Common Murre

Class: Aves
Order: Charadriiformes

Uria aalge

Note: Several subspecies are recognized worldwide, but only one (Uria aalge inornata) occurs in Alaska.

Review Status: Peer-reviewed **Version Date:** 11 February 2019

Conservation Status

NatureServe:	*Agency:*		
G Rank: G5	ADF&G: Species of Greatest Conservation Need	IUCN: Least Concern	Audubon AK:
S Rank: S5	USFWS:	BLM:	

Final Rank

Conservation category: **VII. Yellow**

low status and either high biological vulnerability or high action need

Category	Range	Score
Status	-20 to 20	-11
Biological	-50 to 50	-10
Action	-40 to 40	-16

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

In Alaska, population has increased by 72.4% from 1976 to 2013 (Goyert et al. 2017), though some colonies in the southeastern Bering Sea are declining (Byrd et al. 2008a; Dragoo et al. 2019). It is worth noting that the data used to derive these trends are counts of attendance at breeding colonies. Colony attendance may vary annually in a way that isn't necessary related to population size i.e. fewer birds returning to a colony in a poor year even though the number of birds in the population itself hasn't changed.

Distribution Trend in Alaska (-10 to 10) -5

Unknown, but likely stable. Colonies for which long-term data are available have remained active (Dragoo et al. 2019).

Status Total: -11

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

>25,000. The most recent estimate is 3.8 million individual (Goyert et al. 2017; adjusted upwards from estimate in Denlinger et al. 2006 based on trends on monitored colonies).

Range Size in Alaska (-10 to 10) -2

Breeding colonies are patchily distributed along the western coast from Cape Lisburne south to southeast Alaska (Ainley et al. 2002; ACCS 2017a). Also breeds on islands including St. Lawrence Island, the Pribilof Islands, and islands of the Aleutian Chain. During the non-breeding season, occurs in marine waters from the southeastern Bering Sea to Southeast Alaska and west to the Aleutian Islands (Ainley et al. 2002). Breeding range is more restricted than wintering range and is estimated to cover ~82,466 sq. km, calculated in GIS and based on range from ACCS (2017a).

Population Concentration in Alaska (-10 to 10) -6

Possibly between 25-250 breeding colonies in Alaska (Denlinger 2006; USFWS 2013d). Defining the spatial extent of breeding colonies is difficult, especially when colonies are not monitored annually or when multiple colonies occur nearby.

Reproductive Potential in Alaska

Age of First Reproduction (-5 to 5) 1

Unknown for Alaska. In northern Europe, minimum age at first breeding was between 3 to 5 years, with an average age between 5.3 and 7 years (Ainley et al. 2002).

Number of Young (-5 to 5) 5

Femalys lay a single egg per year (Ainley et al. 2002). Can lay a replacement clutch if the first clutch is lost early in the incubation period. Typically breed every year once they attain sexual maturity (Ainley et al. 2002). Because not all eggs are successful, the average number of live produced per adult female is <1; data from Alaska estimate long-term averages ranging from 0.22 to 0.5 chicks/female (Dragoo et al. 2019). We therefore rank this question as A- <1 offspring.

Ecological Specialization in Alaska

Dietary (-5 to 5) 1

Deep divers that feed primarily on small forage fish; marine invertebrates e.g. squid, crustaceans are consumed to a lesser extent (Ainley et al. 2002; Iverson et al. 2007; Sinclair et al. 2008). Within this niche, they exhibit flexible foraging behaviors that change spatially and temporally with prey availability (Ainley et al. 2002; Harding et al. 2007; Will and Kitaysky 2018). Because the availability of these prey items are sensitive to changes in oceanographic conditions, with repercussions for the common murre's ecology, we rank this question as B- Moderately adaptable.

Habitat (-5 to 5) 1

Breeding colonies are patchily distributed on remote islands or along coastlines (Hatch 1983; Ainley et al. 2002). Eggs are lain on the ground on cliffs ledges, offshore rocks, and in caves (Hatch 1983; Squibb and Hunt 1983; Kessel 1989; Gibson and Byrd 2007). Forages and overwinters in coastal and offshore waters (Hatch et al. 2000; Ainley et al. 2002; Hunt et al. 2014; Dawson et al. 2015). Offshore distribution is influenced by a variety of oceanographic factors including storms, temperature gradients, and dynamic water systems e.g. fronts (Decker and Hunt 1996; Kokubun et al. 2008; Dawson et al. 2015).

Biological Total: -10

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 (MBTA 1918). Subsistence harvest is permitted and subject to regulations (AMBCC 2020). Harvest data do not differentiate between common and thick-billed murres (Uria lomvia). Collectively, these species are some of the most commonly harvested

seabirds (Naves 2018).

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

Distribution of breeding colonies is well-documented with knowledge of habitat associations (USFWS 2013d; Byrd et al. 2005; see references in Habitat section). At-sea distribution has been documented through shipboard surveys and telemetry data (e.g. summary table in Jahncke et al. 2008; compiled in Drew and Piatt 2015). Some knowledge of wintering distribution (Hatch et al. 2000; Day 2006; Dawson et al. 2015; Takahashi et al. 2020).

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

Some knowledge of trends, but survey methods are currently inadequate for detecting statewide trends with certainty. Data used to derive these trends are counts of attendance at breeding colonies. Some breeding colonies on the Alaska Maritime National Wildlife Refuge are regularly monitored, while counts at other colonies (e.g. Cape Thompson, Cape Newenham, West Nunivak Island) date back to the late 1990s (Goyert et al. 2017). At many colonies, only a small subset of the colony is actually counted. Moreover, colony attendance may vary annually in a way that isn't necessary related to population size i.e. fewer birds returning to a colony in a poor year even though the number of birds in the population itself hasn't changed. Finally, it can be difficult to distinguish between thick-billed murres (Uria lomvia) and common murres at mixed-species colonies (Denlinger 2006).

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

Some knowledge of factors affecting population size and distribution. The reasons why some colonies are declining are not fully known. Prey availability and prey quality are thought to be the ultimate mechanisms influencing reproductive success, population dynamics, and distribution (e.g. Byrd et al. 2008b; Irons et al. 2008; Shultz et al. 2009; Zador et al. 2013; Goyert et al. 2018). To some extent, common murres can maintain levels of reproductive success even when prey availability is low (Zador and Piatt 1999; Harding et al. 2007). However, the impacts of this "buffering" e.g. on other demographic parameters or on lifetime fitness are unknown (Zador and Piatt 1999). Adult survival is likely a crucial component of population dynamics (Murphy et al. 1985; Zador and Piatt 1999; Kitaysky et al. 2007). Massive die-offs have occurred during the non-breeding season (Bailey and Davenport 1972; Piatt and Van Pelt 1997); in at least one case, the cause was starvation, likely due to climate-driven reductions in food availability (Piatt and Van Pelt 1997). Predation and accidental egg loss may be an important source of mortality at some colonies (Murphy and Schauer 1994; Schauer and Murphy 1996).

Action Total: -16

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%
Peripheral:	No

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