

9. Flora, Fauna and Fisheries

9.1 Study Methodology

Existing and proposed designated conservation areas were identified from the Duchas database of sites (December 2000). The fisheries value of rivers in the constraints study area was determined by consultation with the Southern and Eastern Regional Fisheries Boards.

The Constraints Study also included using satellite imagery (Landsat Thematic Mapper false colour images of May 2000 / April 1995) to identify sensitive ecological sites within the constraints study area.

Recent aerial photographs (Summer 2000) were used to check ecological sites identified from satellite images and to identify some additional sites. Detailed interpretation of the aerial photographs was not undertaken at this stage.

Areas of intensively managed farmland contain few habitats, apart from hedgerows, that are important for flora and fauna. Hedgerows are important for wildlife at a local level and are widespread throughout the constraints study area so are not considered further in this report.

Dúchas was consulted in relation to records of rare and protected plant species in the constraints study area. Important sites for wetland birds were identified from the Irish Wetland Bird Survey (I-WeBS) reports.

The fisheries value of the main rivers was determined by consultation with the Southern Regional Fisheries Board. [*Some of the information requested has not yet been received.*] Information on the occurrence of protected freshwater species (listed in Annex II of the EU Habitats Directive) was derived from published reports.

9.2 Assessment Criteria

Ecological sites and fisheries waters were assessed according to the criteria for site evaluation outlined in Table 1 of Appendix C.

This Constraints Study is concerned with sites of international to regional importance (A/B sites), and with sites of local importance (C/D sites). As it is not possible to evaluate ecological sites and habitats from satellite images, no distinction has been made between sites of high local value (C sites) and those of low local value (D sites). These sites will be evaluated at the route selection stage on the basis of field surveys.

The two main designations are proposed candidate Special Area of Conservation (pcSAC) and proposed Natural Heritage Area (pNHA).

The pcSAC is a statutory designation, which has a legal basis under the EU Habitats Directive (92/43/EEC) as transposed into Irish law through the European Communities (Natural Habitats) Regulations, 1997. The main implication of this designation is that any project likely to have a significant adverse impact on the integrity of the pcSAC may only be carried out for "imperative reasons of overriding public interest, including those of a social or economic nature".

The pNHA is a non-statutory designation at present but is expected to become a statutory designation when the Wildlife Act, 1976, is amended. Most local authority development plans include an objective to protect pNHA's within their jurisdiction so this gives the designation some legal status under the Local Government (Planning and Development) Act, 1992. An application for planning permission for any development that may have impacts on a pNHA will be referred by the planning authority to Duchas, the Heritage Service, for comment.

9.3 Constraints

9.3.1 Designated Conservation Areas

One pcSAC and eight pNHA's occur within the constraints study area. These sites are listed in Table 2 of Appendix C together with a brief site description and a summary of the main conservation interests, including rare and protected species. These sites are presented in Figures 6A and 6B.

In the extreme south the Lower River Suir pcSAC occurs outside but in close proximity to the southern boundary of the constraints study area.

The River Barrow and River Nore pcSAC is a long, narrow site that dissects the northern half of the southern constraints study area. It comprises the River Nore, part of the Kings River (downstream of Kells), and associated areas of semi-natural habitat along the two river corridors.

Three pNHA's overlap with the River Barrow and River Nore pcSAC; Archersgrove, Thomastown and Mount Juliet. These are essentially sub-sites of the larger pcSAC.

The pNHA's are typically small and have a scattered distribution. Most are wetland areas that comprise fen and wet grassland, in some cases together with areas of reedswamp, open water, scrub or broadleaved woodland. Kilkeasy Bog also contains areas of cutover bog and heath.

9.3.2 Rare and Protected Plant Species

There are a number of records of rare and protected plant species within the constraints study area. **[Information not yet available from Dúchas.]** Rare plants that occur in designated conservation areas are listed in Table 2.

9.3.3 Sites of Ecological Value

A total of 77 ecological sites of interest were identified in the constraints study area, in addition to the designated conservation areas listed Table 3 of Appendix C. Site visits will be required at the route selection stage to establish the full range of habitats present and their ecological significance.

Ecological sites have an uneven distribution in the constraints study area and are mainly found along river corridors and in upland areas, as shown in Figures 6A and 6B. The greatest concentration of sites occur in the uplands and hills south of Thomastown and typically comprise of unimproved grassland, heath and conifer plantation.

In the lowlands to the north and west of Thomastown, and in the extreme south of the constraints study area, there are comparatively few ecological sites. The main habitats that do occur are woodland, scrub, unimproved grassland (mainly wet), and wetland areas associated with streams, rivers and lakes.

9.3.4 Important Bird Sites

Bishops Lough Tullahern is an important site for wetland birds. Holly Lake/Lough Cullin, which is also a pNHA, is of lesser importance. For site locations see Figures 6A and 6B.

9.3.5 The Aquatic Environment

The constraints study area contains a number of important rivers, most being part of the River Nore system, as listed in Table 4 Appendix C. The areas referenced are presented on Figures 6A and 6B.

The River Nore is extremely important for salmonid fish and is a Designated Salmonid River under the EU Freshwater Fish Directive. Salmonid fish occur in all the main watercourses in the constraints study area. The Barrow is also noted for the quality of its coarse angling at a number of locations.

The three species of lamprey that occur in Ireland are legally protected under the EU Habitats Directive (listed in Annex II). Brook lamprey occur throughout the Barrow catchment, all three lamprey species have been observed in the lower reaches of the River Barrow downstream of Borris (outside the constraints study area) (Kurz and Costello, 1999).

Brook and sea lamprey appear to be common in the Nore catchment.

The River Barrow and River Nore pcSAC and Lower River Suir pcSAC are noted for the presence of all three lamprey species and twaite shad, all of which are listed in Annex II of the EU Habitats Directive. Tributaries of the River Suir occur inside the constraints study area.

Two freshwater macroinvertebrates that are legally protected under the EU Habitats Directive (listed in Annex II), white-clawed crayfish (*Austropotamobius pallipes*) and freshwater pearl-mussel (*Margaritifera margaritifera* and *M. margaritifera durrovensis*), occur in the River Barrow and River Nore pcSAC; the latter also occurs in Lower River Suir pcSAC. There are records of white-clawed crayfish from two 10 km grid squares within the constraints study area, as shown on Figures 6A and 6B.

The River Barrow and River Nore pcSAC and Lower River Suir pcSAC also contain otter, a legally protected species listed in Annex II of the EU Habitats Directive. Otter are likely to be widespread along most rivers in the constraints study area.

9.4 Summary and Conclusions

There are nine designated conservation areas for flora and fauna within the constraints study area. One of these is a proposed candidate Special Area of Conservation (pcSAC), and eight are proposed Natural Heritage Areas (pNHA). As most of the pNHAs are small and have a scattered distribution, it should be possible to avoid any direct impact on these sites unless otherwise unavoidable.

The main ecological constraint is River Barrow and River Nore pcSAC. This site comprises the River Nore and part of the King's River, and will have to be crossed by the proposed road at some point. Any river crossing should target sections of the river where the ecological and fisheries value is comparatively low.

In the case of pcSACs, projects that are likely to have a significant adverse impact on the integrity of the site may only be carried out for "imperative reasons of overriding public interest, including those of a social or economic nature". Consultations with Dúchas, the Heritage Service will be required if any pNHAs are affected by this scheme.

There are 77 additional ecological sites in the constraints study area. These are generally concentrated in upland areas and along river corridors. While all ecological sites should be avoided, this is unlikely to be possible owing to the number of long narrow sites along river corridors, and the high density of sites in the uplands. If sites cannot be avoided then mitigation will be required.

Numerous watercourses occur in the constraints study area and most of these are important for fisheries. They include the main channels and numerous tributaries of the Barrow and Nore rivers, and tributaries of the River Suir in the south.

The River Nore dissects the constraints study area from north to south and will have to be crossed by the proposed road at some point. Particular attention will be required in the selection of crossing points for any watercourse to avoid, where possible, designated conservation areas, other ecological sites and stretches of the channel that are of high fisheries value and/or contain protected freshwater species listed in Annex II of the EU Habitats Directive.

All river and stream crossings should be treated with care and should be the subject of consultation with the Southern Regional Fisheries Board. Single span bridges for rivers and bottomless culverts for streams are recommended, where practical, as they have the least impact on fish and macro-invertebrate populations, and on the stream or river habitat.