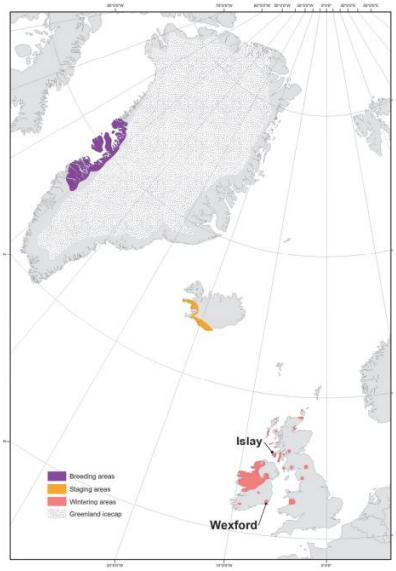
Greenland White-fronted Goose – Habitat Guidance

(Anser albifrons flavirostris)

Conservation Status

UK Red listed as a Bird of Conservation Concern, classified as Endangered by the International Union for Conservation of Nature (IUCN) (as a sub-species).

Identification



(Above) Adult Greenland White-fronted Goose. (Right) World range showing breeding, staging and wintering grounds (Griffin et al. 2020[1])

Greenland White-fronted Geese (GWfG) are medium-sized, "grey geese", but with darker brown plumage than similar species. The adults have distinctive white patches on their foreheads, bold black bars on their bellies and strikingly orange legs and bill, all of which help to differentiate them from the much greyer Pink-footed and Greylag Goose. The closely related Russian/European sub-species of the White-fronted Goose has a pink bill and paler overall plumage.

Population and Distribution

The estimated global population of Greenland White-fronted Geese has declined by 57% since 1999 to just under 15,000[2] individuals in March 2024. An estimated 9,500 birds overwinter in the UK and around 5,500 in Ireland (compared, for instance, to the estimated 510,000 Pink-footed Geese that overwinter in the UK). They migrate to and from breeding grounds in western Greenland, breaking their journeys in spring and autumn in Icelandic "staging areas" where they feed and rest en-route to/from their wintering grounds in the UK and Ireland, a total distance of over 2,500 km. The main wintering populations are found in Wexford (south-east Ireland) and Islay (Inner Hebrides) with smaller flocks at regularly used sites distributed predominantly in the north and west of Britain and Ireland.

Ecology and Habitat Preferences

The steep declines in numbers since 1999 are largely attributed to poor breeding success resulting in fewer juveniles being recruited into the population than needed to replace natural annual losses. This is mostly due to increasingly low April/May temperatures on their breeding grounds at the time when females arrive over the icecap from Iceland. Ironically this is due to warmer North Atlantic sea surface temperatures, creating heavier spring snowfall and lower temperatures in west Greenland. The wintering grounds play a vital role in ensuring both high over-winter survival and good body condition in spring, potentially improving their subsequent breeding success in Greenland.

Greenland White-fronted Geese have a slender but sturdy, strong beak, adapted to selectively digging up the nutritious underground storage organs of plants such as the lower stems of sedge and Common Cottongrass, grass or clover stolons and buttercup and spearwort tubers. Due to this feeding habit, they will utilise wet pastures, damp peaty soils and the edges of wetland features in floodplains, flashes, seepages and

peatland bog pools, where they can dig up or pull-out underground food items more easily. They will also feed extensively on semi-improved grasslands in crofting areas, as well as in more highly productive swards in improved and reseeded pastures, particularly in Wexford and at Machrihanish. Whilst GWfG exploit complex habitat mosaics in the landscape which can be difficult to clearly define, this guidance aims to highlight the key considerations when managing or creating habitats for this globally important species.

Juvenile (left) and adult Greenland White-fronted Geese in typical feeding habitat

Wet grassland with seasonally flooded areas, habitat favoured by GWfG.

Key Habitat Preferences

Actions

Grasslands and Wet Pastures: As with other geese, productive improved pastures and a wide range of grasslands are used by GWfG for feeding. However, they make much use of rushy pastures, particularly on Islay. Presence of rush is an indicator of wet grassland rich in food plants whilst it also provides cover and shelter for feeding flocks. However areas with a dense cover (>90%) of tall rushes are mostly avoided. GWfG will use a range of grasslands including rye-grass leys, improved and semi-improved fields. However, it is likely that grasslands with a higher diversity of herb species are preferable where wetness and other factors are suitable. Grassland that has been grazed appears to open up the sward for geese to feed. However, they tend to avoid fields containing livestock.

- Rush topping and removal – aim for <50% rush cover.
- Top rushes 1-2 times per year if possible.
- Wetter areas of rush can be managed with an ATV and flail.
- Cut avenues through denser rush patches.
- Cut rush periodically throughout the winter with a tractor, ATV topper or brush cutter to create fresh feeding opportunities.
- Where possible, remove livestock from feeding sites in the autumn to maintain a medium length (10 cm) sward over-winter and to minimise disturbance of feeding flocks.

Wetland Features:
GWfG are adapted to feeding in wetlands, wetland margins, soggy ground and seasonal flashes. Retaining or creating wet in-field features will increase the suitability of your grasslands for foraging geese and provide drinking pools, which are also important.

- Retain in-field features such as wet hollows, ponds, seasonally flooded areas in suitable improved or semi-improved pastures.
- Consider creation of wet features by increasing water retention e.g. blocking drains, widening ditches and creating scrapes in low lying wet areas.

Stubbles and Wild Bird Cover Crops:
After arrival on their overwintering grounds GWfG readily feed in oat or barley stubbles and harvested crops of potato and fodder beet, continuing to do so through the winter if food remains available, particularly during periods of wet weather.

Where feasible to include arable, aim for 5-10% cover of oat or barley stubble in autumn. Sow small areas (c. 1 hectare) of "wild bird cover" sacrificial crops with cereals in the seed mix.

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Undisturbed Areas: GWfG are highly vulnerable to disturbance including recreation, dog-walking, wildfowling, fishing and farming activities. A previous study[1] observed that GWfG reacted to any shooting activity within 800 m. Disturbance within this distance is likely to illicit behaviours such as flushing and increased vigilance, resulting in reduced feeding time and overall energy expenditure, and possibly movement of the birds to sub-optimal habitat. Another study[3] showed a link between the number of disturbance events and changes in numbers of geese using sites, with agricultural operations identified as the single most important source of disturbance. GWfG utilising farmland habitat are highly dependent on the good will of landowners to minimise disturbance events.	• Minimise incidental disturbance of preferred areas e.g. farming operations. • Consider disturbance distances from GWfG feeding sites when planning shooting activity - avoid disturbance within 800 m; avoid use of lead shot; ensure that shooters are familiar with the identification of GWfG. • Maintain field boundaries (for shelter) where present e.g. dense hedges, walls. • Locate new habitat for GWfG away from public footpaths or other sources of disturbance, considering both distance and site lines/visibility. • Where recreational disturbance cannot be avoided consider use of signage to promote responsible behaviour e.g. importance of keeping to footpaths, dogs on leads etc.
Roosts: Safe roosting sites are a vital element for over-wintering populations of GWfG. Roost sites are generally in areas of bog and wet grassland with abundant shallow open water features such as loch edges, bog pools, floodplain wetlands and temporary flashes, all of which provide protection from ground predators at night. Roosts in peatland pools also provide overnight feeding opportunities on the nutritious bases of species such as Common Cottongrass, White-beaked Sedge and Bulbous Rush. Flocks are gregarious at night and use an extensive network of such feeding sites. Connectivity within the landscape enables flocks to move around without expending excess energy and is key to sustaining the social structure of flocks.	• In moorland areas creation or restoration of pools as part of larger-scale peatland/bog restoration projects will benefit GWfG, especially if they support key food plants. • Creation of larger waterbodies in proximity to wet grassland would create more opportunities for geese to roost securely close to day-time feeding areas. • Connectivity between roosting and feeding areas is key to enable flocks to move around the landscape.

Other Considerations:

Agri-Environment Scheme options can fund land management to benefit geese. Contact your local government scheme officer or farming advisor for advice.

Useful Links:

Greenland White Fronted Goose Study website: https://greenlandwhitefront.org/
Species on the Edge Project: https://speciesontheedge.co.uk/greenland-white-fronted-goose/

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1.Griffin, L.R., Burrell, E.M., Harrison, A.L., Mitchell, C. & Hilton, G.M. 2020. Conservation management of Greenland white-fronted geese Anser albifrons flavirostris on Islay, Scotland. Scottish Natural Heritage Research Report No. 912.
2.Fox, T., Francis, I., Walsh, A., Norriss, D. & Kelly, S. 2024. Report of the 2023/2024 International Census of Greenland White Fronted Geese. Greenland White-Fronted Goose Study Group.
3.Norriss, D.W. and Wilson, H.J. 1988. Disturbance and flock size changes in Greenland White-fronted Geese wintering in Ireland. *Wildfowl* 39: 63-70.