

Site Name: The Gearagh SAC

Site Code: 000108

This site is located on the River Lee in Co. Cork, extending westwards and southwards from the Lee Bridge, which is about 1.5 km south of Macroom. It extends for about 7 km of river, to Dromcarra Bridge. The Gearagh occupies a wide, flat valley of the River Lee, on a bed of limestone overlain with sand and gravel. The adjacent valley walls are of Old Red Sandstone.

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):

[3260] Floating River Vegetation
[3270] <i>Chenopodium rubri</i> p.p. and <i>Bidention</i> p.p. vegetation
[91A0] Old Oak Woodlands
[91E0] Alluvial Forests*
[1355] Otter (<i>Lutra lutra</i>)

This unusual area has formed where the River Lee breaks into a complex network of channels (2 to 6 m wide) weaving through a series of wooded islands. The alluvial woodland which remains today at the Gearagh is of unique scientific interest, and qualifies as a priority habitat under Annex I of the E.U. Habitats Directive. The area has probably been wooded throughout the post-glacial era (i.e. since the end of the last Ice Age, around 10,000 years ago) and frequent flooding has served to enhance its character. Originally, this area of alluvial woodland extended as far as the Lee Bridge. Unfortunately, in 1954/55, in the eastern part of the Gearagh, extensive tree-felling and flooding were carried out to facilitate the operation of a hydro-electric scheme. Around 60% of the former woodland was lost. Today, the reservoir covers the area from Lee Bridge to Annahala Bridge, and westwards of Illaunmore Island.

The islands in the Gearagh consist of rather dry alluvium, and support an almost closed canopy of Pedunculate Oak (*Quercus robur*), Ash (*Fraxinus excelsior*) and Birch (*Betula* spp.). The understorey is of Hazel (*Corylus avellana*), Holly (*Ilex aquifolium*) and Hawthorn (*Crataegus monogyna*). Willows (*Salix* spp.) and Alder (*Alnus glutinosa*) are largely confined to channel margins and waterlogged areas. The ground flora reflects the damp nature of the woodland. In spring, Ramsons (*Allium ursinum*) and Wood Anemone (*Anemone nemorosa*) are abundant. Later in the year, other species appear, including Bugle (*Ajuga reptans*), Pignut (*Conopodium majus*), Irish Spurge (*Euphorbia hyberna*), Tufted Hair-grass (*Deschampsia cespitosa*), Enchanter's-nightshade (*Circaea lutetiana*) and Meadowsweet (*Filipendula ulmaria*). Plants species of particular

interest within the woodland are Wood Club-rush (*Scirpus sylvaticus*), Bird Cherry (*Prunus padus*) and Buckthorn (*Rhamnus catharticus*). These species are scarce in Ireland. The epiphytic bryophyte flora is well developed, as are some lichen communities. Variations in this vegetation occur locally, where drainage is impeded and where tree clearance has occurred. The whole area has a remarkably wild character, with many fallen trees blocking the channels, so that access both by foot and boat is difficult.

Within the reservoir, the former extent of the woodland can still be seen at times of low water; the cut stumps of larger trees remain prominently preserved in place. At least five species of Pondweed (*Potamogeton* spp.) occur in the reservoir, including two species which are uncommon in Ireland (*P. praelongus* and *P. gramineus*). At low water levels, a diverse ephemeral flora develops on the exposed mud, corresponding to the E.U. Habitats Directive Annex I category 'rivers with muddy banks with *Chenopodium rubri* p.p. and *Bidens* p.p. vegetation'. Species here include Water Purslane (*Lythrum portula*), Knotgrasses (*Polygonum* spp.), Trifid Bur-marigold (*Bidens tripartita*), Marsh Yellow-cress (*Rorippa palustris*) and Six-stamened Waterwort (*Elatine hexandra*).

River courses and channels are a dominant feature of this site. Within the heavily forested channels there is little or no aquatic vegetation, but in the more open areas the following species have been recorded: Water-starworts (*Callitriche stagnalis*, *C. intermedia* and *C. obtusangula*), Water-milfoils (*Myriophyllum* spp.), Shoreweed (*Littorella uniflora*), Water-crowfoot (*Ranunculus* sp. (cf. *penicillatus*)), Broad-leaved Pondweed (*Potamogeton natans*), and the moss, *Fontinalis antipyretica*. These areas correspond with the E.U. Habitat type 'floating river vegetation'.

An oakwood occurs just north of Toon Bridge. Although wooded from ancient times, today the area supports relatively young oaks (*Quercus* sp.) on a southerly slope. Apart from oaks, Silver Birch (*Betula pendula*), Holly, Hazel, Ash and Rowan (*Sorbus aucuparia*) are also present. The ground flora is typical of that found in an oakwood, but is relatively species-rich, partly as a result of water seepage downslope. Species present include Bilberry (*Vaccinium myrtillus*), Great Wood-rush (*Luzula sylvatica*), Hard Fern (*Blechnum spicant*), Hay-scented Buckler-fern (*Dryopteris aemula*), Woodruff (*Galium odoratum*), Wood Melic (*Melica uniflora*), Hairy Wood-rush (*Luzula pilosa*) and Early-purple Orchid (*Orchis mascula*).

Along the Gearagh, the river channels grade into marginal alluvial grassland in places. These grasslands, as well as some semi-improved grasslands within the site, are grazed by wildfowl. An area of cut-away bog and some gorse (*Ulex* sp.) scrub also occur in the site. Extensive swards of Mudwort (*Limosella aquatica*), a rare plant listed in the Red Data Book and on the Flora (Protection) Order, 1999, occur on the mudflats along the reservoir.

Otter, an Annex II species on the E.U. Habitats Directive, is frequent throughout the site.

The Gearagh supports part of an important wintering bird population. The area most utilised by birds extends also east of the site, towards Cork city (Carrigadroighid). At the Gearagh, Whooper Swans are regular (40-110, 1990's), as are Wigeon (640, average max.1992-1994), Teal (707, average max. 1992-94), Mallard (250 in January 1993) and Tufted Duck (154, average max. 1992-94). Golden Plover utilise the site on occasions (e.g. 2,000 in January 1994), while there is a regular flock of Dunlin (100-200, 1990s), a species unusual at inland sites. A late summering flock of Mute Swan is regular, with numbers between 120 and 250 from 1992 to 1994. Great Crested Grebe and Tufted Duck breed in small numbers, while there is a feral flock of about 50 Greylag Goose.

The wooded part of the Gearagh is largely undisturbed due to the inaccessible nature of the terrain. Cattle graze in some areas, but the impacts of this are very localised. In the past, coppicing was practiced over most of the area. Little felling has occurred since the early 1950s and the installation of the hydro-electric scheme. The least disturbed part of woodland occurs in the upper reaches of the Gearagh. Tree regeneration is occurring around the reservoir, which may restore some of the lost portion of woodland.

Despite the fact that about half the original area has been destroyed, the Gearagh still represents the only extensive alluvial woodland in Ireland or Britain, or indeed west of the Rhine in Europe. For this reason it is a unique site and has been designated also as a Statutory Nature Reserve. The international importance of the site is recognised by its designation both as a Ramsar site and as a Biogenetic Reserve. The reservoir is also a Wildfowl Sanctuary.