

Northern Ireland Species Action Plan
Light-bellied Brent Goose
Branta bernicla hrota
March 2005

1. Current Status and Condition

- 1.1** The light-bellied brent goose *Branta bernicla hrota*, which winters almost wholly in Ireland, belongs to one of four recognised stocks of brent which breed in the Eastern Canadian High Arctic. They breed in the eastern Queen Elizabeth Islands (hereafter ECHA - East Canadian High Arctic - light-bellied brent goose) and migrate to Ireland via Greenland and Iceland (Robinson *et al.*, 2004; O’Briain and Healy, 1991).
- 1.2** In the wintering grounds, ECHA light-bellied brent geese are restricted to coastal habitats, primarily feeding on *Zostera* spp. swards, especially in autumn and early winter (O’Briain, 1991). The diet also includes saltmarsh grasses red fescue *Festuca rubra* and common saltmarsh grass *Puccinella maritima* and the algal species *Ulva* spp. and *Enteromorpha* spp. (Portig *et al.*, 1994; Mathers *et al.*, 1998). In some areas feeding on improved grassland has become common in mid-winter and spring.
- 1.3** Population censuses in staging and wintering grounds in Ireland in the 1950s gave the first accurate assessments of the size of the population. These indicated a population of c. 6,000 birds during the mid-1900s (Kennedy *et al.*, 1954; Ruttledge and Hall-Watt, 1958). Although numbers have fluctuated markedly since then, they have generally increased. In the 1970s, the population was estimated at 8,400-16,100, reaching a maximum of 25,000 in the mid-1980s (Merne *et al.*, 1999) This mid-1980s peak has been attributed to a series of breeding seasons with particularly high productivity (Robinson *et al.*, 2004; Merne *et al.*, 1999). However, the population reached over 32,000 in 2004 with 26,250 in Strangford Lough alone and just over 2,000 in Iceland. Lough Foyle (1600) and Co. Kerry (1700) also contributed to this 2004 total. These preliminary figures were reported at a meeting of the Irish Brent Goose Research Group (Oct ‘04).
- 1.4** Since the 1990s censuses and productivity assessments have become increasingly co-ordinated and supplemented by information from national water-bird monitoring schemes in Northern Ireland (WeBS - Pollitt *et al.*, 2001) and the Republic of Ireland (I-WeBS – Colhoun, 2002) and population estimates have varied from between 15,000 and 22,000 birds. The estimate for 2004/2005 will be higher than this (see previous section). At least 75% of the population generally occurs in Northern Ireland in the autumn, primarily in Strangford Lough though the figure for 2004 may be as high as 85%
- 1.5** The 1% threshold level for recognising sites of international importance for this species is currently 200 individuals (assuming a population size of 20,000). Six sites in Northern Ireland attain this status based on five-year mean peaks from 1995/96 – 1999/2000 – Strangford Lough, Lough Foyle, Carlingford Lough, Killough Harbour, Larne Lough and Outer Ards. Dundrum Bay has also held internationally important numbers in the past.

- 1.6** The ECHA light-bellied brent goose is afforded full protection under national legislation in Canada, Greenland, Iceland, Ireland and the UK. It is listed under Annex II of the EC Birds Directive and under Article 4 of the Wildlife (Northern Ireland) Order 1985. The species is classified as a SPEC 3 species in Birdlife International's Species of European Conservation Concern which means that it has an unfavourable conservation status in Europe, but is not concentrated in Europe (Tucker and Heath, 1994). It is amber listed on the Birds of Conservation Concern in the UK (Gregory *et al.*, 2002), and Ireland (Newton *et al.*, 1999).
- 1.7** The population is also listed under Category A(2) of the Africa-Eurasian Waterbird Agreement (AEWA), under the Bonn Convention on Migratory Species due to the fact that population size lies between 10,000 and 25,000. A Flyway Management Plan (FMP) has recently been drafted for this population (Robinson, 2004).

2. Current Factors Affecting the Population

- 2.1** Food availability - the species' dependence on intertidal *Zostera* spp. during stages of the annual cycle, especially autumn and early winter (Mathers *et al.*, 1998), leaves it vulnerable to changes in the availability of this food item. There is some historical evidence that past declines in *Zostera* spp. due to a wasting disease led to a significant reduction in population size of the light-bellied brent goose during the 1920s and 1930s (Rasmussen, 1977). The response of the species to any similar outbreak in the future cannot be predicted.
- 2.2** Agricultural conflict - ECHA light-bellied brent geese are also known to utilise agricultural land for feeding which may lead to an increase in disturbance from farmers who find them to be a nuisance grazing on their land.
- 2.3** Habitat loss and fragmentation - additional potential threats to the population in staging/wintering areas include loss of inter-tidal habitat or degradation through human developments e.g. aquaculture, infrastructure development. Cord-grass *Spartina* spp. encroachment is also a threat (Robinson, 2004).
- 2.4** Disturbance – including hunting (though this is almost certainly very limited), and human disturbance (Mathers *et al.*, 2000).
- 2.5** Climate change - summary predictions for temperature and sea level rise as a result of global warming have been modelled by the MONARCH project (Harrison *et al.*, 2001). These models indicate a much smaller impact in Ireland than in Britain. It is likely that the most significant threat to this population relates to the indirect and direct effects of climate change in the breeding, staging and wintering grounds through changes in, for example, vegetation dynamics and habitat availability.

3. Current Action

- 3.1** *Council Directive (79/409/EEC) on the conservation of wild birds*, the Birds Directive, was adopted in 1979 and requires member states to identify areas to be given special protection for rare or vulnerable species, and for regularly occurring migratory species. Four sites which hold internationally important numbers of ECHA light-bellied brent goose have been classified as Special Protection Areas (SPA) under the EU Birds Directive. These are Strangford Lough SPA, Larne Lough SPA, Lough Foyle SPA and Carlingford Lough SPA, the latter as part of an extended cross border site.
- 3.2** The *Conservation (Nature Habitats, etc.) Regulations (Northern Ireland) 1995* and *The Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2004* (The Habitat Regulations) require competent authorities, when considering a plan or project not directly connected with the management of a European site e.g. an SAC or SPA, to undertake an Article 6 assessment. This assessment will determine if the plan or project, either alone or in combination with other plans or projects, is likely to have a significant impact on the site. In the case of a negative or undetermined assessment, a competent authority may only agree to the plan or project where it is satisfied that there are no alternative solutions and that the plan or project must be carried out for imperative reasons of overriding public interest, which may be of a social or economic nature. However, if the site hosts a priority habitat or species then the plan or project may only be approved for: a) reasons of human health, public safety, beneficial consequences of primary importance to the environment, or b) other reasons which the Department (DOE), having considered the opinion of the European Commission (EC), determines are imperative reasons of overriding public interest.
- 3.3** Under the terms of the Habitat Regulations, the above Article 6 assessment by the competent authority is required for plans or projects e.g. land reclamation, which are outside European sites but may still have an impact on the site.
- 3.4** Guidance to help competent authorities and others to interpret the Habitat Regulations has been published (EHS, 2002).
- 3.5** Guidance on the completion of an Article 6 assessment has also been published (European Commission, 2000)
- 3.6** Under the *Nature Conservation and Amenity Lands (Northern Ireland) Order 1985*, Areas of Special Scientific Interest (ASSIs) are identified and declared by the Department of the Environment (DOE) through the Environment and Heritage Service (EHS). *The Environment (Northern Ireland) Order 2002*, strengthened the protection of ASSIs, recognising the importance of working in partnership with owners and occupiers and facilitating the positive management of these sites. All SPAs above low water mark are designated as ASSIs before being classified as SPAs.
- 3.7** As stated previously, this species is listed under the African-Eurasian Waterbird Agreement (AEWA) under the Bonn Convention. This agreement involves co-operation between countries who share this migratory species which includes maintenance of suitable habitat throughout its migratory range. The action plan of the

Agreement for this species requires Parties to prepare national action plans with a 'view to improving ...overall conservation status' (Robinson *et al.*, 2004).

- 3.8** Annual monitoring of this important species is carried out through a combination of special surveys organised by the Irish Brent Goose Research Group (IBGRG) under the auspices of the UK-WeBS and I-WeBS. This work aims to assess the overall size of the population, annual productivity and the status of individual sites and supplements data collected through UK-WeBS and I-WeBS Core Counts.
- 3.9** Since 2002, the census has been extended to include Icelandic staging areas to maximise accuracy of the annual population estimate. This work is supported by Environment & Heritage Service and National Parks & Wildlife Service (NPWS) from the Republic of Ireland, through support to The Wildfowl & Wetlands Trust (WWT). The IBGRG members include Environment and Heritage Service (EHS), Queen's University Belfast, WWT, National Trust (NT), Royal Society for the Protection of Birds (RSPB) and NPWS. This group supports several research projects including alongside WWT research to support production of a Flyway Management Plan (FMP).
- 3.10** Since the late 1990s, this population has been intensively studied through original research projects e.g. through Queen's University Belfast, primarily at Strangford Lough. More recently, a joint EHS/NPWS contract to WWT (with additional support from other organisations) covers a number of aspects underpinning long-term research and monitoring of this population within and out-with the wintering grounds. This includes *inter alia* population monitoring (through managing a ringing/re-sightings programme), development of an AEWA single species action plan, studies of migration (using satellite-telemetry), a Natural Environment Research Council (NERC) research studentship investigating habitat-switching, surveys of *Zostera* spp., behaviour and activities/threats assessments at internationally important sites.
- 3.11** 'Sister Reserves' were created in 1989 when Canadian Wildlife Service (CWS) signed a Memorandum of Understanding with the Irish NPWS twinning Polar Bear Pass National Wildlife Area (NWA) with three nature reserves in County Dublin. Then CWS and the Northern Ireland Department of the Environment and the Northern Ireland National Trust signed a Statement of Intent linking Polar Bear Pass NWA with areas of Strangford Lough protected by the Strangford Lough Wildlife Scheme. Initially these were in place for a five year period however they now need to be reviewed (Robinson *et al.*, 2004)
- 3.12** EHS has established the Management of Special Sites (MOSS) scheme which makes provision for positive management agreements with landowners within ASSIs. MOSS agreements have been set up specifically for brent geese feeding on improved grassland of farms around Strangford Lough.
- 3.13** The brent goose is a highly publicised species in Northern Ireland and is the subject of the Brent Festival which is held for the arrival of this species. This is held at Castle Espie and is organised and supported by WWT and Ards Borough Council. An education officer, funded by the Heritage Lottery Fund, has been employed by WWT to work on light-bellied brent goose and other flagship species.

4. Action Plan Targets

- 4.1 Maintain the wintering population of light-bellied brent geese in Northern Ireland at at least 15,000 individuals.
- 4.2 Maintain at least 6 sites containing >200 wintering birds.

5. Proposed Actions with Lead Agencies

5.1 Policy and legislation

- 5.1.1 By 2008, target positive management through MOSS, agri-environment schemes, the LBAP process and grant aid for biodiversity to secure favourable management on suitable light-bellied brent goose sites.
(ACTION: EHS, DARD, District councils)
- 5.1.2 By 2007, prepare an all-Ireland Action Plan, as part of the Flyway Management Plan, based on the AEWA Single Species Action Plan (SSAP)
(ACTION: EHS)
- 5.1.3 By 2006, review *Planning Policy Statement 2 (PPS2) – Planning and Nature Conservation*, to include policies relating to the conservation of priority habitat and species.
(ACTION: Planning Service, EHS)
- 5.1.4 By 2006, produce *Planning Policy Statement (PPS15) on Planning and Flood Risk*. This includes an objective to promote an integrated sustainable approach to the management of development and flood risk that, among other matters, will contribute to the conservation and enhancement of the biodiversity of Northern Ireland.
(ACTION: Planning service, EHS)
- 5.1.5 By 2005, produce a Planning Policy Statement (PPS) on the coast to manage coastal development in a sustainable manner and protect the natural character and landscape of the coast.
(ACTION: DRD)

5.2 Site safeguard and management

- 5.2.1 By 2007, review light-bellied brent geese sites within SPA, ASSI and NNR series and notify further sites to fill significant gaps.
(ACTION: EHS)
- 5.2.2 By 2006, produce conservation objectives for all statutory sites which include light-bellied brent geese as a selection feature, especially highlighting the need for disturbance-free feeding areas for all waterfowl.
(ACTION: EHS)

- 5.2.3 Ensure that important light-bellied brent geese sites and their conservation management requirements are recognised and site protection policies are included in statutory and non-statutory plans e.g. Development Plans, Local Biodiversity Action Plans (LBAP's) and appropriate management strategies.
(ACTION: Planning Service, EHS, DARD, District Councils)

5.3 Species management and protection

- 5.3.1 Ensure that direct and indirect disturbance of light-bellied brent geese populations in Northern Ireland is minimised.
(ACTION: EHS)

5.4 Advisory

- 5.4.1 By 2006, provide advice and support on grassland management for light-bellied brent geese to those responsible for implementation of agri-environment schemes.
(ACTION: EHS/DARD).
- 5.4.2 Continue to contribute to species conservation through participation in the National Species Working Group as specified in the AEWA Single Species Flyway Management Plan for this population.
(ACTION: EHS).
- 5.4.3 By 2006, ensure that information on light-bellied brent geese in Northern Ireland is available to all those who could play a role in their conservation and recovery.
(ACTION: EHS)

5.5 International

- 5.5.1 By 2008, revive and develop the Sister Reserves Memorandum (SRM) to promote site protection along the flyway, seeking to reactivate and extend this international 'twinning' initiative between important sites in flyway countries – Canada, Greenland, Iceland, UK and Ireland.
(ACTION: EHS)
- 5.5.2 By 2006, encourage and promote species protection through a flyway network of Special Protection Areas and equivalents including supporting activities.
(ACTION: EHS)

5.6 Future research and monitoring

- 5.6.1 Continue to contribute to the monitoring of the overall population size and annual productivity through supporting the international (Ireland, Northern Ireland and Iceland) census in the autumn.
(ACTION: EHS).
- 5.6.2 Continue to assess the importance of individual sites through the international census and WeBS Core Count programme.
(ACTION: EHS).
- 5.6.3 By 2010, undertake research into habitat use and the underlying process of habitat-switching to help inform the importance of feeding on agricultural habitats.
(ACTION: EHS, DARD).
- 5.6.4 By 2010 carry out investigations on turnover rates at key staging sites, patterns of dispersal, survival and other aspects relating to population dynamics through supporting ringing/re-sightings scheme.
(ACTION: EHS).

5.7 Communications and publicity

- 5.7.1 By 2006, ensure that the importance of this population is communicated to local, regional and international audiences, highlighting the flyway management approach to conservation.
(ACTION: EHS)

5.8 Links with other plans

- 5.8.1 This plan must be considered in conjunction with the International AEWA SSAP and any all-Ireland Action Plan which may form part of it.
- 5.8.2 It is likely that the implementation of this plan will also benefit the Northern Ireland Populations of the following Northern Ireland priority species and should be considered in conjunction with the following Northern Ireland SAPs:
- Curlew *Numenius arquata*
 - Redshank *Tringa tetanus*
- 5.8.3 This plan should be considered in conjunction with the following UK and Northern HAPS.
- Coastal and floodplain grazing marsh
 - Coastal saltmarsh
 - Mudflats
 - Seagrass beds

6 Costings

- 6.1 A table showing the global costs for this and other SAPs is available on the EHS/Biodiversity web page.

7 References

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List of Useful Acronyms

ASSI	Area of Special Scientific Interest
AEWA	African-Eurasian Waterbird Agreement
BAP	Biodiversity Action Plan
CEDaR	Centre for Environmental Data and Recording
CMD	Countryside Management Division
CMS	Countryside Management Scheme
DARD	Department of Agricultural and Rural Development
DCAL	Department of Culture, Arts and Leisure
DETI	Department of Enterprise, Trade and Industry
DOE	Department of the Environment
DRD	Department for Regional Development
EHS	Environment and Heritage Service
ESA	Environmentally Sensitive Area
ESCRs	Earth Science Conservation Review Site
HAP	Habitat Action Plan
JNCC	Joint Nature Conservation Committee
MAGNI	The National Museums and Galleries of Northern Ireland
NIBG	Northern Ireland Biodiversity Group
NICS	Northern Ireland Countryside Survey
NNR	National Nature Reserve
PPG	Planning Policy Guideline
PPS	Planning Policy Statement
RA	Rivers Agency
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SAP	Species Action Plan
SLNCI	Sites of Local Nature Conservation Importance
SoCC	Species of Conservation Concern
SPA	Special Protection Area
WFD	Water Framework Directive
WWT	Wildfowl and Wetlands Trust