

Pacific Common Eider

Class: Aves
Order: Anseriformes

Somateria mollissima v-nigrum

Note: This assessment refers to this subspecies only. A species level report, which refers to all associated subspecies, is also available.

Review Status: Peer-reviewed

Version Date: 06 April 2018

Conservation Status

NatureServe: Agency:

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

S Rank: S4B,S3N USFWS: BLM:

Final Rank		
Conservation category: IX. Blue		
low status and low biological vulnerability and action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status	-20 to 20	4
Biological	-50 to 50	-24
Action	-40 to 40	-8
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

Exhibited substantial population declines from the 1950s to the 1990s (Suydam et al. 2000; Bowman and Wilson 2006). Since then, the population is thought to be stable or increasing, though it may still be below historic levels (Wilson et al. 2012; Bowman et al. 2015). Trends vary between regions and are difficult to interpret because they do not encompass the population’s entire breeding range (Bowman et al. 2015).

Distribution Trend in Alaska (-10 to 10)

2

Extirpated from some Aleutian Islands when predators were introduced to the islands. Recolonization is beginning to occur following efforts to eradicate introduced predators (Petersen et al. 2015b).

Status Total: 4

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

~50,000 individuals (Bowman and Wilson 2006).

<i>Range Size in Alaska (-10 to 10)</i>	-8
Breeds along coastlines of the Aleutian Islands, Kodiak Island, and islands in the Bering, Chukchi, and Beaufort seas (Bowman and Wilson 2006). On the mainland, breeds along coastal tundra from the Yukon-Kuskokwim Delta north to the Arctic Coastal Plain and east to Canada. Overwinters on open water in the Bering Sea and the Gulf of Alaska south to Kodiak Island (Bowman and Wilson 2006). Wintering range is more restricted than breeding range and covers ~121,000 sq. km, estimated in GIS and based on Fig. 1 in Bowman and Wilson (2006).	
<i>Population Concentration in Alaska (-10 to 10)</i>	-6
Nests at low densities in Alaska (Goudie et al. 2000). Can form large concentrations during non-breeding. The coastline from Ledyard Bay to Utqiagvik (~330 km long) is a very important staging area (Petersen 2009; Dickson 2012b). Given the small size of this area and its importance to the population, we rank this question as C- 25-250 sites.	
<i>Reproductive Potential in Alaska</i>	
<u>Age of First Reproduction (-5 to 5)</u>	-3
Most females breed when they are 3 years old (Bowman and Wilson 2006).	
<u>Number of Young (-5 to 5)</u>	1
Females lay a single clutch per year (Goudie et al. 2000). Average clutch size varies over time and space, and ranges from 2.6 to 6.6 eggs/clutch (Schamel 1977; Reed et al. 2007; Wilson et al. 2007b). Wilson et al. (2012) accounted for non-viable eggs and predation and reported similar averages.	
<i>Ecological Specialization in Alaska</i>	
<u>Dietary (-5 to 5)</u>	1
Feeds on benthic invertebrates, including mollusks, crustaceans, gastropods, and echinoderms (Goudie et al. 2000). Data are limited in Alaska, but studies on Atlantic Common Eiders suggest some degree of specialization and a preference for certain prey items (Goudie et al. 2000).	
<u>Habitat (-5 to 5)</u>	1
During non-breeding, inhabits coastal marine waters (Bowman and Wilson 2006). Flaw leads - open water between pack ice and fast ice - appear to be particularly important on spring staging grounds (Dickson and Smith 2013). Breeding habitat is less specialized. Breeds along coastlines and on islands (Flint et al. 1998b; Bowman and Wilson 2006). Breeding habitat is highly variable and includes rocky shorelines, graminoid tundra, and coniferous forests (Flint et al. 1998b; Goudie et al. 2000; Sonsthagen et al. 2010). Ducklings require access to freshwater for the first few weeks of life because they cannot tolerate saltwater (Flint et al. 1998b; DeVink et al. 2005).	
Biological Total:	
	-24

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
Recreational and subsistence hunting is permitted and is subject to closed seasons and bag limits (ADFG 2020c; AMBCC 2020).	
<i>Knowledge of Distribution and Habitat in Alaska (-10 to 10)</i>	-10
Distribution and habitat associations are well-known during breeding and non-breeding. Several studies have been conducted on breeding grounds on the Arctic Coastal Plain and the Yukon-Kuskokwim Delta (Noel et al. 2005b; Reed et al. 2007; Wilson et al. 2012; see Habitat section).	

Additional studies are needed on subpopulations that breed on the Aleutian Islands. Studies have used radio and satellite telemetry, as well as genetic analyses, to understand non-breeding distribution, spatial genetic structure, and site fidelity (Petersen and Flint 2002; Petersen 2009; Sonsthagen et al. 2009; Sonsthagen et al. 2010; Dickson 2012b; Petersen et al. 2012).

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

2

Statewide estimates of population size and trends are unavailable (Bowman and Wilson 2006). Monitored during migration and on breeding grounds on the Arctic Coastal Plain and the Yukon-Kuskokwim Delta (e.g. Quakenbush et al. 2009; Platte and Stehn 2015), but monitoring is not conducted on the Aleutian Islands, which supports large concentrations of breeding individuals.

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

10

Factors that limit the population are unknown. Potential factors include predation, hunting, environmental pollution, climate change, and disease (reviewed in Bowman and Wilson 2006). Because Common Eiders are long-lived species, population growth rates are thought to be most sensitive to changes in adult survival (Wilson et al. 2007b; Bowman and Wilson 2016). The factors that regulate adult survival are poorly understood. Mass mortalities have been reported in Atlantic populations, but reasons behind these die-offs are unknown (Camphuysen 2000).

Predation is the main cause of nest failures on the Yukon-Kuskokwim Delta and the Arctic Coastal Plain (Reed et al. 2007; Wilson et al. 2012). On the Aleutian Islands, the introduction of predators caused the extirpation of some breeding colonies (Petersen et al. 2015b). Most studies have concluded that heavy metal contamination does not have population-level effects on reproduction (Grand et al. 2002; Wilson et al. 2007a; Burger and Gochfeld 2009b, but see Stout et al. 2002).

Action Total: -8

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:	Population
% Global Range in Alaska:	>10%
% Global Population in Alaska:	25-74%
Peripheral:	No

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