

Northern Ireland Species Action Plan
Northern Colletes
Colletes floralis
March 2006

1 Current status

- 1.1** The northern colletes *Colletes floralis* (Eversmann) is one of a small group of *boreo-alpine* species of mining bee with a Palearctic distribution. In the UK, it is classified as rare and is the subject of a UK Biodiversity Action Plan. Elsewhere in Europe, it is also rare with the UK population representing as much as 50% of its entire current range (Edwards, 2001).
- 1.2** The species is only known from coastal areas on the north coast of Northern Ireland and north and west Scotland with strongholds in the Scottish western isles. It has also been found in several coastal areas of the Republic of Ireland.
- 1.3** Typically, the species digs aggregations of burrows into sandy soil in flower-rich grasslands on stable re-vegetated dune systems. Appropriate autumn and winter grazing of dune grasslands appears to be the most effective method of maintaining the bees' habitat, though evidence suggests that rabbit and human activities may also play a part (Hunter, 2003a). The bee is likely to be able to fly only short distances (<500m) between nesting sites and foraging areas.
- 1.4** The species is thought to have been more widely spread throughout Northern Ireland, but changes in land use over the last century have reduced and fragmented its preferred habitat. Recent searches of potential *C. floralis* habitat discovered four active sites on the north coast in Counties Londonderry and Antrim (Hunter, 2003b) while an additional site was confirmed in 2004. All four of these sites are within protected areas managed to maintain flower-rich dune grasslands.
- 1.5** Populations at Magilligan Special Area of Conservation (SAC) (Ballymaclary dunes), and Bann Estuary SAC (Portstewart Strand) were found in several aggregations over relatively large areas, and appear to be stable. A small population also exists at the Umbra Nature Reserve (R Paxton, pers comm.). Those at Bushfoot Strand and White Park Bay, however, consist of only three small aggregations and may therefore be vulnerable to minor disturbances and/or management changes.
- 1.6** The bees are normally only active on warm/sunny days between mid-June and mid-August when mating and nesting are carried out. Prolonged cool/wet weather during their flight phase may influence their reproductive success from year to year. The bee *Epeolus variegates* is a known kleptoparasite of *C. floralis* (SNH, 2000).

2 Current factors causing loss or decline

- 2.1** Changes in land use - including abandonment of traditional grazing practices and agricultural intensification leading to a loss of herb-rich dune grasslands.

- 2.2 Habitat fragmentation - the success of a single population may depend upon the presence of nearby sites at various stages of succession, so that should the existing nesting site become rank or eroded, the bees have an alternative.
- 2.3 Climate change could affect the distribution and abundance of this species.

3 Current action

- 3.1 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. During a 2003 survey of six areas in Northern Ireland (Hunter, 2003b), *C. floralis* was located at Magilligan SAC (Ballymaclary dunes), Bann Estuary SAC (Portstewart Strand), Runkerry ASSI (Bushfoot Strand) and North Antrim Coast SAC (White Park Bay). An additional site was confirmed at Umbra Nature Reserve in 2004 (part of Magilligan SAC). In response a series of management recommendations for each active, and potentially active area have been drafted (Hunter, 2003a).
- 3.2 In 2000, the Northern Ireland Biodiversity Group (NIBG) produced its recommendations to Government (NIBG, 2000). These recommendations were accepted by the Northern Ireland Executive in 2002, with the publication of the *Northern Ireland Biodiversity Strategy* (DOE, 2002). As part of this process, a revised list of Northern Ireland priority species was published in March 2004. This list includes northern colletes.
- 3.3 Information on the bee's feeding requirements (Westrich, 2001) and nesting strategy (Gould & Bolton, 1988) have been published.
- 3.4 A programme of research into the population genetics of bee species in Northern Ireland, including *C. floralis*, has begun at Queens University Belfast.
- 3.5 Other relevant information is gathered through specialist biological recording groups, Non-Governmental Organisations (NGOs), universities and other government bodies. Biological records are currently stored in the Museum and Galleries of Northern Ireland (MAGNI) at the Centre for Environmental Data and Recording (CEDaR). CEDaR was established in 1995 in partnership with EHS, MAGNI and the biological recording community. There are currently over 1.4 million records held by CEDaR and there are plans underway to make these records more accessible through the Internet. This will be achieved through the National Biodiversity Network, a union of organisations throughout the UK working together to create an information network of accessible biological data for biodiversity information.

4 Action plan targets

- 4.1 Maintain populations at the five known sites.

5 Proposed action with lead agencies

5.1 Policy and legislation

- 5.1.1 By 2006, consider including *C. floralis* as a selection feature on ASSI's.
(ACTION: EHS)
- 5.1.2 Ensure the implementation of Good Agricultural and Environmental Condition (GAEC) through Cross Compliance in order to preserve the suitability and good condition of certain sites for *C. floralis*, especially in relation to the prevention of marginal land abandonment along the coast.
(ACTION: DARD)

5.2 Site safeguard and management

- 5.2.1 By 2006, produce objectives for all statutory designated sites, ensuring as far as possible the objectives do not conflict with the ecological requirements of *C. floralis*.
(ACTION: EHS)
- 5.2.2 Where appropriate, include the requirements of *C. floralis* when preparing or revising management prescriptions for sites where the species currently exists.
(ACTION: EHS)
- 5.2.3 By 2008, ensure that the species is included in site management documents for all relevant ASSIs and SACs.
(ACTION: EHS)

5.3 Species management and protection

- 5.3.1 Protect small isolated populations that fall within ASSIs/SACs from potential disturbance and detrimental changes in the physical environment.
(ACTION: EHS)
- 5.3.2 Improve local mosaics of dune habitat at different stages of succession, to increase choice of alternative burrowing sites for isolated populations of bees.
(ACTION: EHS)

5.4 Advisory

- 5.4.1 By 2008, advise relevant landowners and managers of the presence of the species and the importance of beneficial management for its conservation.
(ACTION: EHS)
- 5.4.2 By 2008, ensure that all relevant environment project officers are aware of the species in Northern Ireland, its conservation status and habitat requirements.
(ACTION: EHS)
- 5.4.3 Prepare and distribute fact sheets and photos of the species to environment project officers, wardens and site managers.
(ACTION: EHS)

5.5 Future research and monitoring

- 5.5.1 Undertake surveys to determine the full range of the species in Northern Ireland by 2007.
(ACTION: EHS)
- 5.5.2 Undertake regular surveys to monitor the size and status of known populations.
(ACTION: EHS)
- 5.5.3 Ensure that monitoring data is passed to CEDaR, Bees, the Wasps and Ants Recording Society (BWARS) and other relevant centres.
(ACTION: EHS)
- 5.5.4 Promote autecological research targeted to inform habitat managers.
(ACTION: EHS)
- 5.5.5 Ensure that any new information on the species status and habitat requirements is distributed to the relevant site managers/farmers.
(ACTION: EHS, DARD)

5.6 Communication and publicity

- 5.6.1 Publicise the conservation status of *C. floralis* in Northern Ireland emphasising the importance of correctly managed herb-rich dune grasslands in respect to its continuing survival.
(ACTION: EHS)
- 5.6.2 Prepare and distribute fact sheets and photos to groups who are likely to visit *C. floralis* habitat during the course of their everyday activities, e.g. walkers, golfers, botanists, archaeologists.
(ACTION: EHS)

5.7 Links with other Action Plans

- 5.7.1 This plan should be considered in conjunction with the following UK and Northern Ireland priority species:
- petalwort *Petalophyllum ralfsii*, (UK & NI)
 - marsh fritillary *Euphydryas aurinia*, (UK & NI)
 - great yellow bumblebee *Bombus distinguendus*. (UK & NI)
 - small eggar *Eriogaster lanestris* (NI)
 - scarce crimson and gold *Pyrausta sanguinalis* (NI)
 - belted beauty *Lycia zonaria* (UK & NI)
 - *Thuidium abietinum* spp. *abietinum* (a moss) (NI)
 - *Thuidium abietinum* spp. *hystricosum* (a moss) (NI)
 - *Thuidium recognitum* (a moss) (NI)
- 5.7.2 The UK Habitat Action Plan for Coastal Sand Dunes should be considered in conjunction with this action plan. It covers ecosystems relevant to *C. floralis* such as humid dune slack and fixed dunes with herbaceous vegetation (grey dunes).

6 References

- Edwards, M. 2001. Survey of three Biodiversity Action Plan bee species (*C. floralis*, *Osmia inermis*, *O. uncinata*) in Scotland, 2001. Unpublished report to SNH and RSPB.
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- Gould, I. & Bolton, B. (eds) 1988. *The Hymenoptera*. British Museum (Natural History), OUP.
- Hunter, J. 2003a. Management recommendations for the Northern Colletes mining bee *C. floralis* in Northern Ireland. Unpublished report to the Royal Society for the Protection of Birds, Sandy.
- Hunter, J. 2003b. Surveys of the Northern Colletes mining bee *C. floralis* in Northern Ireland, July - August 2003. Unpublished report to the Royal Society for the Protection of Birds, Sandy.
- Sears, J. & Hunter, J.M. 2005. The re-discovery of the rare mining bee *Colletes floralis* Eversmann 1852, in Northern Ireland in 2003. *Irish Nat J.* 28: 53-58.
- SNH 2000. Invertebrate species dossier: *C. floralis* Eversmann, a mining bee. Scottish Natural Heritage information document.
- Westrich, P. 2001. Zum Pollensammelverhalten der Seidenbiene *C. floralis* Eversmann 1852 (Hymenoptera, Apidae). *Linzer biol. Beitr.* 33/1:519-525.

List of Useful Acronyms

ASSI	Area of Special Scientific Interest
BAP	Biodiversity Action Plan
CEDaR	Centre for Environmental Data and Recording
CMB	Countryside Management Branch
CMS	Countryside Management Scheme
DARD	Department of Agricultural and Rural Development
DCAL	Department of Culture, Arts and Leisure
DETI	Department of Enterprise, Trade and Investment
DOE	Department of the Environment
DRD	Department for Rural 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
NESA	New Environmentally Sensitive Area
NIBG	Northern Ireland Biodiversity Action Group
NICS	Northern Ireland Countryside Survey
NNR	National Nature Reserves
PPS	Planning Policy Statement
RA	Rivers Agency
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
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