

Black-legged Kittiwake

Class: Aves
Order: Charadriiformes

Rissa tridactyla

Note: Globally, two subspecies of *Rissa tridactyla* are recognized. Only one, *R. t. pollicaris*, breeds in Alaska (Hatch et al. 2009).

Review Status: Peer-reviewed

Version Date: 11 February 2019

Conservation Status

NatureServe: Agency:

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

S Rank: S5B,S5N USFWS: BLM:

Final Rank		
Conservation category: III. Orange		
high status and low biological vulnerability and action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status	-20 to 20	5
Biological	-50 to 50	-20
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)

10

Trends vary regionally, but overall black-legged kittiwakes experienced a 41.8% decline from 1976 to 2013 (Goyert et al. 2017). Although declines have slowed in the past two decades, populations have not recovered to previous levels and some colonies are still declining (Goyert et al. 2017; Drago et al. 2019).

Distribution Trend in Alaska (-10 to 10)

-5

Historical colonies recorded in the 1970s are still active today. Scientists have documented the formation of new colonies (Kildaw et al. 2005), but these represent slight shifts in distribution (~10 km) rather than range expansion or contraction.

Status Total: 5

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. Population size is estimated at ~1.3 million individuals (Hatch et al. 2009; Goyert et al. 2017).

<i>Range Size in Alaska (-10 to 10)</i>	-8
Breeds on islands from Cape Lisburne to the Aleutian Islands and south to southeast Alaska (Hatch et al. 2009; USFWS 2013d). Largely absent from the coastline of western Alaska (USFWS 2013d). Wintering range is not well-known but includes the Bering Sea and the Gulf of Alaska (McKnight et al. 2011; Orben et al. 2015b). Estimated breeding range size is between 100,000 and 400,000 sq. km.	
<i>Population Concentration in Alaska (-10 to 10)</i>	-10
Colonial breeder. >350 colonies have been documented in Alaska (Hatch et al. 2009; USFWS 2013d).	
<i>Reproductive Potential in Alaska</i>	
<u>Age of First Reproduction (-5 to 5)</u>	1
Can be as early as 3-4 years, but average age for Shoup Bay was 5 years (Suryan et al. 2000b, qtd. in Suryan and Irons 2001) and 6-7 years on Middleton Island (Vincenzi et al. 2013).	
<u>Number of Young (-5 to 5)</u>	5
Clutch sizes in Alaska range from 1 to 2 eggs per clutch (Baird 1990; Hatch et al. 2009; Satterthwaite et al. 2010). However, the number of chicks fledged is very low (range: 0 to 0.36 for 2018) and several colonies have exhibited breeding failures in recent years (Dragoo et al. 2019 and previous reports). We therefore rank this question as A- <1 offspring/year.	
<i>Ecological Specialization in Alaska</i>	
<u>Dietary (-5 to 5)</u>	1
During breeding, some colonies rely heavily on small forage fish, while other consume more invertebrates (Hunt et al. 1996; Suryan et al. 2002; Iverson et al. 2007; Sinclair et al. 2008; Drummond 2016). Less is known about diet during non-breeding, though they are considered generalist feeders in the winter (Orben et al. 2015a). There is some evidence to suggest that 1) prey availability has implications on reproductive success and stress levels and 2) the availability of high-quality prey can vary considerably from one year to the next in response to ocean conditions (Hunt et al. 1996; Kitaysky et al. 2000; Suryan et al. 2000; Suryan et al. 2002; Hatch 2013; Paredes et al. 2014).	
<u>Habitat (-5 to 5)</u>	1
Forages and overwinters at sea at varying distances from land/nest site (Suryan et al. 2000; Kotzerka et al. 2010; McKnight et al. 2011; Orben et al. 2015b). Nests on ledges of tall cliffs and sea stacks on remote islands and coastlines (Hatch et al. 2009) as well as on anthropogenic structures e.g. abandoned radio towers (Kotzerka et al. 2010).	
Biological Total:	
	-20

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). Subsistence harvest is permitted and subject to regulations (AMBCC 2020).	
<i>Knowledge of Distribution and Habitat in Alaska (-10 to 10)</i>	2
Distribution of colonies is well-documented (USFWS 2013d), with knowledge of nesting habitat (Squibb and Hunt 1983; Byrd et al. 2005; Gibson and Byrd 2007). At-sea distribution and habitat characteristics has been documented by shipboard surveys (Jahncke et al. 2008; Sigler et al. 2012; Piatt and Drew 2015; Cushing et al. 2018) and telemetry loggers (Ainley et al. 2003; Kotzerka et al.	

2010; Benoit-Bird et al. 2013a; Paredes et al. 2014). Comparatively little is known about wintering range, though there are some studies for colonies in the Pribilof Islands and the Gulf of Alaska (McKnight et al. 2011; Orben et al. 2015a; 2015b). Very little information available for colonies on remote islands and in northern Alaska, though these may be home to a significant portion of the population (Goyert et al. 2017).

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

2

Locally monitored at colonies in the Bering Sea, the Gulf of Alaska, and the Chukchi Sea, though data for some colonies are outdated (Goyert et al. 2017; Dragoo et al. 2019). Current trend estimates are derived from count data at long-term monitoring plots, which represent colony attendance rather than actual population size. Because only a small subset of each colony is actually counted, monitoring is only sufficient to detect large changes in population and only for those colonies for which we have data.

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

-10

The ultimate mechanisms driving population dynamics are thought to be prey availability and quality (reviewed in Renner et al. 2014; Murphy et al. 2016; Descamps et al. 2017; Sydeman et al. 2017a; Goyert et al. 2018). Growth rates, nestling survival, adult survival, and reproductive success have been linked to food availability (Kitaysky et al. 2000; Suryan et al. 2000; Suryan et al. 2002; Kitaysky et al. 2010). Winter mortality is likely an important component of long-term dynamics as well, but data remain scarce (Kitaysky et al. 2010; Renner et al. 2014; Goyert et al. 2018). Additional data are needed to elucidate the role of interspecific competition, density dependence, predation, and nest site availability (Hunt et al. 1986; Kitaysky et al. 2000; Ainley et al. 2003; Kildaw et al. 2005; Zador et al. 2013; Paredes et al. 2014; Sydeman et al. 2017a). Population viability analyses have been conducted by Vincenzi and Mangel (2014) and by Goyert et al. (2017).

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:	Not substantial
Seasonal Occurrence:	Year-round
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	>10%
% Global Population in Alaska:	25-74%
Peripheral:	No

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