SITE SYNOPSIS

Site Name: Coole-Garryland Complex SAC

Site Code: 000252

The Coole-Garryland Complex is situated in a low-lying karstic limestone area west of Gort, in Co. Galway. It contains a series of seasonal lakes (turloughs), which are fed by springs and a partly submerged river, surrounded by woodland, pasture and limestone heath. The more well-known turloughs present in the site include Lydacan, Crannagh North, Raheen, Crannagh South, Coole, Garryland, Newtown and Hawkhill.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

[3150] Natural Eutrophic Lakes
[3180] Turloughs*
[3270] Chenopodion rubri p.p. and Bidention p.p. Vegetation
[5130] Juniper Scrub
[6210] Orchid-rich Calcareous Grassland*
[8240] Limestone Pavement*
[91J0] Yew Woodlands*

The turloughs at Coole-Garryland are particularly good examples of this habitat type. Their vegetation includes such species as Shoreweed (*Littorella uniflora*), Common Spike-rush (*Eleocharis palustris*), Water-purslane (*Lythrum portula*) and Fen Violet (*Viola persicifolia*). A species of Water-starwort, *Callitriche palustris*, was recently recorded from the site, its first known station in Ireland – it has since been noted in several other turlough sites. The Coole River itself is of particular interest for the occurrence of a rare riverine habitat characterised by Trifid Bur-marigold (*Bidens tripartita*), Red Goosefoot (*Chenopodium rubrum*) and species of Knotgrass (*Polygonum* spp.). In the habitat 'natural eutrophic lake' at the site, species such as Pondweeds (*Potamogeton perfoliatus* and *P. berchtoldii*), Water-starworts and Rigid Hornwort (*Ceratophyllum demersum*) are to be found.

The turloughs are fringed by a range of habitats, including the nationally rare scrub communities containing Buckthorn (*Rhamnus catharticus*), Hawthorn (*Crataegus monogyna*) with occasional Alder (*Alnus glutinosa*) and Pedunculate Oak (*Quercus robur*) and with a herb layer dominated by meadowsweet (*Filipendula ulmaria*). This woodland falls into the alder-meadowsweet (*Alnus glutinosa-Filipendula ulmaria*) type, hawthorn-herb-Robert (*Crataegus monogyna- Geranium robertianum*) subtype.

A remarkable feature of Coole-Garryland is that several of the turloughs are surrounded by woodland. The main body of the woodland is dominated by Ash (*Fraxinus excelsior*) mixed with Pedunculate oak, occasional Elm (*Ulmus glabra*), Wild Cherry (*Prunus avium*) and Crab Apple (*Malus sylvestris*). Exotic species are widespread, especially Beech (*Fagus sylvatica*) and Sycamore (*Acer pseudoplatanus*) but also with some Hornbeam (*Carpinus betulus*), Horse-chestnut (*Aesculus hippocastanum*) and conifers, including Scots Pine (*Pinus sylvestris*). Many of these species are freely regenerating. The understorey is heterogeneous and is mainly made up of Hazel (*Corylus avellana*), Hawthorn, Spindle (*Euonymus europaeus*), Privet (*Ligustrum vulgare*) (possibly introduced), Guelder Rose (*Viburnum opulus*), Blackthorn (*Prunus spinosa*), Honeysuckle (*Lonicera periclymenum*) and abundant Ash saplings. The field layer is typical of native woodlands on limestone and includes: Wood Anemone (*Anemone nemorosa*), Dog Violet (*Viola riviniana*), False Brome (*Brachypodium sylvaticum*), Tutsan (*Hypericum androsaemum*), Maidenhair Spleenwort (*Asplenium trichomanes*) and Bitter Vetch (*Lathyrus montanus*). The woodlands are notable for the presence of rare species of Myxomycete fungi, including *Licea idris*, *Licea marginata* and *Macbrideola decapillata,* the first-named in one of only three known sites for the species. Much of this woodland falls into the ash-ivy (*Fraxinus excelsior-Hedera helix*) type, hazel-wood-sorrel (*Corylus avellana- Oxalis acetosella*) sub-type.

To the east of Coole Lough, the woodland is highly modified with stands of conifers and Beech. This area is most subject to visitor pressure as it is adjacent to the visitor centre and car park.

Between Doo Lough and Coole Lough is an area of low Hazel woodland around limestone pavement and scrub. Ash is abundant here and Hawthorn, Spindle, Holly *Ilex aquifolium*) and Yew (*Taxus baccata*) also occur. The field layer is similar to that of the main woodland with the addition of such pavement species as Broad-leaved Helleborine (*Epipactis helleborine*), Wall Lettuce (*Mycelis muralis*) and the Southern Polypody fern (*Polypodium austral*).

Between Doo Lough and Garryland Turlough are several small stands of Yew-dominated woodland on limestone knolls. Pedunculate oak, Ash and Beech occur within these stands. Both the shrub layer and the herb layer are very poorly developed or almost absent but the bryophyte layer, dominated by *Thamnobryum alopecurum* with *Neckera crispa* is well developed. There is a small amount of Yew regeneration at this site and Yew is widely scattered through the surrounding woodland.

In places, heath communities have developed over the limestone pavement, consisting of Ling Heather (*Calluna vulgaris*), Juniper (*Juniperus communis*), Blue Moor-grass (*Sesleria albicans*) and occasional Yew. In addition, the site contains good examples of smooth pavement and associated species-rich grasslands. Small areas of orchid-rich grassland also occur with the following species recorded; Pyramidal Orchid (*Anacamptis pyramidalis*), Spotted Orchids (*Dactylorhiza* spp.), Fragrant Orchid (*Gymnadenia conopsea*), Fly Orchid (*Ophrys insectifera*) and Greater Butterfly Orchid (*Platanthera chlorantha*).

The nationally rare Mudwort (*Limosella aquatica*) and Dropwort (*Filipendula vulgaris*) also occur at the site. These two plant species are listed in the Irish Red Data Book, and Mudwort is included in the Flora (Protection) Order, 2015.

The complex of habitats at Coole-Garryland provides habitat for a variety of mammal species, including Otter and Pine Marten. Otter is listed in Annex II of the E.U. Habitats Directive. The Coole-Garryland complex is also home to one of the most important and unique assemblages of insects in the country, including several notable species of beetles and flies.

The area is of importance for wintering waterfowl, especially Whooper Swan (mean peak of 324 in 1995/96 - 98/99), Bewick's Swan (79 in winter 96/97), Wigeon (mean peak of 1044 in 1995/96 - 98/99), Mallard (mean peak of 330 in 1995/96 - 98/99), Pochard (mean peak of 176 in winter 1995/96 - 98/99), along with smaller numbers of Teal, Tufted Duck, Lapwing, Curlew and Dunlin. In 1996 seven pairs of Lapwing bred at Newtown Turlough and two pairs of Common Sandpiper bred at Coole Lough.

A substantial portion of this site is in the ownership of the National Parks and Wildlife Service and is designated as a nature reserve. Long-term management aims to gradually remove the non-native species. It is a popular amenity area with well-developed pathways. Uncontrolled visitor access may pose a threat to sensitive animals although the nature of the terrain is such that areas away from the paths are seldom visited. Other threats to the site may result from the intensification of agriculture (e.g. fertiliser application or pollution of watercourses) and/or drainage outside the SAC.

The turlough system at Coole-Garryland is considered to be the most diverse in the country, for both its physiography and vegetation; it is unique in that it is so closely associated with woodland. The woodland is extremely diverse in terms of both habitat and species and was assessed as having the highest conservation rating in the country among the sites surveyed for the National Survey of Native Woodlands. The juxtaposition of these two distinct habitats has led to the development of interesting plant and animal communities that include a suite of rare insect, plant and fungal species. The site includes good quality examples of seven habitats that are listed on Annex I of the E.U. Habitats Directive. Overall, the range of good quality habitats present at Coole-Garryland which support a high diversity of species render the site of high conservation value.