Greater White-fronted Goose

Anser albifrons

Class: Aves
Order: Anseriformes

Conservation Status

Heritage	*Agency*		
G Rank: G5	USFWS/NOAA:	BLM:	AA:
S Rank: S5B	SOA:	USFS:	IUCN: Least Concern

Final Rank

Conservation category: **IX. Blue**

IX = low status and low biological vulnerability and action need

Category	Range	Score
Status:	-20 to 20	2
Biological:	-50 to 50	-30
Action:	-40 to 40	-8

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 (-10 to 10) 2

Short term global population trend is increasing (NatureServe 2007b). Historically, the pacific population suffered from a large decline in the late 1970s and early 1980s (73,100 geese). The population increased by an annual rate of 10% from 1985 to 1996, then slowed to a gradual increase, with 433,400 geese by 2001 (PFC 2003). Populations of Tule geese underwent a decline and resurgence in the 1970s and 1980s (Ely and Dzubin 1994) and are currently considered stable (Audubon Alaska 2010). Midcontinent geese declined in abundance in during the 1990s and since the mid 1990s, breeding pair and total bird indices have been stable to slightly increasing (Fischer 2010).

Distribution Trend (-10 to 10) 0

Unknown

Status Total: 2

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 (-10 to 10) -10

The Tule White-fronted Goose population is estimated to be about 13,841 geese (Audubon Alaska 2010). 2003 estimate 5,500 based on winter radio-collared individuals (USFWS 2003d). In 2003, the Pacific White-fronted Goose population was estimated at 421,975 geese based on the annual fall population index (PFC 2003). The midcontinent population size was estimated at 159,188 geese from the Arctic Coastal Plain waterfowl breeding population survey (Larned et al. 2010) and around 35,000 geese from the Alaska-Yukon waterfowl breeding population survey (Mallek and Groves 2009).

Range Size (-10 to 10) -8

The pacific population breeds on the Y-K Delta inland as far as St. Marys and Bethel, south to the Gulf of Alaska, including the Bristol Bay lowlands. The majority of the pacific population is found on the Y-K Delta and remain there until late September (PFC 2003). The midcontinent population breeds in regions of interior and northern Alaska, from Barrow south to the Y-K Delta and in the interior east of Y-K Delta and north of Alaska Range (Ely and Dzubin 1994). The Tule White-fronted Goose is restricted to the northern Cook Inlet Basin, Alaska (C. Ely, pers. Comm. 2002 in Nature Serve 2007, Ely and Dzubin 1994). Tule's nesting, brood-rearing, and molting restricted to west side of Upper Cook Inlet. Stages in glacial valleys of southeast Alaska (USGS 2007). Total breeding area calculated in ArcMap ~371,790 square kilometers.

Population Concentration (-10 to 10) -6

Tule geese concentrate at molting and nesting areas. Concentrations in Redoubt Bay, Trading Bay, and Susitna Flats. Also seen in Tuxedni and Chinitna bays and Innoko National Wildlife Refuge, but no evidence of nesting or molting (ADFG 1994). Third quarters of the breeding pacific population concentrate in a narrow coastal zone of the Y-K Delta, 22% are dispersed across the delta interior, and the remainder nest in the Bristol Bay area and the Innoko River Basin. Remain on Y-K Delta during the fall (PFC 2003). Midcontinent population breed along the arctic coastal plain south through interior Alaska (Ely and Dzubin 1994), molt at predictable locations in northwest and interior Alaska, including Koyukuk, Kanuti, Innoko, and Selawik National Wildlife Refuges (Fischer 2010).

Reproductive Potential

Age of First Reproduction (-5 to 5) -3

First breed at age 3 (Ely and Dzubin 1994).

Number of Young (-5 to 5) 1

Clutch size of 4-6 eggs (Ely and Dzubin 1994).

Ecological Specialization

Dietary (-5 to 5) -5

Feeds on sedges, grasses, berries, and underground plant parts in the summer (Ely and Dzubin 1994). Also eats aquatic insects and their larvae. On the Y-K Delta, pendent grass (Arctophila) shoots and arrowgrass (Triglochin) bulbs were primarily prenesting foods, crowberries were also consumed (NatureServe 2007b).

Habitat (-5 to 5) 1

Pre-nesting birds in the pacific population concentrate on melt water areas, slough banks, and river edges within 30 km of the Bering Sea. Nests are located in moderate to dense shrub cover of grasses and sedges or dwarf shrubs, most commonly on slough banks, lake shores, and lower edges of pingos. Broods use wet to dry sedge meadows dominated by small ponds near nesting areas and tidal riverine systems used during wing molt. Midcontinent geese breed in alluvium lowlands on stream deltas, low sedge cotton grass moss meadows, tussock lowlands, tundra ponds with Carex aquatilis, Arctophila fulva emergents ecotone, taiga forests and bogs, raised polygon edges, hummocky ground, inland tributary stream edges, and dwarf and occasionally tall-shrub tundras of birch and willow. Molts in low-relief lowlands of deep lake basins with higher shorelines and extensive rich, meadow like feeding grounds. During migration, uses wetlands. Tule geese nest along sloughs dominated by saline sedge-grass habitat and freshwater marsh and shrub bogs. Molting areas in Redoubt Bay are characterized by Carex and horsetail riparian meadows, alder and willow riparian areas, patches of spruce and birch forest, and outwash (Ely and Dzubin 1994).

Biological Total: -30

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 Needs (-10 to 10) 2

Protected under the Migratory Bird Treaty Act (MBTA 1918). Some habitat is on federal lands and is protected (ADFG 1994, PFC 2003). Management plan written by Pacific Flyway Council.

Monitoring Needs (-10 to 10) -2

Pacific population is monitored in the fall at Klamath Basin. Additionally, in 1985 a special transect survey was initiated in the coastal region of the Y-K Delta to survey high density nesting areas (Eldridge and Dau 2002) and surveyed as part of the Alaska-Yukon breeding waterfowl survey (Mallek and Groves 2009). The midcontinent population is monitored as part of the Alaska-Yukon breeding waterfowl survey (Mallek and Groves 2009), arctic coastal plain survey (Larned et al. 2010), and breeding pair surveys conducted at some NWRs. Aerial molting goose surveys are conducted in many NWRs and at Teshekpuk Lake (Fischer 2010). Tule population monitored in 1997/1998. There are also population estimates for 2002. ADF&G collaborated with California, Oregon, USGS-BRD and FWS to evaluate potential monitoring projects that could provide a reliable population index for Tule Geese.

Research Needs (-10 to 10) 2

Historically, fluctuating abundance of grazing foods on wintering and spring migration grounds limited populations, but recent adaptation to feeding on agricultural croplands has made food abundance less of a limiting factor. Subsistence harvest and recreational hunting limit populations (Ely and Dzubin 1994). Low survival rates may limit some populations (Fischer 2010). Development of gas and oil, coal deposits, port facilities, and recreation could limit various populations (NatureServe

2007b). On the North Slope, oil spills and oil field development pose risks (Ely and Dzubin 1994).

Survey Needs (-10 to 10) -10

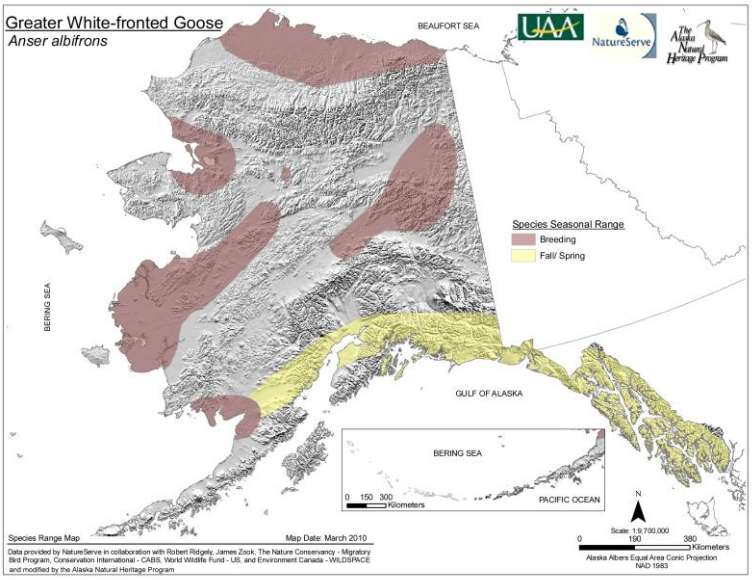
Major breeding and staging areas of the Pacific population in Alaska known from Y-K Delta survey (Eldridge and Dau 2002) and Alaska-Yukon waterfowl breeding population survey (Mallek and Groves 2009), with over 95% of the population found breeding on the Y-K Delta (PFC 2003). Habitat associations well understood and described in PFC (2003). A recent project by the U.S. Fish and Wildlife Service to monitor population trends, distribution, harvest, breeding biology, survival, and disease in midcontinent geese has greatly increased survey knowledge of this species (Fischer 2010). Additionally, a banding program by the U.S. Fish and Wildlife Service has increased the understanding of the range and distribution of midcontinent geese (Marks 2010). Tule population monitored in 1997/1998. In late June, ADF&G flew a helicopter survey of Susitna and Kahiltna Valley molting areas to keep track of the presumed majority of the breeding population.

Action Total: -8

Supplemental Information - variables do not receive numerical scores. Instead, they that are used to sort taxa to answer specific biological or managerial questions.

Harvest:	Substantial, regulations
Seasonal Occurrence:	Breeding
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	>10%
% Global Population in Alaska:	<25%
Peripheral:	No

Range Map



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For details on the development of the ASRS and criteria, please see: Gotthardt, T. A., K. M. Walton, and T. L. Fields. 2012. Setting Conservation Priorities for Alaska's Wildlife Action Plan. Alaska Natural Heritage Program, University of Alaska Anchorage, AK.