



Hudsonian Godwit

Photo: © Holly Bickerton



Scientific name

Limosa haemastica

Taxon

Birds

COSEWIC status

Threatened

Canadian range

Yukon, Northwest Territories, Nunavut, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Québec, New Brunswick, Prince Edward Island, Nova Scotia, Newfoundland and Labrador

Reason for designation

This large Arctic-nesting shorebird is poorly monitored on its known breeding grounds in the Hudson Bay Lowlands, Mackenzie Delta, and Alaska. However, both migration monitoring and winter surveys indicate substantial population declines over the past two to three generations. Key threats include reduced suitability of nesting habitat and changes in prey availability arising from climate change, and overgrazing by abundant geese in the Hudson Bay Lowlands, as well as loss of habitat and disturbance on the wintering grounds in South America.

Wildlife Species Description and Significance

Hudsonian Godwit is a large, long-legged shorebird with a long, slightly upturned bill. The species exhibits sexual dimorphism in both size and plumage, with females larger and heavier than males and paler overall in breeding plumage. Males have distinctive red chest colouring during the breeding season, while females are a lighter rufous colour. Both males and females are greyish-brown in non-breeding plumage.

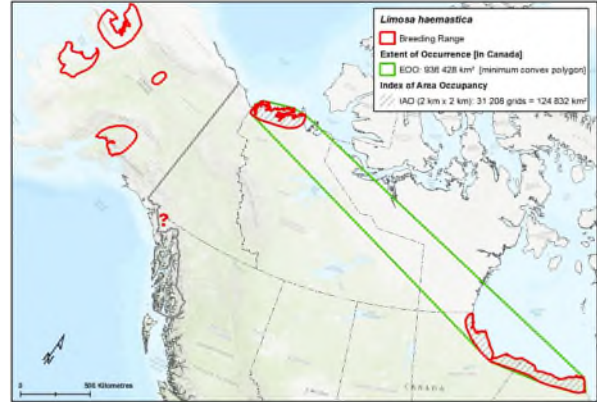
Spatial segregation and genetic differentiation provide evidence for potential subdivision of Hudsonian Godwit into three designatable units (DUs), corresponding to breeding subpopulations in the Hudson Bay Lowlands, Mackenzie Delta, and Alaska, respectively. Although there are also three primary wintering areas in South America that are believed to generally correspond to the separate breeding subpopulations, the linkages between breeding and wintering grounds remain only partially understood and there is evidence of individuals moving among the wintering regions. Considering also the limited sample size of genetic studies to date, the potential extent of exchange of individuals among breeding subpopulations is uncertain. Therefore, currently available evidence is considered to be insufficient to delineate evolutionarily distinct populations of Hudsonian Godwit in Canada, and the species is assessed as a single DU.

Hudsonian Godwit was for many decades considered one of North America's rarest birds because it was seldom seen. It has one of the longest migration routes among Western Hemisphere shorebirds, and covers much of the distance through non-stop flights spanning multiple days.

Distribution

Hudsonian Godwit breeds in sub-Arctic and Boreal regions of Canada and Alaska and overwinters in the southernmost regions of South America. Some local breeding sites may remain undiscovered. The main known breeding areas in Canada are along the Hudson Bay Lowlands in Manitoba and Ontario, and in the Mackenzie Delta, Northwest Territories. In Alaska, breeding is known from four areas in the central, western, and southern parts of the state.

Within Canada, the primary staging areas on southbound migration are the coast of James Bay for birds from the Hudson Bay Lowlands and Mackenzie Delta, and prairie lakes in Saskatchewan for birds from Alaska. Migrants then fly long distances east and southward over the Atlantic Ocean, often stopping at staging areas in northern or central South America for up to several weeks before continuing to wintering grounds farther south. Breeding subpopulations are believed to largely be associated with separate wintering grounds, with birds from the Hudson Bay Lowlands wintering primarily in Tierra del Fuego and southern Patagonia, those from the Mackenzie Delta wintering mostly around Samborombon Bay in northern Argentina, and those from Alaska generally wintering on Chiloe Island and the adjacent mainland of Chile. On northbound migration, most birds fly non-stop from their wintering grounds to the United States Gulf Coast and follow a common route north through the U.S. Great Plains, then diverge from the eastern Canadian prairies to their breeding grounds. Hudsonian Godwit occurs regularly during breeding or migration in all three territories and in provinces from British Columbia to Québec, as well as occasionally in fall in all of the Atlantic provinces.



Canadian distribution of Hudsonian Godwit

Source : COSEWIC. 2019. COSEWIC assessment and status report on the Hudsonian Godwit *Limosa haemastica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 50 pp.

Habitat

Hudsonian Godwit breeds in wetland habitats (sedge meadows and muskeg) in sub-Arctic and Boreal regions. It uses a wide variety of habitats on migration, including freshwater marshes, saline lakes, flooded fields, shallow ponds, coastal wetlands and mudflats. On the wintering grounds, Hudsonian Godwit mainly forages in large shallow bays, lagoons, or estuaries with extensive intertidal mudflats, and roosts in a range of habitats, such as upper tidal flats, sand spits, rocky shorelines, salt marshes, and grasslands. The species faces habitat loss and degradation at all stages of its annual cycle, primarily through climate change and development.

Biology

Hudsonian Godwit reaches sexual maturity at three years of age, and individuals appear to remain on their wintering grounds until ready to breed. Females lay a single clutch of four eggs but may lay a second clutch if the nest is lost to predation. Generation time is estimated to be 7.7 years. The species primarily feeds on invertebrates, although plant tubers are also known to be part of the diet.

Population Sizes and Trends

Systematic long-term monitoring data are lacking for this species, and estimates of population size and trends are considered imprecise. The most recent population estimate for Hudsonian Godwit is approximately 41,000 mature individuals (24,300 individuals in the Hudson Bay Lowlands, 800 in Mackenzie Delta, and 15,750 in Alaska). Migration monitoring trend data from 1995 to 2016 (just under 3 generations) indicate a 6% annual decline (71% cumulative decline) in total population size, although the reliability of the estimate is low because of limited data coverage (only from stopover sites in eastern North America). Surveys on the wintering grounds indicate an annual decline of 4.08% in Tierra del Fuego from 2002 to 2018, equivalent to a three-generation decline of 62%, but stable numbers at Chiloe Island since the late 1980s. Considering the relative size of the wintering populations, the overall annual rate of decline over the past 16 years is approximately 2.5%, corresponding to 44% over three generations (23 years).

Threats and Limiting Factors

Hudsonian Godwit faces numerous threats throughout its annual cycle. Climate change, and severe weather, as well as natural system modifications, are likely the most serious risks.

Climate change is predicted to affect Hudsonian Godwit in numerous ways. Rising sea levels are expected to reduce coastal foraging habitat throughout its annual cycle. Warmer and drier conditions will cause tundra and prairie wetlands to shrink. Northward advancement of the treeline may reduce the availability of suitable nesting habitat, particularly in the Mackenzie Delta. Altered climate regimes along the northbound migration route and on the breeding grounds appear to be causing an ecological mismatch between timing of breeding and peak prey abundance for birds in

the Hudson Bay Lowlands and the Mackenzie Delta. Droughts could affect most Hudsonian Godwits, primarily on the Great Plains during spring migration. Warming temperatures along the migration route are predicted to increase the frequency and severity of extreme weather, which could cause direct mortality of birds, as well as delays in migration.

Much of the South American wintering grounds are threatened by habitat loss and degradation. Urban sprawl affects foraging habitat in Patagonia, whereas expanding aquaculture and algal harvesting activities threaten it on Chiloe Island, where beachfront housing development is also reducing the availability of upland roosting habitat. At their wintering grounds as well as stopover sites, Hudsonian Godwits face additional disturbance from boat traffic, humans, and dogs.

Most Hudsonian Godwits are exposed to pollution in agricultural systems, either on migration, on the wintering grounds, or both, which may reduce prey quality and abundance. Petrochemical pollution from ships and industrial discharge is a concern, especially along the coast of South America. Portions of the Hudson Bay Lowlands are exposed to overgrazing of their tundra habitat by geese, although the impacts on Hudsonian Godwit remain unclear.

Protection, Status and Ranks

Hudsonian Godwit is protected in Canada under the Migratory Birds Convention Act, 1994 and in the United States under the Migratory Bird Treaty Act. The International Union for Conservation of Nature (IUCN) ranks the species as Least Concern globally. The Canada and U.S. Shorebird Conservation Plans recognize it as a species of high concern and it is on the North American Bird Conservation Initiative's watch list. NatureServe designates both the global and Canadian breeding populations as apparently secure. The

Canadian Endangered Species Conservation Council (CESCC) considers Hudsonian Godwit to be vulnerable.

Source : COSEWIC. 2019. COSEWIC assessment and status report on the Hudsonian Godwit *Limosa haemastica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 50 pp.

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