bristol Bay and their habitat characteristics. Nesting habitats on the Yukon-Kuskokwim Delta were investigated by Schamber et al. (2010b).	
<i>Knowledge of Population Trends in Alaska (-10 to 10)</i>	-2
The Pacific Black Scoter Survey was flown annually from 2004 to 2012 (except in 2011) and encompassed most of its breeding range in Alaska (Bowman et al. 2015). Because this survey accounted for detection probability, it provided a population estimate, rather than simply an index (Bowman et al. 2015). However, this survey is no longer active. The USFWS Waterfowl Breeding Population and Habitat Survey has been ongoing since 1955, but is less robust and covers only a subset of the breeding range in western Alaska (Bowman et al. 2015). Nevertheless, the Waterfowl Survey is likely sufficient to provide adequate trend data (J. Schamber, pers. comm.), and we therefore rank this question as -2.	
<i>Knowledge of Factors Limiting Populations in Alaska (-10 to 10)</i>	10
Little is known about the population dynamics of Black Scoters in Alaska and the factors that regulate them. A study on the Yukon-Kuskokwim Delta from 2001 to 2004 found low levels of nest success for 3 of the 4 years, and variable, but relatively low, levels of duckling success (Schamber et al. 2010b). Predation was the main cause of nest failure, probably by red fox (Schamber et al. 2010b). The authors suggest that annual variation in nest success may be related to variations in red fox abundance (Schamber et al. 2010b). Causes of duckling mortality are unknown, but may also be the result of predation. To our knowledge, this is the only study that has investigated population dynamics of Black Scoters in Alaska.	
Researchers in Alaska found that Black Scoters had a relatively high prevalence (69%) of avian influenza virus (AIV) antibodies, proving that they had at one time been exposed to the virus and could play a role in its transmission (Wilson et al. 2013). From 1990 to 1992, several hundred scoters (mostly white-winged <i>M. fusca</i>) were found dead or severely weakened in southeast Alaska during the molting period (Henny et al. 1995). None of these individuals suffered from disease, and analysis of heavy metal contamination was inconclusive (Henny et al. 1995). Lead poisoning also does not appear to be a concern for this population (Brown et al. 2006).	
Action Total:	0

Supplemental Information - variables do not receive numerical scores. Instead, they are used to sort taxa to answer specific biological or management questions.

Harvest:	Substantial, regulations
Seasonal Occurrence:	Year-round
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	>10%
% Global Population in Alaska:	25-74%
Peripheral:	No

References

- Alaska Department of Fish and Game (ADFG). 2020c. 2020-2021 Migratory game bird hunting regulations summary. Anchorage, AK, USA.
- Bordage, D., and J.-P. L. Savard. 2011. Black Scoter (*Melanitta americana*), version 2.0. In Rodewald, P. G., ed. The Birds of North America. Cornell Lab of Ornithology, Ithaca, NY, USA. DOI: 10.2173/bna.177
- Bowman, T. D., E. D. Silverman, S. G. Gilliland, and J. B. Leirness. 2015. Status and trends of North American sea ducks: Reinforcing the need for better monitoring. Pages 1-28 in J.-P. L. Savard, D. V. Derksen, D. Esler, and J. M. Eadie, eds. Ecology and conservation of North American sea ducks. Studies in Avian Biology No. 46. CRC Press, Boca Raton, FL, USA.
- Brown, C. S., J. Luebbert, D. Mulcahy, J. Schamber, and D. H. Rosenberg. 2006. Blood lead levels of wild Steller's eiders (*Polysticta stelleri*) and black scoters (*Melanitta nigra*) in Alaska using a portable blood lead analyzer. *Journal of Zoo and Wildlife Medicine* 37(3): 361-365.
- Henny, C. J., D. D. Rudis, T. J. Roffe, and E. Robinson-Wilson. 1995. Contaminants and sea ducks in Alaska and the circumpolar region. *Environmental Health Perspectives* 103(Suppl. 4):41-49.
- Herter, D. R., S. M. Johnston, and A. P. Woodman. 1989. Molt migration of scoters at Cape Peirce, Alaska. *Arctic* 42(3):248-252. DOI: 10.14430/arctic1663
- 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.
- Schamber, J. L., P. L. Flint, and A. N. Powell. 2010a. Patterns of use and distribution of king eiders and black scoters during the annual cycle in northeastern Bristol Bay, Alaska. *Marine Biology* 157(10):2169–2176. DOI: 10.1007/s00227-010-1481-x
- Schamber, J. L., F. J. Broerman, and P. L. Flint. 2010b. Reproductive ecology and habitat use of Pacific black scoters (*Melanitta nigra americana*) nesting on the Yukon-Kuskokwim Delta, Alaska. *Waterbirds* 33(2):129-139.
- Sea Duck Joint Venture (SDJV). 2015c. Species status summary and information needs: Black scoter. Available online: <https://seaduckjv.org/meet-the-sea-ducks/black-scoter/> Accessed 16-Jan-2018.
- Smith, M., N. Walker, C. Free, M. Kirchhoff, N. Warnock, ..., and I. Stenhouse. 2012c. Marine Important Bird Areas in Alaska: Identifying globally significant sites using colony and at-sea survey data. GIS data provided by E. Knight on 26 Feb 2018, Audubon Alaska, Anchorage, AK, USA.
- Warnock, N. 2017a. The Alaska WatchList 2017, Red List. Audubon Alaska, Anchorage, AK, USA.
- Wilson, H. M., J. S. Hall, P. L. Flint, J. C. Franson, C. R. Ely, J. A. Schmutz, and M. D. Samuel. 2013. High seroprevalence of antibodies to avian influenza viruses among wild waterfowl in Alaska: Implications for surveillance. *PLoS ONE* 8(3):e58308. DOI: 10.1371/journal.pone.0058308
- Wilson, H. M., W. W. Larned, and M. A. Swaim. 2018b. Abundance and trends of waterbird breeding populations on the Arctic Coastal Plain, Alaska, 1986-2017. U.S. Fish and Wildlife Service, Migratory Bird Management, Anchorage, AK, USA.