

Ancient Murrelet

Synthliboramphus antiquus

Class: Aves

Order: Charadriiformes

Review Status: Peer-reviewed

Version Date: 23 June 2020

Conservation Status

Table 1 Conservation status according to state, national, and international organizations and agencies.

Organization	Rank
NatureServe	G4/S4
ADF&G	Species of Greatest Conservation Need
IUCN	Least Concern

Final Rank

Conservation category: **VI. Yellow**

Low status and high biological vulnerability and action need

Table 2 ASRS categorical scores. Higher numerical scores denote greater concern.

Category	Range	Score
Status	-20 to 20	4
Biological	-50 to 50	-16
Action	-40 to 40	24

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).

Population Trend in Alaska (-10 to 10)

This species was likely extirpated from some islands after rats and foxes were introduced (Byrd et al. 2005). Although there is very little information available, the population has likely increased since the eradication of rats and foxes, as has been noted elsewhere in its range and for other ground-nesting seabirds in Alaska (Regehr et al. 2007; Croll et al. 2016). We therefore rank this question as C- Past declines, now stable/increasing.

Score: 2

Distribution Trend in Alaska (-10 to 10)

Likely extirpated from some islands after rats and foxes were introduced; not all colonies have recovered, but it is likely that some have (Byrd et al. 2005; Regehr et al. 2007). In recent years, this species seems to have increased its non-breeding range further north into the Chukchi and Beaufort Seas (Day et al. 2013; Gaston et al. 2017). Because breeding range is more likely to affect this species' persistence than non-breeding range, we focus on those data only and rank this question as C- Past declines, now stable.

Score: 2

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).

Population Size in Alaska (-10 to 10)

No recent data. Most recent estimates show Alaska population >25,000 birds (Denlinger 2006; Gibson and Byrd 2007).

Score: -10

Range Size in Alaska (-10 to 10)

Breeds from the Aleutian Islands east along islands of the Alaska Peninsula and southeast Alaska (Denlinger 2006; Gaston and Shoji 2020). Some birds overwinter in their breeding range, but most migrate out of Alaska (Gibson and Byrd 2007; Gaston and Shoji 2020). Breeding range estimated 41,000 sq. km, based on range map from ACCS (2017a).

Score: -2

Population Concentration in Alaska (-10 to 10)

Colonial nester with at least 90 colonies (Denlinger 2006).

Score: -6

Reproductive Potential in Alaska

Age of First Reproduction (-5 to 5)

Unknown in Alaska, but in British Columbia, reproduces between 2-4 years. 41% of birds in B.C. study were at least 3 years or older (Gaston and Shoji 2020).

Score: -3

Number of Young (-5 to 5)

Typically lays 2 eggs per clutch and one clutch per year (Gaston and Shoji 2010; Youngren et al. 2019).

Score: 3

Ecological Specialization in Alaska

Dietary (-5 to 5)

Feeds largely on euphausiids and juvenile fish, with proportions varying by season (Gaston and Shoji 2010). Juvenile fish, such as herring and capelin, appear to be more important during the summer. In winter, a study off the coast of Victoria, British Columbia found that the diet consisted almost exclusively of one species of euphausiids, *Euphausia pacifica* (Gaston et al. 1993). Prey size is an important consideration for this species as both their bill and bodies are small (Gaston and Shoji 2010; H. Major, University of New Brunswick, pers. comm.).

Score: 1

Habitat (-5 to 5)

During breeding season, Ancient Murrelets spend the majority of their time at sea and visit their colonies only at night (Byrd et al. 2005). Usually nest on vegetated or forested islands with steep slopes; rarely more than 300 meters from the sea (COSEWIC 2004; Gaston and Shoji 2010). Where vegetation is absent or scarce, they will nest in cracks, crevices, and talus slopes in or near ocean cliffs. Winters offshore in marine waters (Gaston and Shoji 2010).

Score: 1

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).

Management Plans and Regulations in Alaska (-10 to 10)

Protected under the Migratory Bird Treaty Act (MBTA 1918).

Score: 2

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

Habitat associations and range generally known from observations and surveys conducted during the breeding season within the range of the Alaska Maritime National Wildlife Refuge (e.g., Evans et al. 2018; Youngren et al. 2019). Some knowledge of their offshore and non-breeding distribution (Gaston et al. 2017), however, data specific to birds that breed in Alaska are missing. Additional information is also needed to understand apparent offshore range expansions into the Chukchi and Beaufort Seas (Day et al. 2013).

Score: 2

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

This species is hard to monitor because its terrestrial habits are largely nocturnal during the breeding season and it spends the winter at sea. There are some long-term observations from Saint Lazaria Island (e.g., Evans et al. 2018) and some measures of breeding phenology and productivity from Aiktak Island (Youngren et al. 2019). Because data are so limited and could not be used to determine population trends on their own, we rank this question as A- Not currently

monitored.

Score: 10

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

Factors that currently limit this population in Alaska are not well-understood. Historically, terrestrial predators such as non-native rats and foxes likely extirpated many colonies; the population has likely recovered and recolonized some islands following the removal of non-native predators such as rats and foxes (Byrd et al. 2005; Regehr et al. 2007). Additional research is needed to determine sources of mortality and the impacts of oceanographic changes on food availability (COSEWIC 2004; Gaston and Shoji 2010). For example, adult mortality from avian predators such as ravens and raptors is an important cause of mortality for some colonies in British Columbia (Gaston and Shoji 2010).

Score: 10

Action Total: 24

Supplemental Information

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

Harvest: None or Prohibited

Seasonal Occurrence: Breeding

Taxonomic Significance: Monotypic species

% Global Range in Alaska: >10%

% Global Population in Alaska: <25%

Peripheral: No

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