

Northern Ireland Species Action Plan
Wood cranesbill
Geranium sylvaticum
March 2005

1 Current status

- 1.1** Wood cranesbill *Geranium sylvaticum* L. is a downy perennial herb with purplish pink to mauve flowers with a white base (Stace, 1991). It flowers from June to July and can grow 70mm in height.
- 1.2** *G. sylvaticum* occurs in a number of habitats including hay meadows, ungrazed damp birch woodlands, stream sides and mountain rock ledges, and is in many areas a characteristic feature of laneside hedge banks and verges (Preston *et al.*, 2002).
- 1.3** *G. sylvaticum* is widespread throughout Europe, in the moors of Scandinavia, occurring at over 400m in central Europe and has naturalised in North America. *G. sylvaticum* is widespread in Scotland (except extreme north) and northern England ranging from Caithness to central Yorkshire; it is highly localised in central England and Wales. The species is rare in Ireland with most modern records confined to the east Antrim coast. There are some concerns over the origins of *G. sylvaticum* in Ireland. Clapham *et al.*, (1987) suggested that it is an introduced species into Co. Antrim, but it is now considered to be native (Preston *et al.*, 2002). There are historical records for a number of sites in Co. Down, Co. Armagh and Co. Londonderry.
- 1.4** *G. sylvaticum* was first recorded in Northern Ireland in 1887, at Glenarm Wood Co. Antrim, where the population still has a stronghold. The Centre for Environmental Data and Recording (CEDaR) holds twenty-nine records for the species in Northern Ireland, which occupy nine 10x10km squares. However a number of those have been identified as garden escapes or errors for meadow cranesbill *G. pratense*. The native sites are in a cluster of four 10x10 km squares in the Glenarm area. Since 1986 there has been a loss of the species from two of these squares at Owencloghy River and Upper Glen, Glenarm Park. However the species has remained stable in two 10x10 km squares at three sites, Glenarm Wood, Feystown and Linford Water.
- 1.5** *G. sylvaticum* has declined slowly in the British Isles since 1962 particularly on the edges of its range, having been lost from many hay meadows due to increased use of fertilizers and the widespread change to silage production (Preston *et al.*, 2002).
- 1.6** *G. sylvaticum* is pollinated by various insects. However, it is gynodioecious with both hermaphrodite (male and female reproductive structures) and female flowers, but on separate plants. Studies carried out into seed fitness of this plant, have shown that seed vitality can be reduced by sex ratio of the population, such as a high frequency of female plants (Asikainen & Mutikainen, 2003).
- 1.7** The species is protected in Northern Ireland under Schedule 8 of the *Wildlife (Northern Ireland) Order, 1985*, which makes it an offence to pick, uproot, or destroy this plant. It is also classified as a vulnerable species in the Irish Red Data Book for vascular plants (Curtis & McGough, 1998).

2 Current factors causing loss or decline

- 2.1 Agricultural improvement – *G. sylvaticum* has declined in Great Britain due to the reduction in traditionally managed hay meadows and more seral agriculture. Even in traditionally-managed meadows, recent survey shows further loss of diversity due to increased eutrophication and wetness (Pacha & Rodwell, 2003). This is reflected in trends in Northern Ireland
- 2.2 Habitat fragmentation – leads to small isolated colonies vulnerable to extinction through chance events, natural population fluctuations and genetic decline.
- 2.3 Grazing – of woodlands can restrict the occurrence of *G. sylvaticum* (Rodwell *et al.*, 1992).
- 2.4 Climate change – published predictions from the MONARCH project (Harrison *et al.*, 2001) for changes in species composition as a result of climate change, suggests that *G. sylvaticum* may be lost from the southwest and northwest of England and from Ireland by the 2020s (Berry, *et al.*, 2002).

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. One of the three existing populations of *G. sylvaticum* is in Glenarm Wood ASSI. *G. sylvaticum* also occurs in Feystown Nature Reserve, managed by the Ulster Wildlife Trust.
- 3.2 Survey and monitoring work is carried out by the Ulster Wildlife Trust on Feystown Nature Reserve and by EHS at Glenarm Woods ASSI.
- 3.3 In 2000, the Northern Ireland Biodiversity Group (NIBG) produced its recommendations to Government (NIBG, 2000). These were largely 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 *G. sylvaticum*.
- 3.4 Regional Planning and Transportation Division within DRD is responsible for co-ordinating the implementation of the *Regional Development Strategy (RDS) for Northern Ireland 2025* (DRD, 2001). The RDS contains a Spatial Development Strategy and related Strategic Planning Guidelines (SPGs). The emphasis in the SPGs is on competitiveness, sustainable development and tackling social exclusion and division. Operational policies to give effect to the SPGs are contained in Planning Policy Statements (PPSs). Some of these policies have a direct or indirect bearing on the prevention of adverse impacts on priority habitats and species.

- 3.5** *PPS2 Planning and Nature Conservation* (DOE, 1997) (under review) contains planning policy for the hierarchy of sites of nature conservation importance. It also addresses trees and woodlands, protection of species and peatlands.
- 3.6** *PPS14 Sustainable Development in the Countryside* is due to be published by the end of 2005.
- 3.7** Site protection policies are included in Development Plans. These include the identification of Sites of Local Nature Conservation Importance (SLNCIs). Planning Service is currently considering which SLNCIs will be formally identified in Development Plans. Where such sites are confirmed in adopted plans, specific planning policies will be applied to development proposals on those sites.
- 3.8** DARD, through its Countryside Management Branch (CMB), has developed a series of agri-environment schemes including the Environmentally Sensitive Areas (ESA) Scheme (revised in 2000) and the Countryside Management Scheme (CMS). A further revision to both the ESA and CMS has recently been approved under the current Northern Ireland Rural Development Programme (2000-2006). Their objective is to protect and enhance semi-natural habitats and species by encouraging more sensitive management practices. Both these schemes have similar management provisions, are voluntary and apply to the whole farm. These schemes provide a mechanism for delivering some of the targets listed in action plans for many species and habitats, targeting areas of as little as 0.1 ha of semi-natural habitat in order to maintain or improve their present conservation value. Around 230,000 ha of farmland is currently in agri-environment schemes in Northern Ireland, approaching a quarter of the total agricultural land in the Province.
- 3.9** The designation of ESAs commenced in 1988 and today there are five ESAs in Northern Ireland. DARD has determined a number of priority habitats which, if they occur on the farm, must be brought under agreement and managed according to relevant prescriptions determined by DARD.
- 3.10** The Habitat Improvement Scheme (HIS) aims to help farmers protect, enhance and establish habitats which are considered to have major conservation value. This is achieved by taking land out of agricultural production or by entering into a 10 year agreement which involves extensive grazing based on non-application of fertilizers and pesticides to the land. No new applications for the HIS are being accepted as the scheme closed in mid-1999. The scheme has been replaced by the Countryside Management Scheme (CMS).
- 3.11** The CMS, launched in 1999, was developed with the primary aim to maintain and enhance biodiversity and is open to all farmers and landowners outside ESAs. Where funding is limited, entry into the scheme is competitive, being based on who can offer the greatest environmental benefits.
- 3.12** The Management of Sensitive Sites scheme (MOSS) was launched in 2002 by EHS. It is a voluntary scheme designed to ensure the positive management of ASSI features, for example lowland semi-natural grasslands and woodland habitats. Under the scheme, landowners can receive payment for carrying out conservation work within the framework of a written agreement. MOSS covers issues such as agricultural

improvement, grazing and control of invasive scrub species. One-off payments for works such as fencing and scrub clearance to assist grazing can be made.

- 3.13** Roads Service has produced an Environmental booklet (DOE, 1998) (under review) as a guidance to road contractors to minimise the impacts of roads from the design stage through to construction including the protection of species and habitats inside and outside designated areas.
- 3.14** 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 the current population of *G. sylvaticum* at 3 sites.
- 4.2** Maintain the current range of *G. sylvaticum* at 2 10x10 km squares
- 4.3** By 2015, increase the number of *G. sylvaticum* populations to 5 sites
- 4.4** By 2015, increase the range of *G. sylvaticum* to 4 10x10 km squares.

5 Proposed actions with lead agencies

5.1 Policy and legislation

- 5.1.1** By 2007, review the coverage *G. sylvaticum* sites within cSAC, ASSI and NNR series and, if necessary, notify further sites to fill significant gaps.
(ACTION: EHS)
- 5.1.2** By 2008, ensure that important *G. sylvaticum* sites are recognised and, where appropriate, site protection policies are included in statutory and non-statutory plans e.g. Development Plans and other strategic plans, including Local Biodiversity Action Plans (LBAPs).
(ACTION: Planning Service, EHS, DARD, District Councils)
- 5.1.3** By 2007, ensure that agri-environment scheme prescriptions relevant/appropriate to *G. sylvaticum* are contributing to maintaining and enhancing the population across Northern Ireland.
(ACTION: DARD, EHS)

- 5.1.4 By 2008, target positive management through MOSS, agri-environment schemes, the LBAP process and grant aid for biodiversity to secure favourable management on *G. sylvaticum* sites.
(ACTION: EHS, DARD)

5.2 Site safeguard and management

- 5.2.1 By 2006, produce conservation objectives for all statutory sites containing *G. sylvaticum*.
(ACTION: EHS)
- 5.2.2 By 2009, secure favourable management of selected historical sites for *G. sylvaticum* to encourage the recovery of these 'extinct' populations.
(ACTION: EHS)

5.3 Species management and protection

- 5.3.1 By 2009, ensure that all known sites are managed in a manner that is beneficial to the conservation of *G. sylvaticum*.
(ACTION: EHS)

5.4 Advisory

- 5.4.1 By 2006, provide advice to land owners with *G. sylvaticum* on their land about suitable management requirements of the species.
(ACTION: EHS, DARD)
- 5.4.2 By 2006, ensure that information on *G. sylvaticum* in Northern Ireland is available to all those who could play a role in its conservation and recovery including competent authorities and environmental consultants involved in the preparation of Environmental Impact Assessments.
(ACTION: EHS, DARD)

5.5 International

- 5.5.1 Further develop links with the Republic of Ireland and other European and international organisations and programmes such as the European Environment Agency and the European Centre for Nature Conservation, to promote the exchange of information and experience in research, management techniques, education and conservation strategies.
(ACTION: EHS)

5.6 Future research and monitoring

- 5.6.1 By 2005, establish the distribution, abundance and viability of *G. sylvaticum*.
(ACTION: EHS)
- 5.6.2 Periodically review monitoring protocols and condition assessment methodology for statutory sites with *G. sylvaticum*
(ACTION: EHS)

5.6.3 By 2010, research the ecology and genetics of *G. sylvaticum* to determine the origin of the species and to further understand its presence and ecological requirements in Northern Ireland.
(ACTION: EHS)

5.6.4 Monitor habitat condition and management to ensure that optimal site management is achieved.
(ACTION: EHS)

5.6.5 By 2006, set in place a reporting and monitoring structure to encourage progress towards the delivery of the targets and the completion of actions identified in this plan.
(ACTION: EHS)

5.7 Communications and publicity

5.7.1 Raise awareness of the species among the general public, volunteers, botanists and professional conservation workers and researchers e.g. by means of reports, publications, field meetings and presentation of research results at conferences.
(ACTION: EHS)

6 Links with other Action Plans

6.1 This plan should be considered in conjunction with the following UK and Northern Ireland Habitat Action Plan:

- Mixed ashwoods
- Lowland meadow
- Ancient and /or species-rich hedgerows

7 Costings

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

8 References

Asikainen, E. & Mutikainen, P. (2003). Female frequency and relative fitness of females and hermaphrodites in gynodioecious *Geranium sylvaticum*. *American Journal of Botany* 90:224-232.

Berry, P.M., Dawson, T.P., Harrison, P.A. & Pearson, R.G. (2002). *Modelling potential impacts of climate change on the bioclimatic envelope of species in Britain and Ireland. Global Ecology & Biogeography*, 11 (6), 453-462

Clapham, A.R., Tutin T.G. & Warburg E.F. (1987). *Flora of the British Isles*, 3rd edn. Cambridge University Press

- Curtis, T.G.F. & McGough, H.N. (1988). *The Irish Red Data Book 1: Vascular Plants*. Stationery Office, Dublin
- Department of the Environment for Northern Ireland. (1997). *Planning Policy Statement 2: Planning and Nature Conservation*. Department of the Environment for Northern Ireland (Planning Service), Belfast.
- Department of the Environment, 1998. *Roads Service Environmental Handbook*. Roads Service, Belfast.
- Department of the Environment (2002). *Northern Ireland Biodiversity Strategy*. Environment and Heritage Service, Belfast.
- Department of Regional Development (2001). *The Regional Development Strategy 2025*. DRD, Belfast.
- Harrison, P.A., Berry, P.M. & Dawson, T.P. 2001. *Climate Change and Nature Conservation in Britain and Ireland: Modelling natural responses to climate change (the MONARCH project)*. UKCIP Technical Report, Oxford.
- Northern Ireland Biodiversity Group (2000). *Biodiversity in Northern Ireland: Recommendations to Government for a Biodiversity Strategy*. HMSO, Belfast.
- Pacha, M.J., & Rodwell, J.S., (2003). *Fragmentation of Geranium sylvaticum populations and the sustainability of hay meadows*, Lancaster University.
- Peering, F.H. & Walters, S.M. (eds) (1962). *Atlas of the British Flora*. Thomas Nelson & Sons, London.
- Preston, C.D., Pearman, D.A. & Dines, T.D. (2002). *New Atlas of the British & Irish Flora*. Oxford University Press, Oxford
- Rodwell, J.S., Pigott, C.D., Ratcliffe, D.A., Malloch, A.J.C., Birks, H.J.B., Proctor, M.C.F., Shimwell, D.W., Huntley, J.P., Radford, E., Wigginton, M.J. & Wilkins, P., (1992). *British Plant Communities*, Vol. 3. *Grasslands and montane communities*. Cambridge University Press, Cambridge
- Stace, C.A. (1991). *New Flora of the British Isles* Cambridge University Press, Cambridge.

List of Useful Acronyms

ASSI	Area of Special Scientific Interest
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
NESA	New Environmentally Sensitive Area
NIBG	Northern Ireland Biodiversity Group
NICS	Northern Ireland Countryside Survey
NNR	National Nature Reserve
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
UWT	Ulster Wildlife Trust