

Hudsonian Godwit

Limosa haemastica

Class: Aves
Order: Charadriiformes

Review Status: Peer-reviewed

Version Date: 01 March 2019

Conservation Status

NatureServe: Agency:

G Rank: G4 ADF&G: Species of Greatest Conservation Need IUCN: Least Concern Audubon AK: Yellow
S Rank: S2S3B USFWS: Bird of Conservation Concern BLM: Sensitive

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	-6
Biological	-50 to 50	-17
Action	-40 to 40	-4
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
<i>Population Trend in Alaska (-10 to 10)</i>	-6
Although the Atlantic population may be declining (Andres et al. 2012a), the Alaska-breeding population is suspected stable based on surveys conducted on wintering grounds (Espinosa et al. 2005; Morrison et al. 2006; García Walther et al. 2017).	
<i>Distribution Trend in Alaska (-10 to 10)</i>	0
Unknown.	
Status Total:	-6

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
<i>Population Size in Alaska (-10 to 10)</i>	-8
Uncertain. Estimates range from 21,000 (ASG 2019) to 31,000 (García Walther et al. 2017) individuals. These estimates are based on surveys from wintering grounds at Isla Chiloé, which supports 99% of the Alaskan breeding population (Andres et al. 2009). We rank this question as 0.5 * E + 0.5 * F until more precise estimates become available.	
<i>Range Size in Alaska (-10 to 10)</i>	-8
Distribution and range limits are not well-known. Breeding has been documented in southcentral Alaska in the upper Cook Inlet region (Williamson and Smith 1964), in western Alaska on the	

Yukon-Kuskokwim Delta (YKD; McCaffery and Harwood 2000) and the Seward Peninsula (Walker et al. 2011), and in northern interior Alaska (Walker et al. 2011). Nearly the entire Alaskan breeding population overwinters on Isla Chiloé in Chile (Andres et al. 2009). Estimated range in Alaska ~123,600 sq. km., based on range from ACCS (2017a) and calculated in GIS.

Population Concentration in Alaska (-10 to 10)

2

Incomplete knowledge of breeding distribution and number of staging sites in Alaska. Although nest sites are spatially clustered (Swift et al. 2017b), individuals aggregate the most pre- and post-breeding. Flocks of several hundred to >5,000 birds have been seen on the Yukon-Kuskokwim Delta (YKD) (Seppi 1995; McCaffery and Harwood 2000; McCaffery 2005b) and the upper Cook Inlet region (UCI) (McCaffery 1996b; Gill and Tibbits 1999). Given the godwit's small population size, large flock sizes, and absence of documented concentration sites outside of the YKD and the UCI, we assume that there are less than 25 concentration sites in Alaska. Additional research is needed on this topic.

Reproductive Potential in Alaska

Age of First Reproduction (-5 to 5)

0

Unknown. Limited data from Beluga River suggest that godwits do not return to breed before the age of two (N. Senner, University of South Carolina, pers. comm.). Age of first breeding for other *Limosa* species ranges from 2 to 4 (Gratto-Trevor 2000; McCaffery and Gill 2001).

Number of Young (-5 to 5)

1

Lays one four-egg clutch per year (Walker et al. 2011).

Ecological Specialization in Alaska

Dietary (-5 to 5)

-5

Very few data available. Mainly insectivorous. Consumes a variety of adult and larval invertebrates, including flies, beetles, and snails (Walker et al. 2011); also observed eating berries in dwarf-shrub habitats (McCaffery and Harwood 2000). In intertidal habitats, feeds on benthic marine invertebrates including bivalves, crustaceans, and worms (Walker et al. 2011).

Habitat (-5 to 5)

1

Typically nests in freshwater wetlands including graminoid marshes, spruce bogs, and mixedwood wetlands (Williamson and Smith 1964; Gill and Tibbits 1999; McCaffery and Harwood 2000; Swift et al. 2017a). On the Yukon-Kuskokwim Delta, also found in dwarf-shrub tundra meadows several kilometers away from wetlands (McCaffery and Harwood 2000). Individuals nesting near the coast forage in intertidal habitats (Gill and Tibbits 1999; McCaffery and Harwood 2000). During spring and fall migration, stages on intertidal habitats (Seppi 1995; Gill and Tibbits 1999; McCaffery and Harwood 2000) and inland lakes (McCaffery 2005b). Despite their seemingly varied habitat preferences, Hudsonian godwits are patchily distributed on the landscape (McCaffery and Harwood 2000; Swift et al. 2017b) and do not occupy all suitable sites (McCaffery and Harwood 2000). Although the reasons behind this spatial pattern are unknown (Swift et al. 2017b), we rank this question as B- Moderately adaptable.

Biological Total: -17

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 Act (MBTA 1918) and closed to subsistence harvesting (AMBCC 2018).

Knowledge of Distribution and Habitat in Alaska (-10 to 10) 2

Range limits and distribution of breeding sites in Alaska are not well-understood, especially in interior Alaska, where there are very few observations or confirmed records of breeding (Williamson and Smith 1964; Walker et al. 2011; ARCTOS 2016; but see Harwood 2015). Habitat associations have been described for the Cook Inlet region (Williamson and Smith 1964; Gill and Tibbits 1999; Swift et al. 2017a; 2017b; 2018) and the YKD (Seppi 1995; McCaffery and Harwood 2000). Senner et al. (2014) recently studied the migration routes of individuals breeding at Beluga River (Senner et al. 2014).

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

Not monitored in Alaska, where this species breeds at low densities in remote regions. However, 99% of the Alaskan population overwinters on Isla Chiloé and counts at this site are adequate for assessing long-term trends (Andres et al. 2009; see citations in the Population Trend section). We therefore downgrade the question to B- rather than ranking this question as A- Not currently monitored.

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

Some knowledge of population parameters from studies on the Beluga River population in the Cook Inlet region. To our knowledge, no other population has been studied in Alaska. At Beluga River, Hudsonian godwits experience high annual survival (Senner et al. 2014) and high nest success for first nesting attempts (Senner 2012; Senner et al. 2017; Swift et al. 2018). In contrast, second nesting attempts have very low rates of success (Senner et al. 2017). Consequently, the number of nesting attempts in a given season strongly determines reproductive success at the individual and population level (Senner et al. 2014; Senner et al. 2017). Predation is the main cause of nest failure for both first and second nesting attempts (Senner et al. 2017).

Climate change may impact this species by affecting habitat and insect prey. There is some evidence that individuals at Beluga River are tracking warming trends by arriving on breeding grounds and having clutches earlier than in the past (Senner 2012; Senner et al. 2017). At the same time, individuals that arrive (or depart) from breeding grounds later in the season do not experience lower survival or reproductive success (Senner et al. 2014). The availability of high-quality wintering sites is likely critical in allowing individuals to "catch up" and prepare for next year's migration and reproduction (Senner et al. 2014; Micael and Navedo 2018). Modeling studies suggest that suitable breeding habitat in Alaska may increase by 2070 (Wauchope et al. 2017), but additional studies are needed to understand effects of climate change, including shrub encroachment and wetland drying, on availability of nest sites (Swift et al. 2017a).

Action Total: -4

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:	25-74%
Peripheral:	No

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