

***Appropriate
Assessment***

*Prepared by RPS on
behalf of Clonmel Borough
Council & South Tipperary
County Council.*

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APPENDICES

APPENDIX A - NPWS Site Synopsis

Executive Summary

An Appropriate Assessment of the draft C & EDP was carried out in parallel to the SEA and plan making process. The AA process ensured that environmental considerations, specifically focused on Natura 2000 sites, were integrated into the Plan as it was developed. Under the EU Habitats Directive, any plan or project not directly connected with or necessary to the management of Natura 2000 sites, namely, Special Areas of Conservation (SAC) or Special Protection Areas (SPA), but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to an AA of its implications for the site in view of the site's conservation objectives. The administrative area of the Clonmel and Environs Plan includes the Lower River Suir SAC, an important site that forms part of the Natura 2000 network. The river flows through Clonmel town and parts of the southern environs.

Based on the AA screening of Natura 2000 sites, it was concluded that the proposed C & EDP had potential for significant effects on the Lower River Suir SAC and a Stage II AA was therefore undertaken. Initial reviews of the policies and objectives included in the C & EDP indicated that there was a risk of adverse effects on the integrity of the Lower River Suir SAC unless appropriate mitigation was included within the plan. Mitigation measures in the form of specific objectives and policies designed to protect the environment have been included within the plan in order to ensure compliance with the Habitats Directive Article 6 requirements by integrating measures for the protection of Natura 2000 sites into all policy areas covered by the Plan. On the basis of the findings of the Stage II AA, it was concluded that the C & EDP has fully integrated the findings of the AA throughout the policies and objectives of the Plan, and therefore the implementation of the C & EDP is not likely to have significant adverse effects upon the integrity of any Natura 2000 site within or adjacent to the C & EDP area.

All proposed amendments to the draft C & EDP as well as material amendments were subsequently screened during the draft plan and amendment stages of the process with regard to AA. All amendments were screened out and no mitigation measures were proposed as a result of the screening process.

1. Introduction

1.1 Appropriate Assessment of Natura 2000 Sites

This is the Appropriate Assessment (AA) for the Clonmel and Environs Development Plan 2013 (C & EDP). An AA is an assessment of the potential effects of a proposed plan, on its own or in combination with other plans or projects, on one or more Natura 2000 sites (Special Protection Areas (SPA) for birds, Special Areas of Conservation (SAC) for habitats and species, Ramsar wetland sites). The findings of the AA must be taken into account by the competent authority, in this case by Clonmel Borough Council and South Tipperary County Council in reaching its decision to make the C&EDP. A final statement on whether or not the implementation of the C & EDP, on its own or in combination with other plans or projects, will affect the integrity of Natura 2000 sites is given.

1.2 Project Background

Under Section 9 of the Planning and Development Acts 2000-2013, every planning authority must make a development plan, setting the framework for all future development in the planning authority's area for the stated period, for the whole functional area of the authority every six years. The C&EDP is being prepared in accordance with the requirements and provisions of the Planning and Development Acts 2000 - 2013 as amended. It sets out an overall strategy for the proper planning and sustainable development of Clonmel town and its environs for the six year period from 2013.

The AA process determines how the Plan, as defined by its individual elements, set out through its zoning, policies and objectives will affect the Natura 2000 sites within its zone of influence. Key individual elements of the Plan were identified for the purpose of this assessment and are set out in section 3.6 Screening Assessment of this report. These elements have been characterised and potential impacts identified and site-specific mitigation has been prescribed in relation to the Natura 2000 site. Threats to Natura 2000 sites and potential issues associated with individual elements are identified. Each element underwent screening to determine whether a full AA was necessary to assess potential impacts at subsequent plan-levels and at project level, and for any planned development projects such as infrastructure etc. The C & EDP sets out a framework for lower level plans, projects and strategies as appropriate over its lifetime. As these are proposed they will be subject to screening for AA.

1.3 Relationship to Strategic Environmental Assessment

AA specifically aims to ensure that the Plan will not have an adverse effect on the integrity of European sites, whereas Strategic Environmental Assessment (SEA) has a broader objective to ensure land-use plans contribute to sustainable development by integrating social, environmental and economic considerations into plan preparation and incorporating the requirements of the SEA Directive (2001/42/EC). A comparison between the AA and SEA process is set out in Table 1.1.

| | Appropriate Assessment (AA) | Strategic Environmental Assessment (SEA) |
|------------------------------|--|--|
| Aim of process is to: | Maintain the integrity of the Natura 2000 network and its features: SPA for birds, cSAC for habitats and species, Ramsar sites | Provide for a high level of protection of the environment |
| Emphasis on: | Prevent activities that could harm Natura 2000 sites “Protection led” | Provide information on environmental impacts, consultation, documenting decisions, “Baseline led” |
| Detail: | Narrow focus on a few sites | Focus on the environment “rebalancing in favour of the environment” |

Table 1.1 Comparisons of AA and SEA

Adapted from ‘Appropriate Assessment of Plans, September 2006’, Authors: Scott Wilson, Levett – Therivell

1.4 Regulatory Context

The Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) formed a basis for the designation of Special Areas of Conservation (SACs). Similarly, Special Protection Areas are legislated for under the Birds Directive (Council Directive 79/409/EEC on the Conservation of Wild Birds). Collectively, SACs and SPAs are referred to as Natura 2000 sites. In general terms, they are considered to be of exceptional importance in terms of rare, endangered or vulnerable habitats and species within the European Community.

Appropriate Assessment is a requirement of Article 6(3) and 6(4) of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, also known as the Habitats Directive. This states:

6(3) Any plan or project not directly connected with or necessary to the management of the site (Natura 2000 sites) but likely to have significant effect thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the sites conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely

affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

6(4) If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

Following on Circular Letter 1/08 & NPWS 1/08 on Appropriate Assessment of Land Use Plans (from the Department of the Environment, Heritage and Local Government) states that all plans and projects will be subject to critical assessment to ensure that they comply with all relevant legislation. In December 2009 “*Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government*” was published. This guidance document was prepared jointly by the NPWS and Planning Divisions of DoEHLG, with input from local authorities. Legislation in the form of the Planning and Development (Amendment) Act 2010 has been enacted bringing Appropriate Assessment into planning law.

1.5 Objectives of Appropriate Assessment

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures to be addressed in the AA process.

1. Firstly, a plan should aim to avoid any negative impacts on Natura 2000 sites by identifying possible impacts early in plan making, and writing the plan in order to avoid such impacts.
2. Secondly, mitigation measures should be applied during the AA process to the point where no adverse impacts on the site(s) remain.
3. Under a worst-case scenario, a plan may have to undergo an assessment of alternative solutions. Under this stage of the assessment, compensatory measures are required for any remaining adverse effects, but they are permitted only if (a) there are no alternative solutions and (b) the plan is required for imperative reasons of overriding public interest (the “IROPI test”). European case law highlights that consideration must be given to alternatives outside the plan boundary area in carrying out the IROPI test. It is a rigorous test which plans are generally considered unlikely to pass.

AA is not a prohibition on new development or activities but involves a case-by-case examination of the implications for the Natura 2000 site and its conservation objectives in a recorded step-wise procedure.

1.6 Consultation

Consultation with the officials involved in the drafting of the C&EDP, the consultants engaged to prepare the Strategic Flood Risk Assessment (SFRA) and the consultants engaged to prepare the Strategic Environmental Assessment (SEA) was carried out at every stage of plan development, in particular during the development of objectives and policies contained in the Plan as the outcome of the AA guided development of the objectives and policies.

In addition, consultation with the appropriate environmental authorities has been an integral part of this AA process. Consultation letters were sent to the EPA, National Parks & Wildlife Service (NPWS) and Inland Fisheries Ireland. In addition, an AA Scoping Report was issued to NPWS in January 2012. A response was also received from the EPA dated and a copy of the response is included in the SEA. In summary, the details of the EPA response as it relates specifically to Natura 2000 Sites and Appropriate Assessment are outlined below with an explanation of how the comments were considered.

UEPA AA Response 1 and its consideration within this AA

It should be ensured that designated conservation sites within the zone of influence of the Plan are protected.

To ensure the protection of designated conservation sites within the zone of influence of the C&EDP this AA was undertaken to identify potential for policies and objectives to impact on the qualifying features of the relevant Natura 2000 sites and where relevant, mitigation measures were proposed.

EPA AA Response 2 and its consideration within this AA

The potential for cumulative/in –combination effects resulting from this Plan and other relevant on-going Plans and Programmes within and adjacent to the Plan area should also be assessed. You are referred in particular, to the Marfield LAP, currently undertaking SEA Screening, which should be taken into account, given its location to Clonmel & Environs.

As part of this AA, an assessment of cumulative and in-combination effects was undertaken as outlined in Section 3.5.

EPA AA Response 3 and its consideration within this AA

You are also referred to the requirements of the recent European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), which should be taken into account in implementing the Plan. These Regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in the CJEU judgements.

All relevant National, International guidance and legislation was referred during this AA as outlined in Section 2.1.

EPA AA Response 4 and its consideration within this AA

The Plan should promote the setting up of procedures to ensure compliance with the requirements of Article 6 of the Habitats Directive, and should be itself subject to Appropriate Assessment (AA). The Plan also should include a clear Policy/Objective that sets out a requirement for AA Screening for new, reviewed or amended Plans and proposed projects being prepared by the local authority for the Plan area, which may have the potential to impact on European sites.

This AA proposes a mitigation measure that requires that that new development during the lifetime of the Plan, review or amendment of the Plan be subject to AA screening to ensure compliance with the Article 6 of the Habitats Directive.

EPA AA Response 5 and its consideration within this AA

The Plan should promote the application of the Guidance set out in the recent DoEHLG Publication and EU Guidance.

All relevant National, International guidance and legislation was referred to when undertaking this AA as outlined in Section 2.1.

EPA AA Response 6 and its consideration within this AA

The Plan should incorporate, as relevant, the objectives of the Water Framework Directive River Basin Management Plans. Consideration should also be given to the protection of Freshwater Pearl Mussels.

During the Appropriate Assessment process and consultation with the C&EDP development team, it was proposed to include a specific policy in relation to promoting compliance with the Water Framework Directive. In relation to Freshwater Pearl Mussel species, this AA included an assessment of the potential impacts to the Freshwater Pearl Mussel in the River Suir where relevant to the Plan area.

2. Requirements of Appropriate Assessment of Natura 2000 Sites

2.1 Methodology

The four stages of the Appropriate Assessment process are set out in Figure 2.1. The aim of the screening process (Stage 1) is to determine whether or not an AA is required. The aim of the AA (Stage 2) is to identify potential impacts of the Plan on its own or in combination with other plans or projects; identify policy and objectives that will avoid and mitigate any negative impacts on Natura 2000 sites; and avoid the need to progress to Stages 3 and 4.

Plan adoption may only proceed if the Plan will not affect the integrity of a Natura 2000 site. Progression to the third stage would result in changes to the plan in its current form, and would require the implementation of compensatory measures for impacts on Natura 2000 sites. If the recommendations of Stage 2 are incorporated into the Plan, then Stages 3 and 4, relating to alternative solutions and compensatory measures, will not be required.

In the preparation of this assessment regard has been given to the Habitats Directive and the European Communities (Natural Habitats) Regulations, SI 94/1997 and EU guidance outlined in *Assessment of places and projects significantly affecting Natura 2000 sites – Methodological guidance on the provisions of Article 6 (3) and (4) of the Habitats Directive 92/43/EEC*. Other guidance documents that will be referred to include:

- Guidance from the EU Commission and DEHLG (2009. Rev Feb. 2012) Appropriate Assessment of Plans and Projects, Guidance for Planning Authorities.¹
- Department of Environment Heritage and Local Government Circular NPW 1/10 and PSSP 2/10 on *Appropriate Assessment under Article 6 of the Habitats Directive – Guidance for Planning Authorities* March 2010.
- Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government 2009; <http://www.npws.ie/en/media/NPWS/Publications/CodesofPractice/AA%20Guidance.pdf>
- Managing Natura 2000 Sites: the provisions of Article 6 of the Habitats Directive 92/43/EEC, European Commission 2000; http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/provision_of_art6_en.pdf
- Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC; http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission.

¹ (a) European Communities, 2000. Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC

(b) European Communities, 2002. Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance in the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.

(c) European Communities, 2007. Guidance document on Article 6(4) of the 'Habitat Directive' 92/43/EEC.

(d) DEHLG 2009 (Feb 2010). Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities.

European Commission (January 2007).
http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/guidance_art6_4_en.pdf

- Guidance document on the implementation of the birds and habitats directive in estuaries and coastal zones with particular attention to port development and dredging.
http://ec.europa.eu/environment/nature/natura2000/management/docs/guidance_doc.pdf
- Appropriate Assessment of Plans. Authors: Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants (September 2006).
-

2.2 Outline of Appropriate Assessment

The AA process, as detailed in the guidance, is a four-staged approach as described below. An important aspect of the process is that the outcome at each successive stage determines whether a further stage in the process is required.

Stage One: Appropriate Assessment Screening

Screening is the process that addresses and records the reasoning and conclusions in relation to the first two tests of Article 6(3) of the Habitats Directive:

- i) whether a plan or project is directly connected to or necessary for the management of the site, and
- ii) whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives.

If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA).

Stage Two: Appropriate Assessment

This stage considers whether the plan or project, alone or in combination with other projects or plans, will have adverse effects on the integrity of a Natura 2000 site, and includes any mitigation measures necessary to avoid, reduce or offset negative effects. If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must proceed to Stage 4, or the plan or project should be abandoned.

Stage Three: Alternative Solutions

This stage assesses any alternative solutions or options that could enable the plan or project to proceed without adverse effects on the integrity of a Natura 2000 site. The process must return to Stage 2 as alternatives will require appropriate assessment in order to proceed. Demonstrating that all reasonable alternatives have been considered and assessed, and that the least damaging option has been selected it is then necessary to progress to Stage 4.

Stage Four: Imperative Reasons of Overriding Public Interest (“IROPI”)

Stage 4 is the main derogation process of Article 6(4) which examines whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project that will have adverse effects on the integrity of a Natura 2000 site to proceed in cases where it has been established that no less damaging alternative solution exists. Compensatory measures must be proposed and assessed. The Commission must be informed of the compensatory measures. Compensatory measures must be practical, implementable, likely to succeed, proportionate and enforceable, and they must be approved by the Minister.

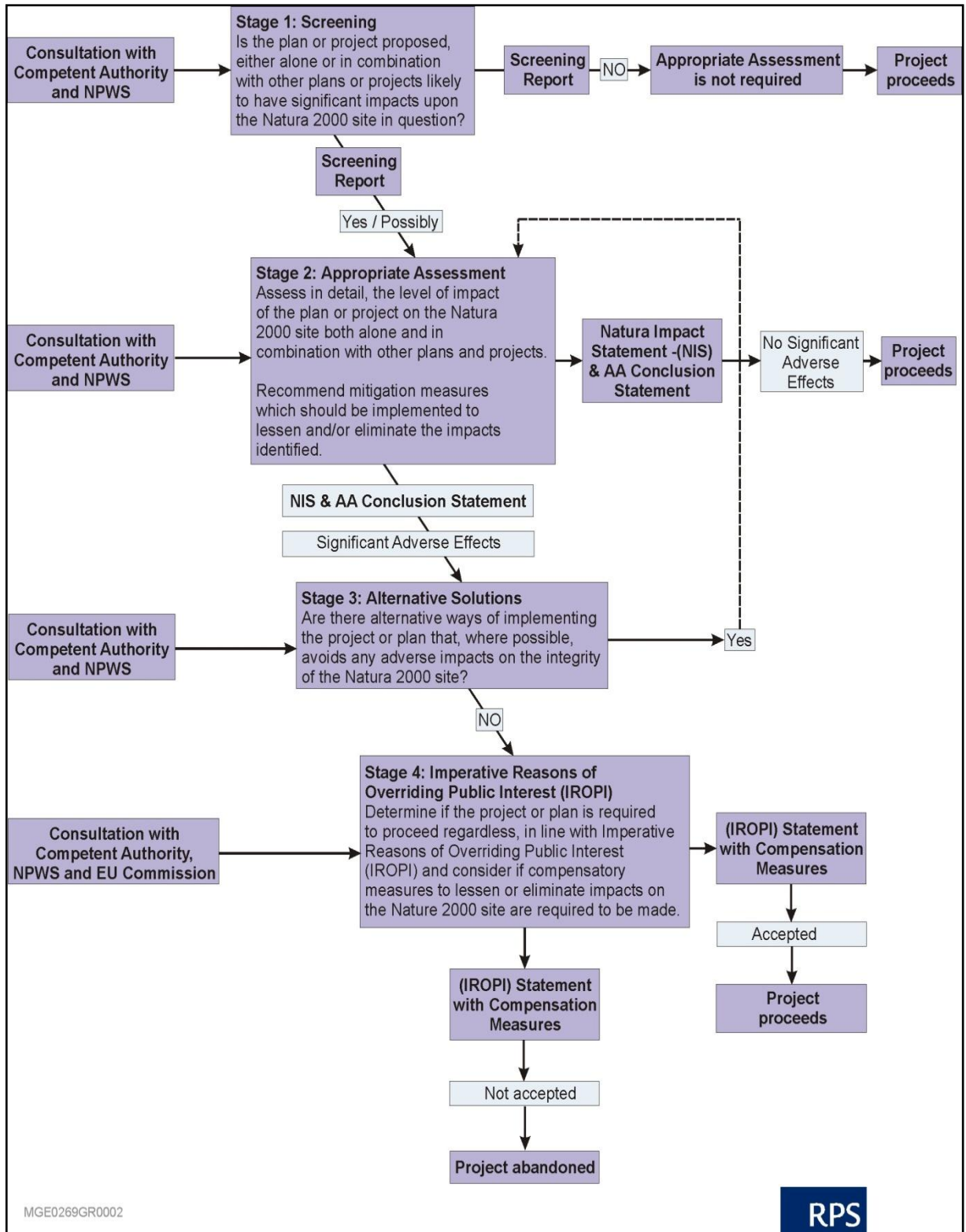


Figure 2.1 Flow diagram of the four stages of the Appropriate Assessment Process

3. Stage 1 – Screening

3.1 Introduction

Screening requires a review of all Natura 2000 sites the proposed Plan could impact upon. It involves identifying whether sites should be included in Stage 2 of the AA. The screening process for the C & EDP involved consultation with the EPA, NPWS and Inland Fisheries Ireland. Generic NPWS guidance on best practice was followed and a precautionary approach, with a buffer zone of 15km from the Plan boundary was used during screening. Details of the Natura 2000 sites located within 15km of the C & EDP Boundary are shown in Figure 3.1. Only 1 site is located within the Plan boundary; an additional 2 sites are located within 15km of the Plan boundary.

In order to describe the Plan, the individual elements of the Plan are identified and assessed in terms of their potential effects on Natura 2000 sites. The assessment was carried out according to the Pressure – Pathway – Receptor model. A pathway is a route by which a particle of water, substance or contaminant moves through the environment and comes into contact with, or otherwise, affects a receptor. For a risk to exist there must be a source (or hazard or pressure), a pathway and a receptor (or target). This is the basis for the Source-Pathway-Receptor (S-P-R) conceptual model for environmental management. In addition, a conceptual model also provides information useful to the scoping of any investigation as it identifies the sites that pose the greatest risk to the environment and human beings and also identifies the S-P-R linkages that have the highest risk associated with them.

The precautionary approach used will ensure that all potentially affected Natura 2000 sites were included in the screening process. There are 3 SACs and no SPAs highlighted by this approach. More details on each of the sites can be found in the National Parks and Wildlife Service (NPWS) Natura 2000 site synopses in Appendix A.

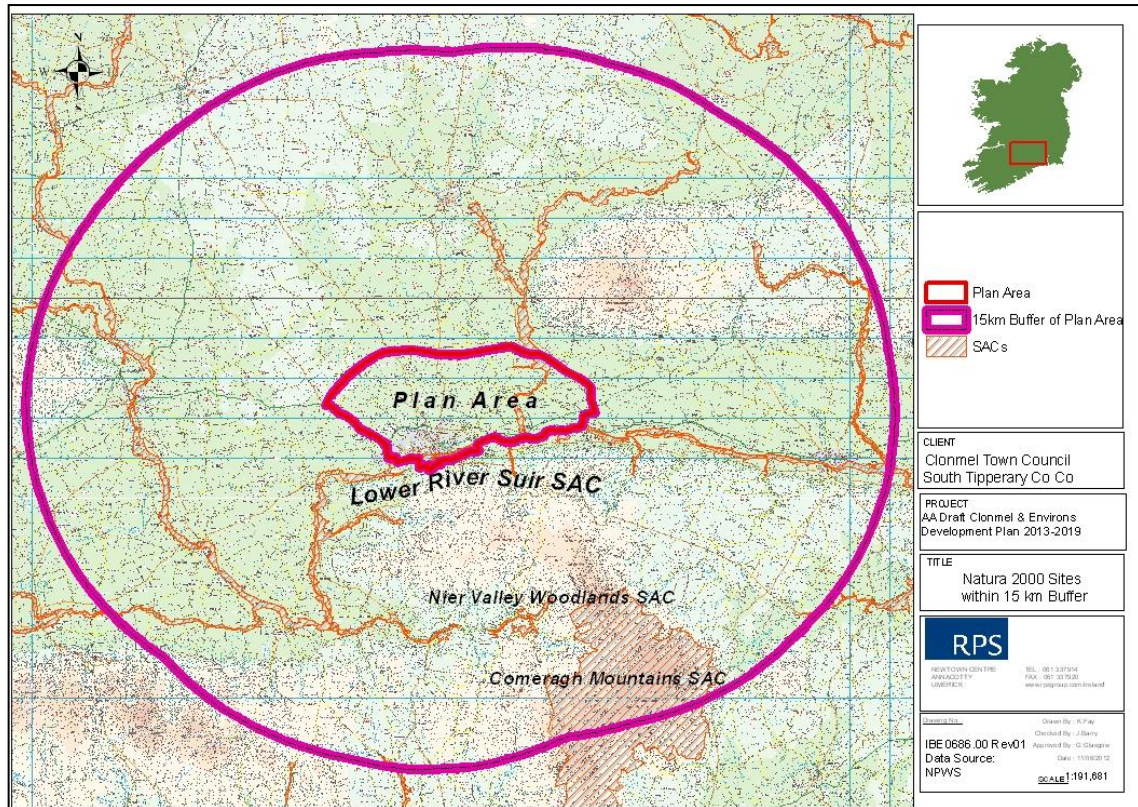


Figure 3.1 Natura 2000 sites that are within a 15 kilometre radius from the boundary to the proposed C&EDP area.

3.2 Brief Description of the Natura 2000 Sites

The following information is taken from the NPWS Protected Site Synopses available on <http://www.npws.ie/en/ProtectedSites/>

3.3 SACs located within the C & EDP area

Part of the Lower River Suir SAC (Site Code 002137) is located within the Plan area. The Lower River Suir SAC consists of the freshwater stretches of the River Suir immediately south of Thurles, the tidal stretches as far as the confluence with the Barrow/Nore immediately east of Cheekpoint in Co. Waterford and many tributaries. The site is a candidate SAC selected for the presence of the priority habitats on Annex I of the E.U. Habitats Directive - alluvial wet woodlands and Yew Wood. The site is also selected as a candidate SAC for floating river vegetation, Atlantic salt meadows, Mediterranean salt meadows, old oak woodlands and eutrophic tall herbs, all habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected for the following species listed on Annex II of the same directive - Sea Lamprey, River Lamprey, Brook Lamprey, Freshwater Pearl Mussel, Crayfish, Twaite Shad, Atlantic Salmon and Otter.

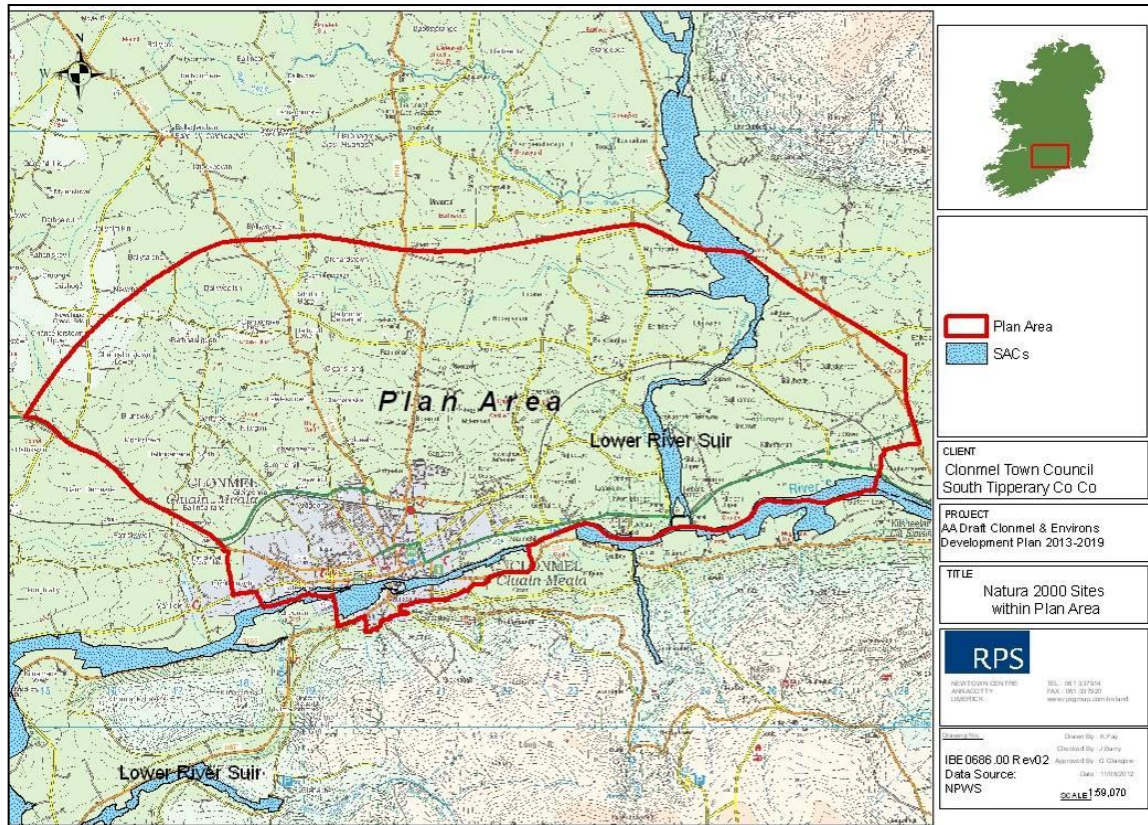


Figure 3.2 Natura 2000 Sites within the C&EDP Area

Eutrophic tall herb vegetation occurs in association with the various areas of alluvial forest and elsewhere where the flood plain of the river is intact. Characteristic species of the habitat include Meadowsweet (*Filipendula ulmaria*), Purple Loosestrife (*Lythrum salicaria*), Marsh Ragwort (*Senecio aquaticus*), Ground Ivy (*Glechoma hederacea*) and Hedge Bindweed (*Calystegia sepium*).

Floating river vegetation is evident in the freshwater stretches of the River Suir and along many of its tributaries. Typical species found include Canadian Pondweed (*Elodea canadensis*), Milfoil (*Myriophyllum* spp.), Fennel Pondweed (*Potamogeton pectinatus*), Curled Pondweed (*P. crispus*), Perfoliate Pondweed (*P. perfoliatus*), Pond Watercress (*Ranunculus peltatus*), other Crowfoots (*Ranunculus* spp.) and the moss *Fontinalis antipyretica*. At a couple of locations along the river, Opposite-leaved Pondweed (*Groenlandia densa*) occurs. This species is protected under the Flora (Protection) Order, 1999.

Conservation Objectives for the Lower River Suir SAC

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Objective: To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:

- [1029] *Margaritifera margaritifera*
- [1092] *Austropotamobius pallipes*
- [1095] *Petromyzon marinus*
- [1096] *Lampetra planeri*
- [1099] *Lampetra fluviatilis*
- [1103] *Alosa fallax*
- [1106] *Salmo salar* (only in fresh water)
- [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- [1355] *Lutra lutra*
- [1410] Mediterranean salt meadows (*Juncetalia maritimi*)
- [3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation
- [6430] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels
- [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles
- [91E0] * Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)
- [91J0] * *Taxus baccata* woods of the British Isles

Throughout the Lower River Suir site there are small areas of woodland other than those described. These tend to be a mixture of native and non-native species, although there are some areas of semi-natural wet woodland with species such as Ash and Willow. Parts of the site have also been identified as of ornithological importance for a number of Annex I (EU Birds Directive) bird species, including Greenland White-fronted Goose (10), Golden Plover (1490), Whooper Swan (7) and Kingfisher. Kingfisher, a species that is listed on Annex I of the EU Birds Directive, occurs along some of the many tributaries throughout the site.

There are a number of settlements located on the river as it traverses South Tipperary i.e. Golden, Cahir, Ardfinnan, Clonmel and Carrick on Suir with resulting urban/town centre land uses along portions of the river, other land use along the river consists mainly of agricultural activities including grazing, silage production, fertilising and land reclamation. The grassland is intensively managed and the rivers are therefore vulnerable to pollution from run-off of fertilisers and slurry. Arable crops are also grown.

The Lower River Suir contains excellent examples of a number of Annex I habitats, including the priority habitat Alluvial Forest. The site also supports populations of several Annex II animal species and a number of Red Data Book animal species. The presence of two legally protected plants (Flora (Protection) Order, 1999) and the ornithological importance of the river add further to the ecological interest of this site. The Conservation Objective for the site is to maintain the Annex I habitats and Annex II species for which the cSAC has been selected at favourable conservation status, to maintain the extent, species richness and biodiversity of the entire site and to establish effective liaison and co-operation with landowners, legal users and relevant authorities.

Threats to site integrity include obstructions, impassable weirs, gross pollutants, specific pollutants, channel maintenance, man-made barriers to migration, eutrophication, leisure fishing drift netting, use of pesticides, fertilisation, removal of hedges and copses, removal of scrub, felling of native or mixed woodland, professional fishing (including lobster pots and fyke nets) hunting, trapping, poisoning, poaching, sand and gravel extraction, mechanical removal of peat, urbanised areas, human habitation, continuous urbanisation, industrial or commercial areas, discharges, disposal of household waste, industrial waste, inert materials, other discharges, routes, auto routes, bridge, viaduct, water pollution, other forms of pollution, infilling of ditches, dykes, pods, pools, marshes or pits, drainage, management of aquatic and bank vegetation for drainage purposes, removal of sediments, canalisation or modifying structures of inland water course. Other threats include overgrazing, infilling and reclamation, inappropriate grazing levels and invasive species, clearance for agriculture or felling for timber, planting of non-native conifers and increased development.

Within the Plan area there are various qualifying features (i.e. species and habitats) associated with the Lower River Suir SAC. Therefore, therefore the assessment can focus on those species and habitats of interest within the Plan area, as well as all others outside the Plan area but within the SAC, in particular, downstream of the Plan area. Within the Plan area the main uses adjacent to the river are town centre, residential, commercial, public and social and amenity. Further or future development of these land uses have the potential to lead to:

- Habitat loss (loss to land, in particular riparian corridors along rivers edge)
- Habitat change (as a result of changes to land use)
- Physical disturbance
- Siltation rate changes
- Water flow
- Water Pollution
- Removal of target & non-target species

Detailed Description of Lower River Suir SAC within the C&EDP Area.

The Lower River Suir flows mainly in a west-east direction across the C&EDP area with a predominately rural catchment in the environs and an urban landscape within the footprint of Clonmel town. The River Anner is a significant tributary of the River Suir and is also designated as part of the Lower River Suir SAC. The River Anner flows in a north south direction through the plan area and is exclusively within the environs of the C&EDP area. Hydrological flow within the Lower River Suir SAC is illustrated in Figure 3.3.

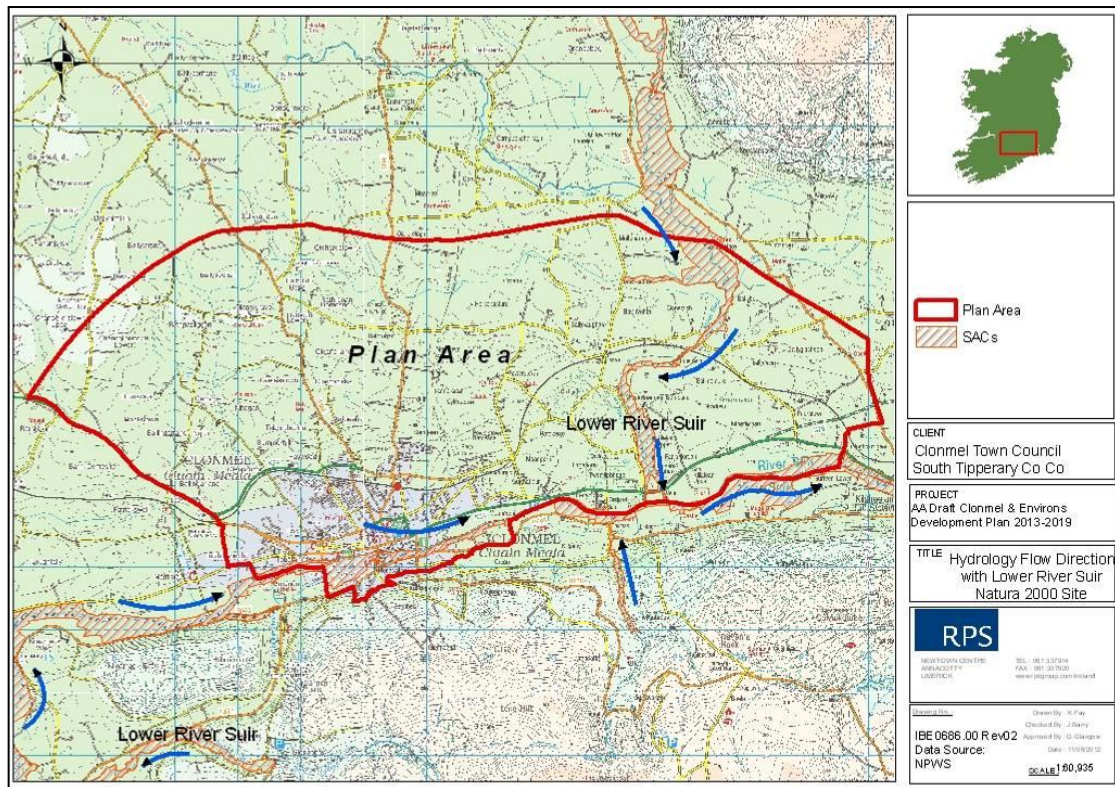


Figure 3.3 Hydrological Flow Direction within the Lower River Suir SAC

The River Suir enters the Plan area from the Marfield area immediately to the South-Western extent of the Plan area. At this point the northern bank of the River Suir is coincident with the Southern extreme of Plan area along the townland of Toberaheena. The riparian zone of the northern bank within the Plan area and is fringed with a dense network of mature deciduous woodland set back up to 30 metres from the river bank. The river bank along this stretch has a rich diversity of vegetation mainly grasses leading up to the tree line. This riparian zone contains a variety of lateral, vertical and longitudinal gradients controlled by the complex interaction of difference environmental factors, with hydrology being an important contributor. The River Suir is susceptible to flooding at this point but it is confined to the right bank and technically outside the Plan area. The left bank, forming the southern extreme of the Plan, is not susceptible to flooding due to the higher topography.

The aquatic habitat up to this point is in good condition as demonstrated with Good Water Status as defined in the Water Framework Directive and full compliance with the obligations of the Water Framework Directive as outlined in the South-Eastern River Basin District.

As the river flows further along the Plan area boundary the River Suir splits forming a small island (called "The Island") within the river and most of the river flow flowing to the right of The Island. As the River is split, the velocity of the water reduces and this may promote increased natural siltation of the river bed. The land use adjacent the aquatic habitat has changed from being mainly agricultural further upstream to being entirely urban related at this part of the River within the Plan area, as illustrated in Figure 3.4.



Figure 3.4 View downstream looking towards Clonmel urban area from bridge on Convent Road at the Island.

Convent Road provides a river crossing over The Island connecting lands north and south of the River and at this point the Plan area boundary follows Convent Road southwards, leaving the entire River Suir and both River Banks within the Plan area. At this point, the riparian zone along the northern bank of the Natura 2000 sites begins to fragment due to the encroachment of urban development. The riparian zone along the right bank of the river is fragmented due to agricultural pressures and consequently there is bank instability at the edge of the river as illustrated in Figure 3.5.



Figure 3.5 View downstream along River Suir from Convent Road Bridge on the Island.

The River Suir passes The Island and flows only a short distance before splitting again forming a much larger island called “Suir Island”. As the flow divides each side of the island, water has to flow over manmade weirs that have the potential to mitigate against free passage of lamprey species up the River Suir. Lamprey species are present downstream of the weirs at this point of the River Suir as reported by Inland Fishers Ireland and Biodiversity Ireland records. There are very few records of lamprey species upstream of the weirs. However, the weirs do not impact on the free passage of salmonids. Otters have also been recorded to use this stretch of the river habitat as recorded by Biodiversity Ireland.

The western section of Suir Island has urban development with hard paving whereas the eastern part of the island remains undeveloped and is home to a dense wooded area, mainly of native deciduous trees. The northern bank along the River Suir at this point is entirely urban fabric and is completely devoid of any riparian vegetation and experiences moderate levels of flooding and man-made flood defences are constructed along the Natura 2000 site at this point, as illustrated in Figures 3.6 and 3.7.



Figure 3.6 View downstream along River Suir from The Quay looking across to Suir Island.



Figure 3.7 View upstream towards Mill on Suir Island natural habitat present on Western section of Suir Island visible on left and urban fabric of Clonmel town to the right.

The most easterly section of Suir Island contains a large area of natural scrub, some deciduous woodland and grassland vegetation due to lack of development pressures over the years. The island, and in particular this western section of the island is liable to frequent flood event and all the island is within Flood Zone A, thus impacting on the natural succession, colonisation and riparian vegetation of this part of the island. Hydrology is the most important environmental factor to the condition of the habitat at this point as it contributes to species richness of the habitat. Generally, the highest level of plant diversity occur within the middle reaches of river valleys such as this section of the Lower River Suir SAC, because vegetation experiences moderate levels of flooding. The diversity is primarily derived from the survivors of disturbance and the invasion of new species that exploit disturbance gaps within riparian vegetation created by flooding. Propagules (e.g. seeds, spores and vegetative fragments) are vital for reproduction of plants, and the dispersal of these is an important factor governing the distribution of species. Rivers are responsible for transporting the greatest and most diverse range of propagules, compared with transport by wind and fauna, with winter high flows being particularly important. However, there is a risk that invasive no-native or alien species from upstream locations can enter the river corridor under similar conditions.

As riparian species require the entire hydrodynamic gradient in order to thrive, it is logical that anthropogenic factors such as urban encroachment that confine the river and affect riparian flood regimes will have consequences for vegetation. In fact, the aquatic habitat of the River Suir SAC at this point is under pressure from encroachment due to urban development. The condition of the aquatic habitat at this point is classed as moderate as demonstrated with Moderate Water Status as defined in the Water Framework Directive and is not in compliance with the obligations of the Water Framework Directive as outlined in the South-Eastern River Basin District. In addition, to the water quality requiring improvements at this particular stretch of the River Suir, under the Water Framework Directive, the River Suir is listed as a protected area and relevant objectives for this water body as listed in the South-Eastern River Basin District Plan. Notwithstanding the water quality issues along this stretch of the Natura 2000 site, there are frequent report of both lamprey species and otter along this stretch of the River Suir, as surveyed by Inland Fisheries Ireland.

Towards the end of Suir Island, the urban pressures and encroachment continues along the left bank but further green space and riparian vegetations expands along the right bank of the River Suir. Specifically, this area along the right bank is before and after The Old Waterford Road river crossing and is undeveloped with leisure activities occurring along the Natura 2000 site associated with Denis Burke Park, as illustrated in Figures 3.8 and 3.9. The area is liable to flooding and is within Flood Zone A. Although the water quality within the aquatic environment is not compliant with the requirement of the Water Framework Directive, there are reports from Inland Fisheries Ireland surveys of the presence of Crayfish, Lamprey and Otter along this stretch of the Lower River Suir SAC.



Figure 3.8 View downstream from Old Waterford Road River crossing with Denis Burke Park on Right Bank and Clonmel Urban development on left.



Figure 3.9 View upstream from Old Waterford Road River crossing with Denis Burke Park on the right bank (left side of figure) and Clonmel Urban development along the left bank (right of figure).

As the River Suir flows past the eastern suburbs of Clonmel town, the river corridor changes again and is more natural in that there is no habitat squeeze as a result of containment of flow with manmade flood protection barriers. Land use along the eastern side of Clonmel town is less intense in terms of urban fabric and aquatic habitat encroachment with the greyhound stadium to the north, Hotel Minella and Dudleys Mills Business park along the southern bank. This part of the Natura 2000 site is less confined by the urban development and the riparian zone returns to more establish vegetation with hydrology being the main contributor to habitat fragmentation. At this point, the C&EDP boundary follows the river again with only the northern bank of the river being within the Plan area. This part of the C&EDP contains mainly industrial lands and enterprises and there is also a significant discharge from the municipal wastewater treatment plant in to the River Suir along this stretch of the SAC. As the River Suir flows further east it is bounded only by the southern extent of the Plan area and is composed of agricultural land with an extensive riparian zone vegetated with hedgerows and wooded areas. As the River leaves Clonmel Borough, the river corridor is more natural with unconfined flow. Although there is productive active agriculture land use along the River Suir all along the Lower River Suir SAC in the eastern section of the C&EDP area, there is extensive riparian zones along the river corridor, as illustrated in Figure 3.10.



Figure 3.10 View of River Suir SAC downstream of Clonmel town, within the environs area of the C&EDP area.

The main tributary of the River Suir within the Plan area, the Anner River, joins the Suir along this stretch of the river corridor. The aquatic habitat along this section of the River Suir is in good condition as demonstrated with Good Water Status as defined in the Water Framework Directive and full compliance with the obligations of the Water Framework Directive as outlined in the South-Eastern River Basin District. In addition, Inland Fisheries Ireland records of the presence of crayfish, lamprey and otter for this stretch of the SAC indicate the importance of this habitat for those qualifying features of the SAC.

Freshwater Pearl Mussel (*Margaritifera margaritifera*)

Although there are no records of Freshwater Pearl Mussel (FPM) within the Plan area, there are records of *Margaritifera margaritifera* present at various locations upstream with the closest being 300 metres immediately upstream of the Plan area within the River Suir, south of Marlfield (NPWS 1987-2006 records). The River Suir within the Plan area is suitable and is a potential habitat for the FPM should water quality improve. Immediately upstream where the FPM is located, water quality is classified as being of good or Q4, whereas within the Plan area it is classified as being moderate or Q3-4. Further downstream and outside of the Plan area, water quality improves again to Q4 and there are records of FPM further downstream. In addition to water quality as a requirement for the survival of FPM, the presence of healthy young fish salmonids is a vital part of the life cycle of the FPM. The Freshwater Pearl Mussel has been shown to use native brown trout and Atlantic salmon as hosts. The relationship of pearl mussels and salmon is symbiotic. The fish provides the essential step in the mussels' life cycle, and mussels improve water quality by filtering water. Therefore, these fish species require free passage for migration throughout the Lower River Suir SAC, and in particular it is

important that the fish species has the potential to pass through the plan area and reach both FOM both upstream and downstream of the Plan area.

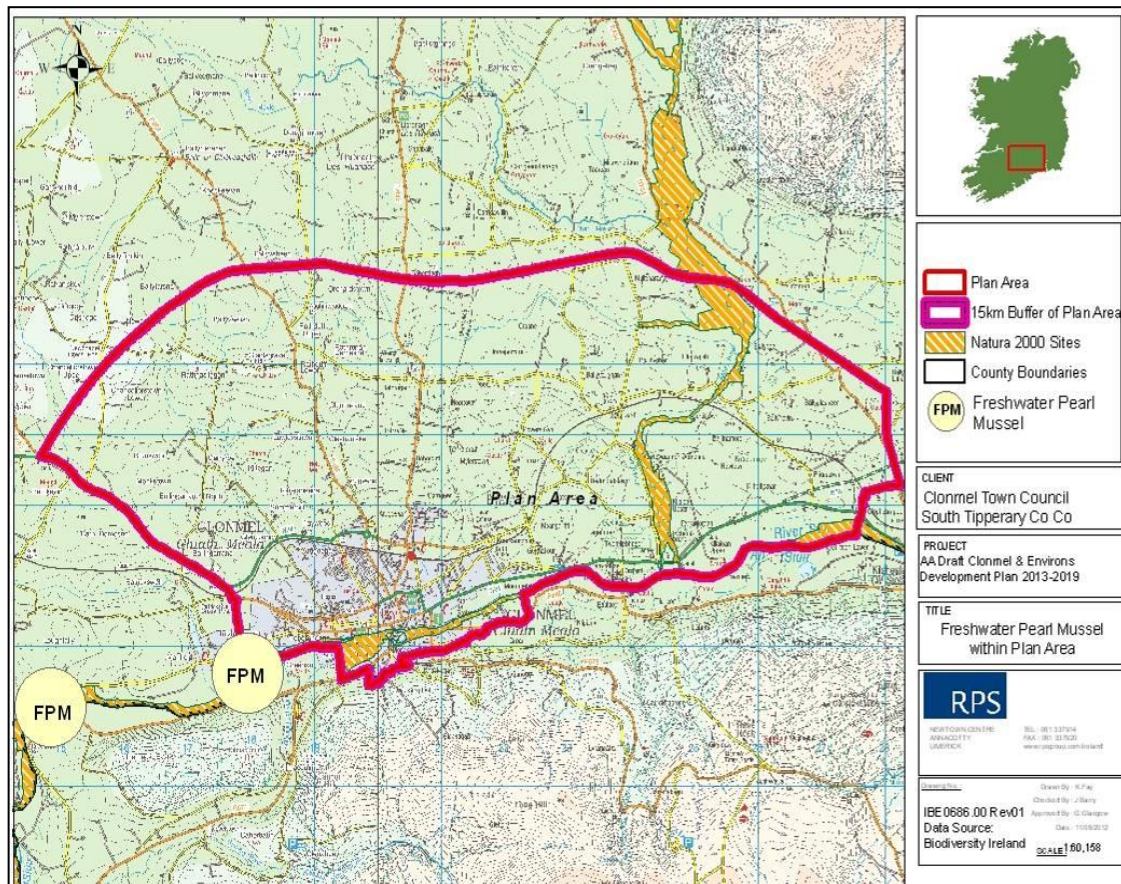


Figure 3.11 Recorded Freshwater Pearl Mussel Populations in relation to the Plan area

Crayfish (*Austropotamobius pallipes*)

Crayfish has been found all along the river Suir main channel, including the section of the Lower River Suir SAC within the Plan area (Crayfish EPA data 2008). In addition, crayfish is present within the major tributaries of the River Suir such as the Rivers Anner, Tar and Nire.

Although locally abundant in some areas, the white-clawed crayfish has declined dramatically in recent years and is under threat throughout its range. Whilst competition and disease from non-native crayfish are the principal causes of decline, any activity causing habitat disturbance and destruction has the capacity to seriously affect remaining populations. Rivers works on rivers with white-clawed crayfish populations should only be undertaken if unavoidable, and should be carried out in ways that minimise the impact on the species and its habitat. Like many other aquatic crustaceans and insects, the species is highly susceptible to sheep-dips. Loss of habitat is another problem for white-clawed crayfish. Canalisation of river channels for purposes of flood defence, or siltation due to agricultural activities, dredging or construction can easily make lengthy sections of watercourse unsuitable for the species.

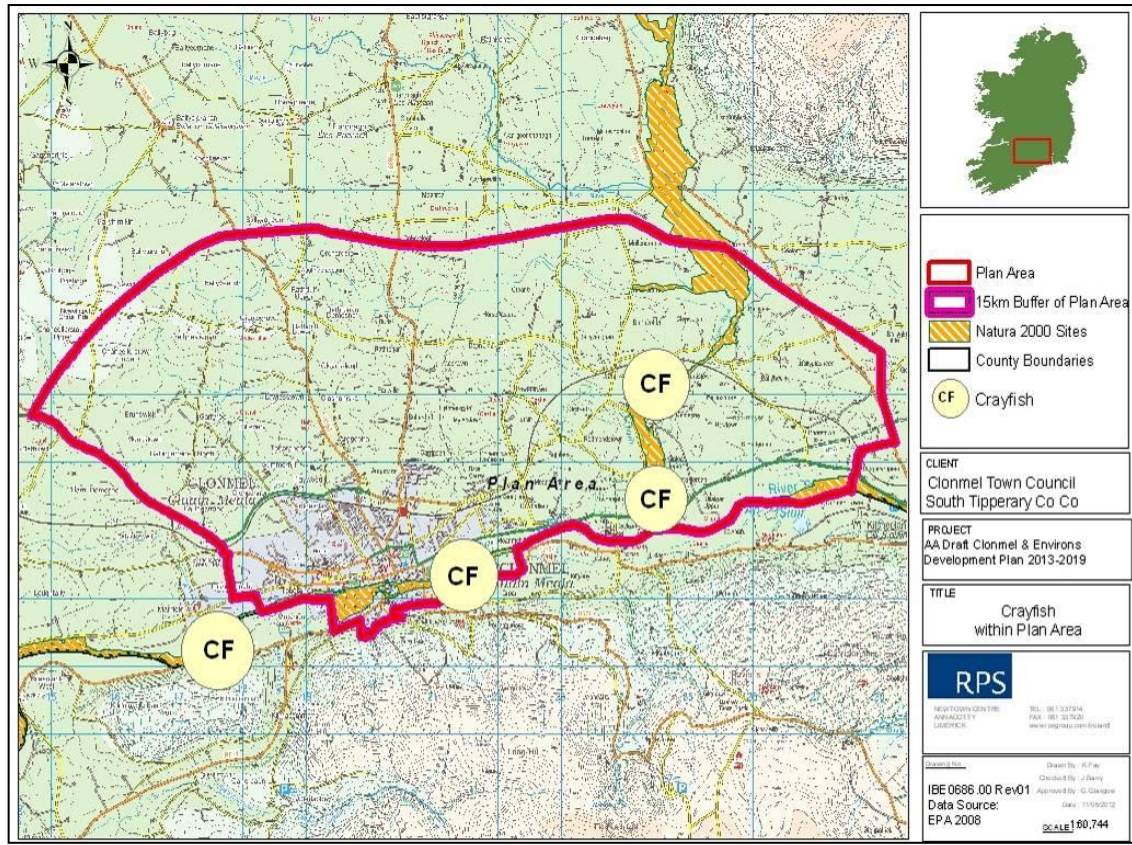


Figure 3.12 Recorded Crayfish populations in relation to the Plan area.

Lamprey Species (*Petromyzon marinus*, *Lampetra planeri* and *Lampetra fluviatilis*)

Throughout the Lower River Suir SAC, including the stretch of the River Suir within the Plan area there is suitable habitat for Lamprey Species. Sea lamprey are present at various locations along the SAC including locations within the Plan area, as identified as part of the Lamprey CFB Redd Survey 2005. These locations include: downstream of Gashouse Bridge/Dudleys Weir; downstream of the graveyard on the Waterford Road; the Old Bridge; downstream of Merck-Sharp and Dohme, and; at the Clonmel Municipal Sewage Treatment Plant outfall. During its life cycle, the critical habitat requirements for lamprey are:

- Suitable water quality conditions, free from pollution, with suitable prey fish species.
- A clear migration route from estuary to the spawning grounds, with suitable river flows and no barriers.
- At the spawning areas, suitable hiding places and clean spawning gravels.
- After hatching, slower flowing nursery areas of sandy silt in fresh water, above the estuary.

The migrations of anadromous species such as river lamprey are especially affected by pollution barriers because considerable journeys are often necessary from the estuary to the spawning grounds. One extreme belt of pollution between these two habitats can have a major effect on lamprey populations in a river. Channelisation can also be damaging to lampreys, mainly through destruction of their habitat. The removal of areas of riffle and associated spawning gravels, and the dredging of essential nursery silt beds, may entirely eliminate

lampreys and other fish from a river. Both water abstraction and land drainage are likely to have similar negative effects on lamprey populations. They may lead to unstable habitats with variable water levels that flood and disturb both spawning gravels and nursery silts at some times, but leave them high and dry at others. Clearly, there must be no significant obstacles (chemical or physical) on their migration routes if river lamprey are to travel from the estuaries and reach their spawning grounds successfully. Weirs deny lamprey access to many valuable spawning grounds. Apart from actual barriers, any significant alteration or management of channels that removes resting cover or creates stretches of fast flow (>2 m s⁻¹) must be avoided all along the migration route. In particular, the habitat in those stretches used for spawning should retain areas of suitable gravel with interstitial currents that attract nest building.

Eutrophication acts in a similar way to some other forms of pollution: the abundant algae and bacteria resulting from increased nutrients smother both the spawning gravels (preventing spawning or killing eggs) and the nursery silts, creating anoxic conditions there. Given that a large proportion of the life cycle of lampreys is spent in burrows in silt beds, special attention must be paid to these (not normally considered as important fish habitat), and to spawning gravels, in any consideration of the impact of a development proposal affecting a river.

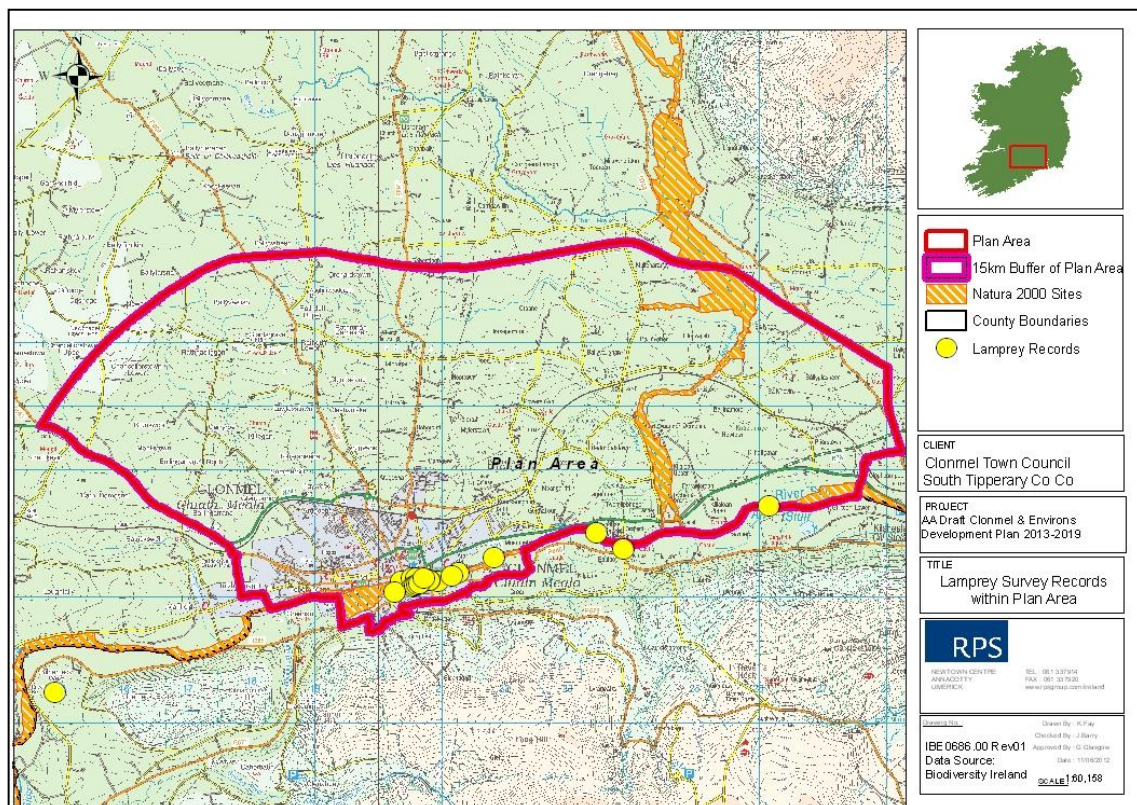


Figure 3.13 Recorded Lamprey populations in relation to the Plan area.

Otter (*lutra lutra*)

Otter species have been recorded within the Lower River Suir SAC including the River Suir within the Plan area. Otter is a mobile species and the species and their resting places are fully protected, it is an offence to deliberately, capture, injure or kill them or to damage, destroy or obstruct their breeding or resting places. Otters are also a very good indicator of the general health of wetlands and the environment. There are a few essential things that otters (and particularly breeding females) need in order to survive:-

- Food – Including eels, fish, crustaceans, molluscs, shellfish, amphibians, reptiles, dragonflies and even slugs.
- Shelter – An otter needs up to 30 resting places in its territory.
- No disturbance – The nocturnal otter needs quiet, undisturbed habitat where they can rest during the day.
- Good, interconnected habitat – Otters can use up to 40km of river as their territory. This means they need to frequently move within and between patches of good habitat to feed, breed and rest.
- Breeding habitat – In order to successfully rear young, a female otter needs a sheltered location, often with a pool where she can teach her young to swim and catch food. It is better if it does not flood regularly and therefore otter breeding holts are often located some distance away from main rivers.
- Fresh water – Otters can live on the coast or inland, but they need freshwater to keep their coat healthy.

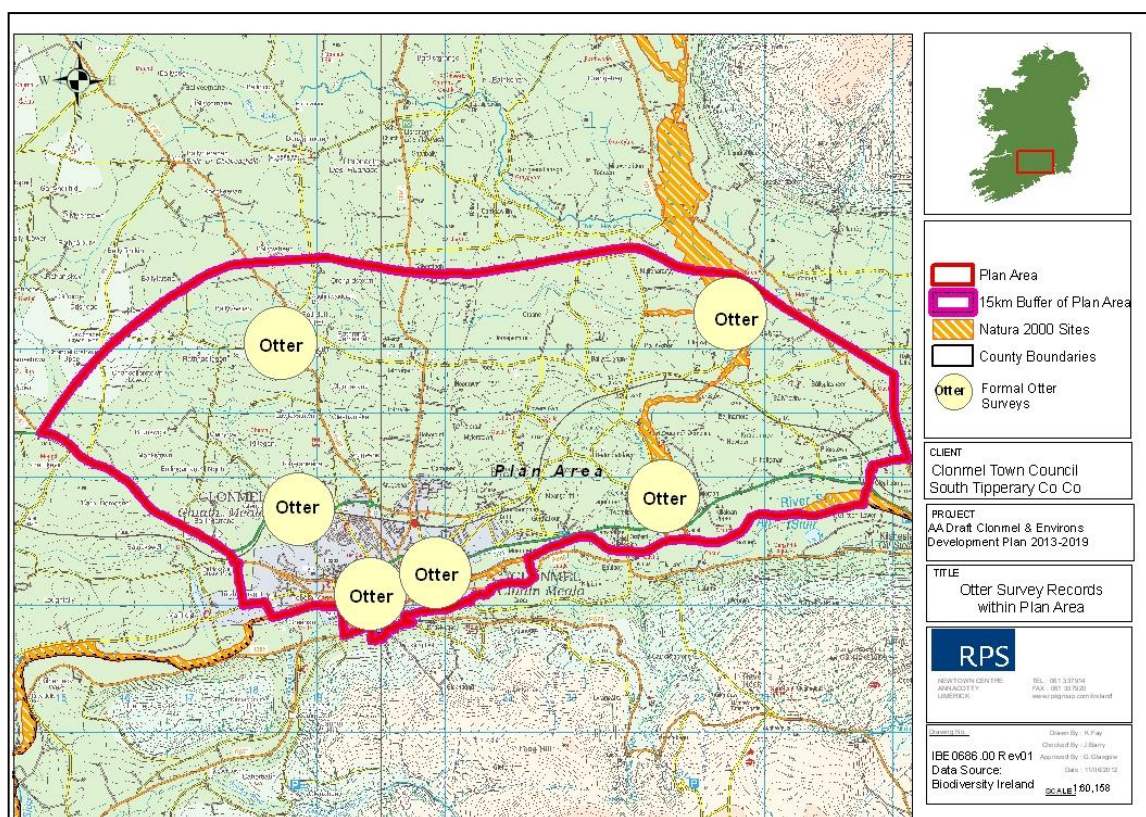


Figure 3.14 Recorded Otter Surveys in relation to C&EDP area.

Salmon (*salmo salar*)

Salmon (*salmo salar*) is found within the River Suir and its tributaries and within the Plan area. Fishing is a main tourist attraction on stretches of the Suir and some of its tributaries and there are a number of Angler Associations that use the Suir and its towpath etc to gain access to the River. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place on the river.

Riparian Vegetation (*Alnus glutinosa* and *Fraxinus excelsior*)

Both *Alnus glutinosa* and *Fraxinus excelsior* including *Ranunculus* species are located along the River Suir in Clonmel within the Plan area and extensively throughout the Lower River Suir SAC. Both species were formally recorded in 1997 by Paul Green as part of the publication on the Flora of Co. Waterford. The entire river Suir within the plan area is highlighted by Biodiversity Ireland as having the species of both *Alnus glutinosa* and *Fraxinus excelsior* present.

3.4 SACs outside but within 15km of the Plan Area

The Nire Valley Woodlands SAC Site Code (000668) site comprises an area of mixed semi-natural deciduous forest lying on the flanks of the Nire Valley, 3 km east of Ballymacarbry in Co. Waterford. It consists of several separate tracts of woodland which were once joined up but have now been fragmented by afforestation and housing developments. One large tract occupies the flanks along the north side of the Nire Valley extending up the Glennanore River. The second large area extends over 3 km along the southern banks of the River Nire. A third area is situated just south of the river to the east of Ballymacarbry Bridge. The site is a candidate SAC selected for old Oak woodland, a habitat listed on Annex I of the E.U. Habitats Directive.

Conservation Objectives for Nire Valley Woodlands SAC

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Objective: To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:

- [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

The Comeragh Mountains Site Code (001952) is situated south of the Plan area. They consist of a plateau of Old Red Sandstone whose edges have been deeply scarred by recent glaciation. Corries and deep valleys are cut into the eastern and western sides leaving a central

ridge whose width is reduced to 270 m at its narrowest point. Peregrine, a species listed on Annex I of the EU Birds Directive, breeds within the site, as does Raven. Hen Harrier, also listed on this annex, is found on the site as is Irish Hare, a Red Data Book species. Arctic Char has been recorded from the Comeragh Lakes, though not since 1930. This species is listed in the Red Data Book as threatened in Ireland. The integrity of the remaining areas of blanket bog and the general habitat diversity of the site are under threat from landuse pressures such as grazing, burning, afforestation and leisure activities.

Conservation Objectives for Comeragh Mountains Site SAC

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Objective: To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:

- [1393] *Drepanocladus (Hamatocaulis) vernicosus*
- [3130] Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*
- [3260] Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation
- [4010] Northern Atlantic wet heaths with *Erica tetralix*
- [4030] European dry heaths
- [4060] Alpine and Boreal heaths
- [8210] Calcareous rocky slopes with chasmophytic vegetation
- [8220] Siliceous rocky slopes with chasmophytic vegetation

3.5 Assessment of Likely Impacts on Natura 2000 Sites

As appropriate, Natura 2000 sites can be screened out of the assessment following an examination of the list of Natura 2000 sites identified in Step 1 of the screening process (listed in Table 2.1) for the following reasons:

- (i) The Natura 2000 Sites outside the 15km buffer are located outside the zone of influence and far from the area of interest and at a significant distance to merit exclusion from further assessment.
- (ii) As there is no hydrological connection (from the Plan area upstream or Up gradient to to Nire River Valley Woodlands, therefore no significant effect is likely to affect the qualifying interests as a result of implementation of any of the Plan elements.
- (iii) Considering the physical distance of the Comeragh SAC Natura 2000 Site from the Plan area and the lack of hydrological influence upstream towards the Natura 2000 site, it is considered that there is no significant effect to qualifying interests associated with the Natura 2000 site is likely as a result of the implementation of the Plan.
- (iv) Also, the Nire River Valley Woodlands SAC Natura 2000 site includes some terrestrial ecosystems some distance from the Plan area and whose qualifying features are immobile and will not be impacted by the implementation of the Plan.

As the policies and objectives outlined in the C&EDP will be implemented directly within or adjacent to the Lower River Suir SAC, they will therefore form the key areas of concern for this AA and are therefore automatically screened in. The outcome of this screening process is detailed in Table 3.1.

Both the Nire Valley SAC and the Comeragh Mountains SAC are located well outside the Plan area. They are located up within the Comeragh Mountains and surface water from these sites ultimately flow in to the Lower River Suir SAC close to Clonmel. The hydrological connectivity is between land use activities in the Nire Valley SAC and the Comeragh Mountains SAC and how they can impact on downstream receptors such as the Lower River Suir SAC. However, there is no link between land use pressures in the Suir valley associated with the C&EDP and the Nire Valley SAC and Comeragh Mountain SAC located upslope in the Comeragh Mountains. There are no hydrological links or otherwise between the pressures associated with the objectives and policies of the C&EDP area and the Nire Valley and Comeragh Mountains SAC.

| Code | Site | Screened in/out | Brief Justification |
|--------------------------------------|------------------------------|-----------------|---|
| Special Areas of Conservation | | | |
| 000668 | Nire Valley Woodlands SAC | Out | No hydrological connectivity or potential impact from plan. SAC located outside of any area demarcated for potential development. Habitat type is not considered sensitive. |
| 001952 | Comeragh Mountains Site Code | Out | No hydrological connectivity (from Plan area upstream) or potential impact from Plan. SAC located outside of any area demarcated for potential development. |
| 002137 | Lower River Suir SAC | In | Located within the Plan area and has potential to be impacted by implementation of the C&EDP |

Table 3.1 Screening of SPA and SACs within the Area of Interest

Following the screening process two SACs were screened out leaving only the Lower River Suir SAC for further assessment. Details in relation to the qualifying features of the Lower River Suir SAC are described in Table 3.2. The information contained in this table is based on the findings in Ireland's Article 17 Report to the European Commission '*The Status of EU Protected Habitats and Species in Ireland*' (NPWS, 2008). The background documents associated with this report provides the first assessment of the status of the habitats and species that Ireland is required to protect under the Habitats Directive. The conservation status for listed habitats and species is assessed across the whole national territory, and therefore, site by site assessments are not available at this time due to gaps in monitoring data.

The attributes of the Lower River Suir Natura 2000 site have been considered to establish whether or not the implementation of the C & EDP is likely to have a significant effect on its integrity and its conservation objectives. The qualifying interests of the site was identified and set out in Table 3.2. The potential threats are summarised into the following categories for screening process and described within the screening matrix:

- Direct or 'In-Situ' impacts refer to habitat loss or fragmentation arising from land-take requirements for development, transport infrastructure etc. Direct impacts can be as a result of a change in land use or management, such as the removal of agricultural practices that prevent scrub encroachment. Disturbance to fauna can arise directly through the loss of habitat (e.g. bat roosts) or indirectly through noise, vibration and increased activity associated with construction and operation. Such impacts usually may occur in the Plan area.
- Indirect, secondary or 'ex-situ' impacts do not have a straight-line route between pressure and impact and it is potentially more challenging to ensure that all the possible indirect impacts of the plan – in combination with other plans and projects - have been established. These can arise, for instance, when a development alters the hydrology of a catchment area, which in turn affects the movement of groundwater to a

site and the qualifying interests that rely on the maintenance of water levels. Deterioration in water quality can occur as an indirect consequence of development, which in turn changes the aquatic environment and reduces its capacity to support certain plants and animals. The introduction of invasive species can also be defined as an indirect impact, which results in increased movement of vectors (humans, fauna, surface water), and consequently the transfer of alien or invasive species from one area to another. Such impacts may occur outside of the Plan area and in the current case may occur downstream of Clonmel,

| Natura 2000 Site | Location | Qualifying Interests | Site Sensitivity | Conservation Status ² | Threats |
|-----------------------------------|------------------|--|---|----------------------------------|--|
| Site Code 2137 - Lower River Suir | Within Plan Area | Atlantic salt meadows (<i>Glaucopuccinellietalia maritima</i>) | Marine and groundwater dependent. Medium sensitivity to hydrological change. Sensitive to changes in salinity and tidal regime as well as overgrazing, erosion and accretion. <i>Habitat not present in the plan area but is downstream.</i> | Poor | The main impacts to this habitat are overgrazing by sheep and cattle and erosion. The presence of alien species, particularly common cordgrass (<i>Spartina anglica</i>) is also prevalent threat to this habitat throughout Ireland. There has been minor losses of this habitat due to infilling and reclamation. There is no threat to this habitat associated with the proposed actions outlined in the draft C&EDP. |
| | | Mediterranean salt meadows | Marine and groundwater dependent. Medium sensitivity to hydrological change. Sensitive to changes in salinity and tidal regime as well as coastal development and reclamation. <i>Habitat not present in the plan area but is downstream.</i> | Poor | The most common impact to this habitat is over-grazing by cattle or sheep. There has been some minor losses of habitat to infilling and reclamation. There is no threat to this habitat associated with the proposed actions outlined in the draft C&EDP. |

² <http://www.npws.ie/en/PublicationsLiterature/ConservationStatusReport/>

| Natura 2000 Site | Location | Qualifying Interests | Site Sensitivity | Conservation Status ² | Threats |
|------------------|----------|---|---|----------------------------------|--|
| | | Old sessile oak woods with Ilex and Blechnum in British Isles | Sensitive to changes in management, grazing and invasive species. <i>Habitat not present in the plan area but it is downstream.</i> | Bad | The main threats to this habitat include the invasion of alien species, sub-optimal overgrazing, clearance for agriculture and felling of native trees for timber. There is no threat to this habitat associated with the proposed actions outlined in the draft C&EDP. |
| | | Alluvial forests with Alnus glutinosa and Fraxinus excelsior | Surface and groundwater dependent. Highly sensitive to hydrological changes. Sensitive to changes in management. <i>Habitat present within plan area.</i> | Bad | The area of this habitat has declined throughout Ireland. The main threats include sub-optimal grazing regimes, drainage, alien invasive species together with the fragmentation of its habitat for agriculture and/or felling for timber. There is potential threat to this habitat associated with any development along the riparian zone of the River Suir |
| | | Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels | Surface water dependent. Highly sensitive to hydrological changes. <i>Habitat not present within plan area,</i> | Poor | The main threats to this habitat include the spread of invasive species, arterial drainage and agricultural improvement at the river edge. There is no threat to this habitat associated with the proposed actions outlined in the draft C&EDP. |

| Natura 2000 Site | Location | Qualifying Interests | Site Sensitivity | Conservation Status ² | Threats |
|------------------|----------|---|--|----------------------------------|--|
| | | Taxus baccata woods of the British Isles | Sensitive to grazing levels. <i>Not present within plan area.</i> | Bad | The main threats include: high levels of grazing, a complete lack of grazing and invasive species. There is no threat to this habitat associated with the proposed actions outlined in the draft C&EDP. |
| | | Water courses of plain to maintain levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation | Surface and groundwater dependent. Highly sensitive to hydrological changes. Highly sensitive to pollution. <i>Present within the plan area.</i> | Bad | The main threats include: eutrophication, overgrazing, excessive fertilisation, afforestation, and the introduction of invasive alien species. There is a potential threat to this habitat associated with alterations in water quality and also alterations in hydrology. |
| | | Sea Lamprey | Surface water dependent. Highly sensitive to hydrological change. <i>Present within, upstream and downstream of the plan area.</i> | Poor | The main threats to this species include channel maintenance works, barriers to migration such as weirs, gross pollution and specific pollutants. There is a potential threat to this habitat associated with alterations in water quality, dredging or other flood alleviation works. |
| | | River Lamprey | Surface water dependent. Highly sensitive to hydrological change. <i>Present within, upstream and downstream of the plan area.</i> | Good | The main threats to this species include channel maintenance works, barriers to migration such as weirs, gross pollution and specific pollutants. There is a |

| Natura 2000 Site | Location | Qualifying Interests | Site Sensitivity | Conservation Status ² | Threats |
|------------------|----------|----------------------|--|----------------------------------|---|
| | | | | | potential threat to this habitat associated with alterations in water quality, dredging or other flood alleviation works. |
| | | Brook Lamprey | Surface water dependent. Highly sensitive to hydrological change. <i>Present within, upstream and downstream of the plan area.</i> | Good | The main threats to this species include channel maintenance works, barriers to migration such as weirs, gross pollution and specific pollutants. There is a potential threat to this habitat associated with alterations in water quality, dredging or other flood alleviation works. |
| | | Twaite Shad | Surface water dependent. Highly sensitive to hydrological change. <i>Not present within, but is downstream of the plan area.</i> | Bad | The main threats to this species include channel maintenance works, barriers to migration such as weirs, gross pollution and specific pollutants. There is a potential threat to this habitat associated with alterations in water quality, in particular if future development is not linked with upgrading of the sewage treatment plant. |
| | | Allis Shad | Surface water dependent. Highly sensitive to hydrological change. <i>Not present within, but is downstream of the plan area</i> | Unknown | The main threats to this species include channel maintenance works, barriers to migration such as weirs, gross pollution and specific pollutants. There is a potential threat to this habitat associated with alterations in water quality, in |

| Natura 2000 Site | Location | Qualifying Interests | Site Sensitivity | Conservation Status ² | Threats |
|------------------|----------|-------------------------|--|----------------------------------|---|
| | | | | | particular if future development is not linked with upgrading of the sewage treatment plant. |
| | | Atlantic Salmon | Surface water dependent. Highly sensitive to hydrological change. <i>Not present within, but is downstream of the plan area</i> | Bad | Numerous threats impact upon this species the most important of which are reduced survival (probably as a result of climate change), poor river water quality (resulting from factors such as inadequate sewage treatment, agricultural enrichment, acidification, erosion and siltation) and over-fishing. |
| | | White-clawed Crayfish | Surface water dependent. Highly sensitive to hydrological change. Sensitive to pollution. <i>Present within, upstream and downstream of the plan area.</i> | Poor | One of the main threats to this species is the introduction of diseases transmitted by introduced American crayfish other threats include eutrophication, channel maintenance, barriers to migration such as weirs, gross pollution and specific pollutants. |
| | | Freshwater Pearl Mussel | Surface water dependent. Highly sensitive to hydrological change. Very highly sensitive to pollution. <i>Not present within the plan area, but is immediately upstream and downstream, however potential FPM habitat is present within the plan area. Area of the plan area is</i> | Bad | The principal threat to this species is poor substrate quality due to increased growth of algal and macrophyte vegetation as a result of severe nutrient enrichment coupled with increased levels of siltation. Secondary threats to freshwater pearl mussels are related to potential impacts to salmonids species due to the links with |

| Natura 2000 Site | Location | Qualifying Interests | Site Sensitivity | Conservation Status ² | Threats |
|------------------|----------|----------------------|---|----------------------------------|---|
| | | | <i>between two populations and therefore it is important to assess water quality threats in the area.</i> | | the lifecycle of the mussel. |
| | | Otter | Surface and marine water dependent. Moderately sensitive to hydrological change. Sensitive to pollution. <i>Present within, upstream and downstream of the plan area.</i> | Poor | A diverse range of threats and impacts currently affect otters in Ireland. Use of pesticides, fertilization, removal of hedges and copses, removal of scrub, felling of native or mixed woodland, professional fishing (including lobster pots and fyke nets), hunting, trapping, poisoning, poaching, sand and gravel extraction, mechanical removal of peat, urbanised areas, human habitation, continuous urbanization, industrial or commercial areas, discharges, disposal of household waste, disposal of industrial waste, disposal of inert materials, other discharges, routes, autoroutes, bridge, viaduct, water pollution, other forms or mixed forms of pollution, infilling of ditches, dykes, ponds, pools, marshes or pits, drainage, management of aquatic and bank vegetation for drainage purposes, removal of sediments, canalization or modifying structures of inland water course. |

Table 3.2 Description of Natura 2000 Site relevant to the Plan Area

4. Brief Description and Background of the Plan

Clonmel Borough Council (CBC) and South Tipperary County Council (STCC) are reviewing the Clonmel and Environs Development Plan (C & EDP) 2008 with the aim of replacing the existing Development Plan in November 2013. The Draft Plan is being prepared under the provisions of the Planning and Development Acts 2000-2013 to develop and improve in a sustainable manner the environmental, social, economic and cultural assets of Clonmel and its environs.

The purpose of the C&EDP is to provide a framework for the development of Clonmel over the six year timeframe of the plan. The Strategic vision and Core strategies of the Plan are contained in Section 2 of the C&EDP document. In summary, the focus of this C&EDP is on the following;

- Ensuring that Clonmel fulfils its role as the County Town and is the primary location within the county for economic and residential growth providing the full range of services and lifestyle benefits.
- The consolidation of Clonmel town centre as the retail centre for the town and its hinterland and the identification of opportunity sites to improve the facilities, amenities and the public realm.
- The identification of opportunities to create an improved amenity provision for residents and visitors alike within the town centre and as part of new development.
- The identification of new opportunities for and the improvement of existing links between the town centre and destinations for employment, education, recreation and residential purposes.
- The provision of sufficient zoned lands to allow for the timely and guided growth of Clonmel and the protection of lands to allow for future growth.
- The clear identification of flood zones and the provision of an improved knowledge of flood risk in Clonmel to ensure that only appropriate development occurs on affected sites.

4.1 Cumulative & In-Combination Effects

For wildlife and ecosystems, it is the cumulative impacts of numerous pressures that determine actual effect on the abundance of species, including, but not limited to, infrastructure development and associated land use, forestry, agricultural practices, nitrogen pollution and climate change.

As per the requirements of the Habitats Directive (Articles 6(3) & (4)), the Screening Assessment has considered in-combination effects with other relevant plans that may influence the Natura 2000 site. The Directive requires the identification of all other elements of other plans/programmes, which have the potential for having significant effects on the Natura 2000 sites either alone or in combination with each other. Table 3.3 outlines other policies, plans and programmes, which are relevant to the C&EDP and assesses the way the objectives outlined within them, impact in isolation or in combination with each other, or with the C&EDP.

The scope has been set at the strategic level for the initial screening and includes local (e.g. county specific plans and programmes), Regional, National, European and International

plans/programmes. In reviewing other plans/programmes, the following *assessment questions* were asked;

- Will these other plans/programmes lead to the probability or the risk of having a significant effect on a designated site?
- Are these other plans/programmes likely to undermine the site's conservation objectives?
- Will these other plans/programmes lead to the probability or the risk of having a significant effect on a designated site either;
 - In combination with other plans/programmes as outlined, or
 - In combination with the C&EDP

Each Plan/programme was first considered in isolation for its possible impacts arising from the implementation of its objectives within, on or in the catchment of a protected site. The second step in the process considered whether the totality of all the plans in question would have an in combination effect with each other on a protected site. Finally, the third step considered whether the in combination effect identified in step 2 would have an additional impact in combination with the C&EDP. The process involved the review and assessment of other policies, plans and programmes which are set out in Table 3.3.

| International | | |
|---|--|--|
| Directive | Purpose | In-combination Effects |
| EU Water Framework Directive (2000/60/EC) | Objectives seek to maintain and enhance the quality of all surface waters in the EU. | No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. |
| EU Freshwater Fish Directive (78/659/EEC) | Objectives seek to protect those fresh water bodies identified by Member States as waters suitable for sustaining fish populations. For those waters it sets physical and chemical water quality objectives for salmonid waters and cyprinid waters. | No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. |
| EU Groundwater Directive (2006/118/EC) | This directive establishes a regime, which sets underground water quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater. | No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. |
| EU Floods Directive (2007/60/EC) | The Floods Directive applies to river basins and coastal areas at risk of flooding. With trends such as climate change and increased domestic and economic development in flood risk zones, | Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure such as flood walls or flood defences. Avoidance on, or near protected areas should be |

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| | this poses a threat of flooding in coastal and river basin areas. | implemented or where this is not possible, favouring infrastructure that carries a lower risk of damage to protected areas should be emphasised in the plan. |
| Nitrates Directive (91/676/EEC) | This Directive has the objective of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further pollution. | No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. |
| The Urban Wastewater Treatment Directive (91/271/EEC) | The primary objective is to protect the environment from the adverse effects of discharges of urban wastewater, by the provision of urban wastewater collecting systems (sewerage) and treatment plants for urban centres. The Directive also provides general rules for the sustainable disposal of sludge arising from wastewater treatment. | No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. |
| Sewage Sludge Directive (86/278/EEC) | Objective is to encourage the appropriate use of sewage sludge in agriculture and to regulate its use in such a way as to prevent harmful effects on soil, vegetation, animals and man. To this end, it prohibits the use of untreated sludge on agricultural land unless it is injected or incorporated into the soil. | No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality. |

| National | | |
|-------------------------------------|--|--|
| Directive | Purpose | In-combination Effects |
| National Development Plan 2007-2013 | Objectives of the NDP are to promote more balanced spatial and economic development. | Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. |
| National Spatial Strategy 2002-2020 | Objectives of the NSS are to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning. | Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. |

| Regional | | |
|---|--|--|
| Directive | Purpose | In-combination Effects |
| South East Regional Planning Guidelines 2010-2022 | The objective of the Regional Planning Guidelines is to provide a long-term strategic planning framework for the development of the South-East Region for this period and to guide and inform the Development Plans and Local Area Plans of the local authorities in the region. | Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. |
| Waterford County Development Plan 2011-2017 | The County Development Plan provides the strategic framework and policy context for guiding development within the administrative area of Waterford County Council. | Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. |

| County | | |
|--|---|--|
| Directive | Purpose | In-combination Effects |
| South Tipperary Development Plan 2009-2015 | The County Development Plan provides the strategic framework and policy context for guiding development within the administrative area of South Tipperary County Council. | Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. |

| Local | | |
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| Directive | Purpose | In-combination Effects |
| Proposed Marfield Local Area Plan 2012 | The aim of the proposed LAP is to establish a blueprint for the planned, coordinated and sustainable development of Marfield to 2018 and beyond. | Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. |

Table 3.3 Assessment of Relevant Other Policies, Plan and Programmes

4.2 Screening Assessment

In general, any development that may result from implementation of the C&EDP, such as construction of housing, roads, wastewater infrastructure etc could lead to a number of impacts depending on where development is sited, the scale of development and types and quantities of emissions. In practice and as outlined in the EU document “*Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*”, and the National guidance document ‘*Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities*’, impacts that could potentially occur through the implementation of the Plan can be categorised under a number of headings;

- Loss/Reduction of habitat area – e.g. as a result of development, transport infrastructure etc
- Disturbance to key species – e.g. as a result of increased public access to protected sites and
- Increased recreational pressure such as development of footpaths and cycleways.
- Habitat or species fragmentation – e.g. through land intensification and urbanisation
- Reduction in species density
- Changes in key indicators of conservation value such as decrease in water quality and quantity – e.g. through inadequate wastewater treatment, runoff of pollutants during construction and operational phases of development.

These headings were assessed to determine the potential for impacts to the Lower River Suir SAC both locally (within the plan area) as well as to possible downstream impacts based on the pressure-impact-receptor conceptual model used in environmental risk assessment. The following screening assessment is carried out in accordance with EU Guidance (EC, 2001) and using the standard screening assessment form provided in Annex 2 of the EU Guidance document. Implicit in the Habitats Directive is the application of the precautionary principle, which is used;

- (i) where there is potential for negative effects, and;
- (ii) where due to inconclusive or insufficient data it is not impossible to determine with sufficient certainty the risk in question (EC, 2000b).

The features of interest and Conservation Objectives of the Natura 2000 site, along with an analysis of the potential effect which the Plan may have on this site are described in Table 3.4. The information requirements and assessment criteria of screening specified in the European guidance on Appropriate Assessment (European Division's Assessment of plans and projects significantly affecting Natura 2000 sites, 2001) have served as the basis for the following screening appraisal.

Screening Matrix- Special Area of Conservation

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| <p>Brief description of the C&EDP</p> | <p>The purpose of the C & EDP is to guide the future growth and sustainable development of Clonmel and its environs during the lifetime of the Plan and beyond. The Plan is the main public statement of planning policies for the local community. It is the blueprint for the planning and development of the area for the next six years. The Plan sets out the land use, amenity and development objectives and policies of the planning authority for the lifetime of the Plan.</p> <p>The Plan identifies lands for town centre, residential, amenity, commercial and industrial land uses and set out a framework for the sustainable development of the town ensuring that the appropriate infrastructure required to facilitate development is provided in tandem with any new development. The Plan will identify appropriate land uses for lands adjacent to the Lower River Suir SAC however the Plan will also require that any new development permitted on the basis of the Plan will not have detrimental effects on the Lower River Suir SAC.</p> <p>Having regard to the location of the Nire Valley Woodlands SAC and the Comeragh Mountains SAC relative to the Plan area, the qualifying interests of the SAC's which do not include Freshwater Habitats and the lack of hydrological connections (upstream from plan area to the Natura 2000 sites) between the Development Plan area and these Natura 2000 sites it is unlikely that the Development Plan will give rise to any impacts on these sites.</p> |
| <p>Brief description of the Natura 2000 site</p> | <p>Lower River Suir SAC (Site Code 2137)</p> <p>A detailed description of the Lower River Suir SAC is outlined in section 3.2.1, and a summary description outlined here. The section of the designated Natura 2000 site, The Lower River Suir SAC, within the C&EDP area consists of an approximately 10km stretch of the River Suir flowing west to east along the Plan area and the approximately 5km of the Anner River flowing North to South through the Plan area as a tributary to the River Suir. Within the Plan area the Anner River flows exclusively within the environs of Clonmel and consequently the river corridor is within a rural setting with mainly agricultural pressures. There is an extensive flood area associated with the Anner River, in particular in the northern extreme of the Plan area and this greatly affects the biodiversity, species richness and diversity as well as riparian vegetation along the river corridor.</p> <p>The River Suir water body flows across the C&EDP boundary in a west to east direction and is coincident with a lot of the boundary to the southern extent of the Plan area, with the exception of the area within the Borough Council, where it is very close to the Plan boundary. The river corridor of the River Suir is influenced by land use, the environs of the river is more open to flow within the topography of the natural environment, whereas with the Borough Council area of Clonmel town, the river is confined by urban pressures with much more confinement and encroachment along the left bank. Then River Suir at this point in the river</p> |

Screening Matrix- Special Area of Conservation

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| | <p>corridor is liable to flooding during extreme flood events and many areas in the centre of Clonmel town adjacent to the river are within Flood Zone A or B. For this reason there are man-made flood alleviation barriers along the edge of the river corridor and this adds to the confinements of the natural extent of the aquatic habitat, in addition to the habitat encroachment and riparian fragmentation associated with urban development along the river banks.</p> |
| <p>Describe the individual elements of the C&EDP (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 Site.</p> | <p>The Plan when adopted will set the framework for the assessment of proposals for development within the Plan boundary for the effective period. The framework, policies and objectives of the Plan will encourage sustainable and desirable development. Planning applications for new development will be required to undertake an Environmental Impact Assessment/AA where appropriate.</p> <p>The C&EDP identifies specific policies and objectives applicable to Clonmel town and its environs in order to facilitate land use in a manner that will promote proper planning and sustainable development. Key issues comprise housing provision, economic development, retail and tourism development, urban design and town centre development, movement and transport, water, drainage and environmental services, community, education and cultural issues, built and natural heritage and biodiversity and recreation, amenity and open space. Key elements of the C & EDP that may result in impacts on the Lower River Suir are outlined below.</p> <ul style="list-style-type: none"> - Clonmel to maintain the role of County Town with an estimated population increase of 4,500 persons during the Plan period - 125 ha of land to be zoned for new residential use. - Development of opportunity sites close to or adjacent to River Suir such as Suir Island, Clonmel Arms, Davis Road and Fair Oaks Food. - Provision of improved car parking facilities adjacent River Suir e.g. at Suir Island - Industrially zoned and growth areas close to River Suir and its tributaries. - Increased tourism and related increase in recreational demand and facilities associated with the increased use in and around the River Suir. In particular improvement of riverside walk along the River Suir tow path. - New pedestrian bridge over the River Suir on to connect the town centre with Suir Island and Denis Bourke Park. - Vehicular river crossing (over River Suir) to connect the Coleville Road area with the Moangarriff Roundabout. - Policy of Plan to actively encourage proposals that seek to bring the river back into the town e.g. by using boardwalks, plazas etc along the river side. - Proposed future abstraction of water from River Suir to augment public water supplies. - One-off housing development in environs and related wastewater discharges to groundwater |

Screening Matrix- Special Area of Conservation

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| | <ul style="list-style-type: none"> - Increased development (residential and industrial) will increase loading to the municipal wastewater treatment plant which discharges to the River Suir at Annerville. - Promotion of alternative energy and other sustainable energy development proposals and energy efficient technologies - Construction of town by-pass (provided for under N24 Re-Alignment) and construction of interconnector routes and junction improvements in the Plan area. - Promotion of Industrial development on lands to the east of the town at Annerville. - Flood Risk and Management Strategy <p>□ In order to identify the potential for cumulative impacts on the River Suir SAC other key plans and projects have been considered:</p> <ul style="list-style-type: none"> ✓ South Tipperary County Development Plan 2009-2015. ✓ Waterford County Development Plan ✓ Cashel Town and Environs Development Plan 2015 ✓ South Eastern River Basin Management Plan 2010 ✓ Proposed Marfield Local Area Plan 2012 ✓ Cahir and Fethard Local Area Plans 2011 |
| <p>Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura site by virtue of:</p> <ul style="list-style-type: none"> ▪ Size and scale ▪ Land-take ▪ Distance from the Natura 2000 site or key features of the site ▪ Resource | <p>There is potential for a direct loss, deterioration or fragmentation of habitats arising from development requirements. Impacts arise directly through inappropriate siting of development within a Natura 2000 site or immediately adjacent to its boundary, which cause deterioration in the factors that support the favourable conditions of the site.</p> <p>Consequently, there is potential for a significant adverse effect on the integrity of the Lower River Suir Natura 2000 Site and the sites conservation objectives both within the Plan area and downstream of the Plan area</p> <p>Indirect impacts on the Natura 2000 sites are possible where there are hydrological connections between the Natura 2000 sites and the Plan area. The Plan may result in alterations to the hydrological regime or physical environment of sites from abstraction, drainage, and discharges to watercourses or groundwater resources.</p> <p>There is potential for contamination of surface water in the Lower River Suir SAC through diffuse and point source runoff from development during the construction or operational phases of developments located adjacent or close to the site. Source of contamination from residential, commercial and infrastructural developments, and through agricultural runoff and other diffuse sources within the wider catchment. Contamination may arise from in all waters through poor working practices, leakages or</p> |

Screening Matrix- Special Area of Conservation

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| <p>requirements (water abstraction etc)</p> <ul style="list-style-type: none"> ▪ Emissions (disposal to land, water or air) ▪ Excavation requirements ▪ Transport requirements ▪ Duration of construction, operation etc | <p>accidental spillage of materials if efficient pollution control measures are not fully implemented and maintained. Drainage works and flood relief schemes also have potential to alter the physical environment and hydrological regime on which the sites integrity depends. Consequently, there is potential for a significant adverse effect on the integrity of this Natura 2000 site and its conservation objectives Other indirect impacts may arise from disturbance where there are qualifying interests that may be vulnerable to noise, recreational or other activity due to disturbance through inappropriate development. Sources of disturbance include noise, vibration, light, construction and operation activities or other sources of disturbance arising from recreation and amenity or from the inappropriate timing of works. Recreation and tourism facilities along the River Suir also have the potential to cause disturbance with sensitive habitats or species occur. Consequently, there is potential for a significant adverse effect on the integrity of the River Suir SAC and its conservation objectives.</p> <p>Other indirect impacts may arise where there are qualifying interests that may be vulnerable to disturbance through inappropriate development that results in noise or disturbance. Sources of disturbance include noise, vibration, light, construction and operation activities or other sources of disturbance arising from recreation and amenity or from the inappropriate timing of works. Recreation and tourism facilities along the River Suir also have the potential to cause disturbance with sensitive habitats or species occur. Consequently, there is potential for a significant adverse effect on the integrity of the site and its conservation objectives.</p> |
| <p>Describe any likely changes to the site arising as a result of:</p> <ul style="list-style-type: none"> ▪ Reduction of habitat area ▪ Disturbance to key species ▪ Reduction in species density ▪ Changes in key indicators of conservation value (water quality etc) ▪ Climate change | <p>Direct habitat loss or deterioration in habitat quality would reduce the extent of habitat available for species. This would decrease the viability of existing habitats and increase the pressure on existing habitat and may result in further deterioration.</p> <p>Direct loss of habitat resulting from bank side vegetation removal or drainage works along rivers such as the River Suir SAC and its main tributaries affects the overall riparian habitat and in stream habitat on which qualifying features and the biodiversity of the Natura 2000 site depends.</p> <p>An alteration to the hydrological regime of a Natura 2000 site could cause deterioration in the extent and quality of associated habitats, rivers, water quality which would in turn reduce the extent of habitat available to dependant wetland and aquatic species.</p> <p>A reduction in water quality through sedimentation or contamination by pollutants would directly affect all aquatic plant and animals. This would have knock-on effects throughout the food chain on invertebrates, birds, fish and mammals. Many of the associated habitats and species are dependent on high water quality. Runoff and contamination events would have negative consequences for qualifying interests and the conservation objectives of the sites.</p> |

Screening Matrix- Special Area of Conservation

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| | <p>An alteration to the water chemistry of sites could affect the key habitats such as floating river vegetation, as well as key species such as salmonids, crayfish and otter.</p> <p>It is estimated that climate change will result in more extended but less frequent wet and dry periods and warmer water temperatures, as rainfall patterns in Ireland are changing. This could result in precipitation increases of over 10% in the winter months, and decreases of approximately 25% in the summer, and annual temperature increases. However, there is insufficient information to predict the effects on the site as these will be more closely related to localised rainfall events.</p> |
| <p>Describe any likely impacts on the Natura 2000 site as a whole in terms of:</p> <ul style="list-style-type: none"> ▪ Interference with the key relationships that define the structure of the site ▪ Interference with the key relationships that define the function of the site | <p>The Lower River Suir SAC traverses the Plan area. In Natura 2000 sites, such as the Lower River Suir SAC, that are hydrologically dependant, the hydrological regime, the physical habitat and water quality and quantity are the key environmental conditions that support the Natura 2000 sites integrity and maintain the extent and quality of habitats and their associated species. The implementation fo the C & EDP could result in an alteration or deterioration of any of these factors. This could alter the structure and function of the sites and could negatively impact on the habitats and species for which the sites are designated. Therefore, it is important to ensure that the hydrology of the river is unaffected and ensure that the site is not subject to significant disturbance.</p> <p>Interference with the key relationships that define the structure of the site;</p> <p>The implementation of the C & EDP will not interfere with the key relationships that define the structure of any Natura 2000 site.</p> <p>Interference with key relationships that define the function of the site;</p> <p>Any development proposals which could give rise to increased nutrient levels, in particular phosphates, siltation risk, increased flow rates or reduction in water levels could give rise to impacts on the Fresh Water Pearl Mussel. As this species is dependent on the co-occurrence of Salmon or Trout species during its life cycle, it is necessary to maintain the free passage of fish within the Lower River Suir.</p> |
| <p>Provide indicators of significance as a result of the identification of effects set out above in terms of:</p> | <p>Reduction of habitat area:</p> <p>The implementation of the C & EDP will not result in any reduction in riverine habitat area, however, there may be land required for development and subsequent terrestrial loss.</p> |

Screening Matrix- Special Area of Conservation

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| <ul style="list-style-type: none"> ▪ Loss ▪ Fragmentation ▪ Disruption ▪ Disturbance ▪ Change in key elements of the site (e.g. water quality etc) | <p>Habitat or species fragmentation;</p> <p>It is unlikely that the implementation of the C & EDP will result in any Riverine Habitat or species fragmentation.</p> <p>Disturbance to key species;</p> <p>Any development proposals which could give rise to increased nutrient levels causing algal growth could affect spawning grounds for salmon, sea lamprey, brook lamprey and river lamprey.</p> <p>Inappropriate development has the potential for impact of any proposed development which might alter flow rates or water levels, or which would alter river or stream channels or impede the free passage of fish. Otter have been recorded throughout Lower River Suir SAC and any activity that might interfere with river banks including the clearance of vegetation and any activity which might cause disturbance along the riverbanks especially the development of walks or cycleways. Such developments would increase human access to the site and may have an impact on the riverbank habitat.</p> <p>Surface water or other discharges to rivers, streams or drains directly connected to the SAC could give rise to increased eutrophication or other pollution risk within the SAC increased surface water discharge could give rise to increased risk of downstream storm water surges.</p> <p>Reduction in species density;</p> <p>It is unlikely that the review of the C & EDP will result in any reduction in species density.</p> <p>Changes in key indicators of conservation value (water quality etc.);</p> <p>The environmental quality standards applicable to the River Suir in the Clonmel Area are set out in the European Communities Environmental Objectives (Surface Waters) Regulations 2009. The principal 'waterbody' of relevance to Clonmel and its environs is the Lower River Suir Water Body Code 16 4135. The current water quality status of this waterbody is 'Moderate' with the water quality objective set in South East River Basin Management Plan to Restore to Good Status by 2021. Water quality status for all water bodies is monitored by the Environmental Protection Agency.</p> |
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Screening Matrix- Special Area of Conservation

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| | <p>Climate change;</p> <p>It is unlikely that the implementation of the C & EDP will negatively influence the parameters of Climate Change.</p> |
| <p>Describe from the above those elements of the project or plan, or combination of elements, where the impacts are likely to be significant or where the scale or magnitude of impacts is not known.</p> | <p>After a review of the individual elements of the C & EDP and other plans and projects it is considered that there is potential for significant adverse effects on individual Natura 2000 sites as set out in this Screening matrix for the following reasons:</p> <ul style="list-style-type: none"> - There is potential for the loss of habitat arising from land take requirements associated with the individual elements of the Plan and the cumulative impacts of other plans and projects. - There is potential for significant impact to water quality arising from the individual elements of the Plan and the cumulative impacts of other plans and projects as they relate to the tributaries of the River Suir, i.e. the Fethard Town Local Area Plan has a direct influence on the River Anner. This includes freshwater and groundwater quality in the Plan area and downstream fo the Plan area through contamination with sediments, hydrocarbons, faecal coliforms and other contaminants, alteration in the physical environment and to the hydrological regime. - There is potential for disturbance of species in Natura 2000 sites arising from the individual elements of the C&EDP and the cumulative impacts of other plans and projects. |

Table 3.4 Screening Matrix- Special Areas of Conservation (SAC)

4.3 Screening Conclusion

The effects of the implementation of the C & EDP have been considered, and as a result of this process it was recommended that there is potential for significant effects on the Lower River Suir SAC for the following reasons:

- (a) It is the vision for Clonmel to grow and develop as the County town for Tipperary, in order to facilitate this there will be growth and land take of a significant scale in the Plan area.
- (b) The location of Clonmel Town on the banks of the Lower River Suir SAC and the history of flood risk in the area.
- (c) The development of Clonmel will increase the loading on the municipal wastewater treatment plant which discharges into the River Suir.
- (d) The focus in the C & EDP on the River Suir as an amenity for the town and especially for the town centre, and the proposals for an improved public footpath along the towpath, a new pedestrian bridge over the Suir in the town centre and the development of Suir Island and Denis Bourke Park as key amenity areas.
- (e) The potential for cumulative impacts on water quality in the Plan area and downstream as a result of the impact of Clonmel Town and the towns on the higher stretches of the Suir and its tributaries including Cashel, Cahir, Ardfinnan, Golden, Tipperary Town and Fethard.
- (f) Having regard to the fact that the Development Plan will set the framework and parameters for the assessment of proposals for new development and for the setting out of plans and strategies in the area.

5. Stage II – Appropriate Assessment

The AA process considers the impacts (whether they are direct, indirect, short term, long term, constructional, operational or cumulative in conjunction with other plans or projects) that the implementation of the C&EDP will have on the integrity of the Natura 2000 Site with respect to the conservation objectives of the site and to its structure and function. EC guidance (Managing Natura 2000 Sites) states that the integrity of a site involves its ecological functions and the decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives (EC 2000).

This stage of the Appropriate Assessment consists of three main steps, namely;

- **Step One – Impact Prediction**, where the likely impacts of a project or plan are examined. These include direct/indirect, short/long term, construction/operational/decommissioning, isolated, interactive and cumulative effects.
- **Step Two – Assessment of Effects**. This is where the effects of a project or plan are assessed as to whether they have any adverse effects on the integrity of Natura 2000 sites as defined by conservation objectives.
- **Step Three – Mitigation Measures**. This is where mitigation measures are identified against the adverse effects that the project or plan is likely to cause.

5.1 Step One – Impact Prediction

The following elements of the C & EDP are likely to give rise to significant effects to the integrity of the Lower River Suir Natura 2000 Site:

- Clonmel to maintain the role of County Town with an estimated population increase of 4500 persons during the Plan period
- 125 ha of land to be zoned for new residential use.
- Development of opportunity sites close to or adjacent to River Suir such as Suir Island, Clonmel Arms, Davis Road and Fair Oaks Food.
- Provision of improved car parking facilities adjacent River Suir e.g. at Suir Island
- Industrially zoned and growth areas close to River Suir and its tributaries.
- Increased tourism and related increase in recreational demand and facilities associated with the increased use in and around the River Suir. In particular improvement of riverside walk along the River Suir tow path.
- New pedestrian bridge over the River Suir on to connect the town centre with Suir Island and Denis Bourke Park.
- Vehicular river crossing (over River Suir) to connect the Coleville Road area with the Moangarriff Roundabout.
- Policy of Plan to actively encourage proposals that seek to bring the river back into the town e.g. by using boardwalks, plazas etc along the river side.
- Proposed future abstraction of water from River Suir to augment public water supplies.
- One-off housing development in environs and related wastewater discharges to groundwater
- Increased development (residential and industrial) will increase loading to the municipal wastewater treatment plant which discharges to the River Suir at Annerville.
- Promotion of alternative energy and other sustainable energy development proposals and energy efficient technologies

-
- Construction of town by-pass (provided for under N24 Re-Alignment) and construction of interconnector routes and junction improvements in the Plan area.
 - Promotion of Industrial development on lands to the east of the town at Annerville.
 - Flood Risk and Management Strategy

There is potential for significant adverse effects on the River Suir SEA both within the Plan area and outside/ downstream of the Plan area:

- *Direct habitat loss, fragmentation degradation:* Direct habitat loss is caused where there is complete removal of a habitat type or fragmentation resulting in the incremental loss of small patches of habitat from within a larger site. Fragmentation can also result from impediments to the natural movements of species. This is relevant where important corridors for movement or migration are likely to be disrupted such as along river corridors. Habitat degradation results in the diminishment of habitat quality and a loss of important habitat functions. It can arise from the introduction of invasive species, toxic contamination or physical alteration.
- *Alteration to water quality or quantity:* This can cause contamination to surface water or groundwater resources or result in an alteration to the supply or chemical composition of water of the Lower River Suir SAC. This is relevant where the plan could impact on: the hydrological connection to a Natura 2000 site; on water quality via point source or diffuse pollution; or on sub-surface pathways that are not clearly understood. This should be considered on a case-by-case basis for each development and will require site-specific hydrological information. In terms of potential to alteration in water quality, the impact may be in-situ i.e. within the C&EDP area but it may also be ex-situ i.e. downstream and outside the C&EDP area. This is particularly important to water dependant qualifying features within (in-situ) and outside (ex-situ) the plan area.
- *Disturbance:* Disturbance to the species supported within the Natura 2000 site is likely to increase where there is an increase in activity levels from recreation and amenity or from developments within or adjacent to designated areas. It is particularly important that known sensitive areas, such as lamprey, otter, salmonids and otter feeding grounds
- *Cumulative Impacts:* A series of individually modest impacts may in combination produce a significant impact. The underlying intention of this combination provision is to take account of cumulative impacts, and these will often only occur over time. In that context, one can consider plans or projects, which are completed; approved but uncompleted; or not yet proposed. Where there is a series of small, but potentially adverse impacts occurring within or adjacent to a Natura 2000 site, consideration of their cumulative impacts should be considered.

5.2 Step Two – Assessment of Effects

Predicting the likely impacts of a plan or project on a Natura 2000 site can be difficult, as the elements that make up the ecological structure and function of a site are dynamic and not easily measured. The effects of the Plan are assessed to determine if they might adversely affect the integrity of the Natura 2000 site, as defined by the conservation objectives.

Site-specific conservation objectives for the Lower River Suir SAC (site code 002137) are available from the NPWS and the objectives aim to define favourable conservation condition for particular habitats or species at the site. For the Lower River Suir SAC, favourable conservation status of a habitat is achieved when:

- *its natural range, and area it covers within that range, are stable or increasing, and*
- *the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and*
- *the conservation status of its typical species is favourable.*

The favourable conservation status of a species is achieved when:

- *population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and*
- *the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and*• *there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.*

The C&EDP sets out development objectives, policies and zoning policy for the six year period from 2013 which affects all areas of policy including settlement strategy, infrastructure and environmental management. The Plan area is centered on Clonmel, located on a Natura 2000 site and the implementation of the Plan has the potential to directly or indirectly impact on the conservation objectives of the SAC. The following is a description of the elements of the Plan that are likely to give rise to significant effects, focusing on how its implementation can impact on the conservation status of the Lower River Suir Natura 2000 Site.

5.2.1 Hydrological Effects

Significant increases in surface water abstraction from the River Suir and its tributaries over time, for water supply may lead to impacts on ecological minimal flow requirements, particularly during periods of low flow or drought conditions. Clonmel currently receives its water supply from sources at Poulavanogue, Glenary, Caherclough North and Monroe. The Poulavanogue and Glenary supplies are from mountain streams outside the Plan area. The Caherclough North and Monroe supplies are from a ground water source that were installed and commissioned as advance works under the *Clonmel Town & Rural Water Supply Scheme*. A third borehole will be commissioned in late 2012.

The primary objective of the *Clonmel Town & Rural Water Supply Scheme* is to achieve a sustainable improvement in the Clonmel Borough WSS, Clonmel Regional WSS and the Ardfinnan WSS in terms of quality, quantity and reliability. The *Clonmel Town & Rural Water Supply Scheme* is included in the current WSIP 2010-2012 as a *Scheme at Planning*. It is anticipated that the Water Abstraction process, the Planning process and land acquisition of the sites for infrastructure will be completed by 2013 and thereafter will be progressed to

construction, subject to Departmental approval and funding. The scheme aims to reduce reliance on Poulavanogue as a source of raw water, retain the existing Glenary source and to develop the River Suir as a new raw water source. The scheme also allows for the provision of increased storage as well as providing improved water treatment and an improved distribution network. Direct abstraction from the River Suir will provide security of supply and is designed to allow for disruptions in supply from other sources.

There are over 22 fish species in the freshwater part of the River Suir. Native species include Atlantic Salmon, Brown Trout, Sea Lamprey, River Lamprey, Brook Lamprey, Twaité Shad, some of which are of international importance. The main river channel and the larger tributaries such as the River Anner supply the main feeding habitat for adult Brown Trout, where they feed and take shelter. Flow requirements for these species need to be maintained at all times. Atlantic salmon and Brown trout both spawn in fast running water where there is plenty of clean loose gravel. In addition, they feed on small aquatic animals such as insects that themselves have ecological flow requirements in terms of water flow in the river.

The new OPW flood defenses in the Plan area may also contribute to potential threats to the Lower River Suir site. Engineered solutions to flooding problems may result in a loss of flood plain, alteration to the hydrological regime, or the habitat of protected species. Maintenance works such as dredging can remove valuable habitat for species such as lamprey, as their young live in sediment along the river's edge. Damage to spawning areas through dredging and maintenance will also affect the integrity of the site by reducing potential for spawning in Atlantic salmon and lamprey.

5.2.2 Water Quality Effects

Many of the qualifying interest features listed for the Lower River Suir SAC are either water dependant habitats or species³. Some of these water dependent species have very high water quality requirements, such as salmonids and freshwater pearl mussel. The water quality requirement for these features have strict protection under National and International legislation such the Water Framework Directive (WFD).

Within the Plan area there are two water bodies that the EPA monitors as part of the National River Macro invertebrate Monitoring network: River Suir and Anner River. The monitoring data indicates that there is good ecological water quality within the River Suir before it enters Clonmel town and the Plan area as indicated with a Q4 results at the site *u/s of Marlfield*. Subsequent sites just downstream the town (*Sir Thomas Br*) and downstream of the Plan area (*Kilsheelan Br*) show a decrease in water quality (change from Q4 to Q3-4) in the River Suir compared with the upstream site. These results indicate impacts associated with urban pressures from Clonmel town. The monitoring data for the Anner River also range from Q3 to Q4 (2011). Any further development as part of the C&EDP within the urban area is likely to created further pressure on water quality of the River Suir and thus impact on the qualifying features.

There is only one EPA monitoring site on the Anner River within the C&EDP area, at *Anner Br*, just upstream from its confluence with the River Suir and the latest EPA monitoring data (2011) indicated no change to the good water quality with Q4 rating being determined by the EPA.

³ <http://www.ria.ie/RIA/files/ab/abe05d1e-1595-42df-85ca-5dc1de910e58.pdf>

However, further upstream and outside of the Plan area, the main Anner River has two branches – the first or western branch (Drangan), has poor quality where BOD, o-phosphate, nitrite and ammonia are high – this branch can also suffer from very low flows. The second branch (Mullinahone stream) is also of poor quality – BOD, o-phosphate, ammonia and nitrite are all high. Inadequate sewage treatment at Mullinahone and Drangan may be responsible. Therefore, as the River Anner flows in to the Plan area, there is limited assimilative capacity for any further discharges of point or diffuse sources of pollution. This will impact on reducing the suitable habitat available for fish species such as brown trout and salmon with knock on effects for the Natura 2000 system in terms of fish stock availability – be it as a food source for otters or as a key part of the life cycle of the freshwater pearl mussel within the Lower River Suir SAC.

As a consequence of the impacts to the ecology of the River Suir, as measures using macro invertebrate populations, the water quality status of the River Suir downstream of Clonmel is currently classified “moderate”. The objective of the Water Framework Directive is to ensure that all water bodies achieve “good” status, and as this section of the River Suir is less than good status, improvements are necessary. The River Basin Management Plans set out the measures being implemented to achieve the improvements to water quality. These include measures to control diffuse pollution such as implementation of the Water Services Act in relation to septic tanks, Nitrates Regulations, and control of forestry activities and control of urban pressures, point source pollutants by reviewing IPPC licences, water pollution licences etc.

The expansion or increase of infrastructural requirements for the town poses a threat to the River Suir SAC, largely through potential future exceedence in wastewater treatment capacity and an associated reduction in water quality. Upgrades to the wastewater treatment plant will be critical to maintaining water quality standards and preventing contamination events. The potential for deterioration in water quality is compounded as there are cumulative impacts on the site from a number of sources, including agricultural run-off, forestry, and sedimentation from peatland areas and from other sources from outside the plan area. The main channel supports lamprey species, Atlantic salmon and crayfish that are negatively impacted by a reduction in water quality and/or increased sedimentation. The channel downstream is particularly sensitive due to the presence of Freshwater pearl mussel.

Outside the areas of concentrated development in Clonmel town, development is unlikely to have direct impacts as the town is located away from the sites. However, there is potential for indirect impacts on the Lower River Suir SAC as a result of discharges to the Suir or one of its tributaries.

It is a policy of Clonmel Borough Council and South Tipperary County Council to ensure that the EU Water Framework Directive is implemented. Further, it is a policy of the Council to ensure that the specific relevant objectives and measures for individual water bodies set out in the South Eastern River Basin Management Plan and associated Programme of Measures are implemented. Such policies and measures would ensure that the developments within the C&EDP will not impact on the Lower River Suir SAC.

5.2.3 Specific Ecological Impacts

The Freshwater Pearl Mussel has been shown to use native brown trout and Atlantic salmon as hosts. The relationship of pearl mussels and salmon is symbiotic. The fish provides the

essential step in the mussels' life cycle, and mussels improve water quality by filtering water. Threats to the Freshwater Pearl Mussel include:

- Poor water quality, including nutrient enrichment and higher levels of suspended solids, which mainly affects the survival of any juvenile mussels in the gravels (as well as the emergence rates of host fish)
- Habitat removal and alteration through development, drainage schemes, flow regulation and fisheries management
- Poor land management in the catchment (e.g. overgrazing leading to sedimentation from soil erosion)
- A decline in populations of host fish
- Any land based activities resulting in pressures on any of these elements will impact on the survival of the freshwater pearl mussel within the Lower River Suir SAC.

5.2.4 Physical Disturbance

The provision of riverside walkways adjacent to the River Suir in Clonmel has potential to negatively impact on the Natura 2000 site where users will be directed along potentially sensitive areas e.g. walkways along river banks that are used by otters. Surrounding areas of the River Suir in the centre of Clonmel are to be largely zoned as Open space/ Amenity. Ecologically sensitive areas are those that include habitats and species that are vulnerable to degradation or disturbance as a result of increased use. These areas are determined following site-specific surveys for specific plans or projects. Management practices carried out have the potential to impact on sites through potential loss of bankside vegetation, maintenance work within the aquatic environment or through diffuse run-off of fertilisers from amenity grasslands.

5.2.5 Cumulative Impacts

For wildlife and ecosystems, it is the cumulative impacts of numerous pressures that determine actual effects on the abundance of species, including, but not limited to, infrastructure development and associated land uses, agricultural practices, nutrient pollution and climate change. The expansion or increase of infrastructural requirements for the Key Service Town of Clonmel poses a threat to the Lower River Suir, largely through potential exceedence in wastewater treatment capacity and an associated reduction in water quality. The potential for deterioration in water quality is compounded as there are cumulative impacts on the site from a number of sources, including agricultural run-off, forestry, and sedimentation from development both within and outside the Plan area.

This AA has noted that there was an increase in the number of one-off houses permitted in the environs of Clonmel over the last census period, and such development has associated septic tanks and individual wastewater treatment systems discharging to groundwater. Ground water in the Plan area is particularly vulnerable due to its karstic nature and is an aquifer of regional importance. There is potential for cumulative impacts resulting from a number of relatively minor developments over time, due to impacts on groundwater resources and related surface water sources associated with groundwater contribution to stream flow. Abstraction needs will also require assessment in terms of the potential cumulative abstraction from the aquifer.

There is also potential for increased recreational and amenity use of the SAC from encouraging use of the tow path and from increases in the population density. This is likely to contribute to cumulative impact on site arising from increased recreational and amenity use within the Plan area.

5.3 Step Three – Mitigation Measures

The Habitats Directive promotes a hierarchy of avoidance/protection, mitigation and compensatory measures. The following steps are to be adopted in the development of all individual plans and projects where there is potential for impacts on a Natura 2000 site and a written statement will be submitted to the competent authority in accordance with National guidance.

This procedure will apply to all areas of policy and development management including housing strategy, transport, environment and infrastructure, recreation and amenity. Where it cannot be clearly demonstrated that a development, or a group of developments, will not result in an adverse effect on a Natura 2000 site or where there is scientific doubt in relation to a potential impact, the precautionary principal must be applied and mitigation is through avoidance. The precautionary principal is applied:

- (i) where there is potential for negative effects and
- (ii) where due to inconclusive or insufficient data it is not impossible to determine with sufficient certainty the risk in question.

5.3.1 Mitigation Measures Proposed

For the purposes of this report the term “mitigation measures” are considered to be “those measures which aim to minimise, or even cancel, the negative impacts on a site that are likely to arise as a result of the implementation of a plan or project. These measures are an integral part of the specifications of a plan or project”. (Guidance document on Article 6(4) of the Habitats Directive 92/43/EEC, January 2007).

Initial reviews of the policies and objectives included in the working draft of the C&EDP indicated that there was a risk of adverse effects on the integrity of the Lower River Suir SAC unless appropriate mitigation was undertaken. Mitigation measures in the form of specific objectives and policies designed to protect the environment were provided to the C&EDP drafting team to ensure compliance with the Habitats Directive Article 6 requirements by integrating measures for the protection of Natura 2000 sites into all policy areas covered by the Plan.

Following review of the working draft of the C&EDP as part of the AA, policies where any physical development, such as housing, commercial development, roads, service infrastructure or any other form of development, that have the potential to significantly impact on a Natura 2000 site, required mitigation as proposed:

- The Plan identifies a number of individual plans and projects (river crossing, industrial and housing development, etc.) for development during the lifetime of the Plan. The Plan should emphasise that these are dependent upon clear demonstration that there will be no impacts on the integrity of a Natura 2000 site in accordance with Article 6 of

the Habitats Directive. In addition, any review or amendment of the C&EDP and proposed projects being prepared by the local authority for the Plan area should be subject to AA screening to ensure compliance with Article 6 of the Habitats Directive.

- The Plan identifies a number of specific transport objectives, such as the N24 improvements or construction of outer relief road, which may require Appropriate Assessment. This should be carried out at the earliest stages in development, beginning at the route selection stage and also at subsequent stages of development to determine if significant adverse impacts are likely. Assessments will become more detailed and specific at each level of the assessment as details of the location, extent, construction and operational impacts of the project emerge.
- Where the construction or extension of a water supply schemes has potential to impact on a Natura 2000 site it will require Appropriate Assessment, using hydrogeological data, to clearly demonstrate that there will be no adverse impact on the groundwater supply or other aspects of the Natura 2000 sites.
- Ensure that the WWTP is maintained and upgraded as required to meet the requirements of the population and that all works associated with the facility are assessed according to Article 6 of the Habitats Directive and ensure that adequate and appropriate waste water treatment infrastructure is in place prior to further development in the Plan area.
- Where one-off housing is sought in unserviced areas in the environs, it should be ensured that groundwater quality is maintained through appropriate implementation of the EPA Guidelines for new wastewater treatment systems for single houses 2009.
- Individual one-off housing in the vicinity of the River Suir and its tributaries will need to be determined on the basis of the suitability of these lands for unsewered dwelling units; the need to prevent excessive proliferation of unsewered dwelling units; the design, capacity of wastewater treatment systems and the maintenance of such individual wastewater treatment systems. This is to ensure that adequate individual wastewater treatment systems are used which have sufficient capacity, safety mechanisms and maintenance to ensure the protection of local groundwater resources.

It is recommended that a buffer zone be established around existing vegetated riparian areas of the Lower River Suir SAC within the Plan area in order to protect the factors on which the site depends. Buffer zones are used to protect the hydrological and ecological environment of the site and should be established with reference to hydrological data for the site and in consultation with the National Parks and Wildlife Service. In the absence of these data, a minimum buffer zone of 30m is recommended or as determined following consultation with the Inland Fisheries Institute. Development proposal beyond this area with potential to negatively impact on the site will be required to clearly demonstrate that there will be no significant adverse impact on the integrity of the site.

- Facilities such as new river side walkways will require AA at the Plan and project stages in order to proceed. The inclusion of these objectives in the C&EDP should carry the caveat that the facility can only be provided where a positive assessment is received. Although recreational activities such as walking and cycling could exert

pressure on the Natura 2000 site, access to and use of these protected areas can enhance users “appreciation” of these sites and underline the economic value of maintaining the conservation status of the site within the locality.

- The C&EDP has identified a requirement for three additional river crossings (two pedestrian and one vehicular) and these may result in direct, indirect and secondary impacts on the Lower River Suir SAC will therefore should require AA at the plan and project stages in order to proceed.
- Ensure no encroachment on the Natura 2000 site.
- The proposed buffer zone along the River in areas of existing vegetation should be retained to mitigate against pollution risks and maintain riparian habitats.
- Protect and maintain migration routes for protected species e.g. salmon and lamprey species.
- Ensure that defence works and engineered responses to Flood Risk Assessment and the SERBD CFRAMS undergo Appropriate Assessment in accordance with Article 6 of the Habitats Directive.
- Ensure that any development that has the potential to impact on the Natura 2000 site is subject to Appropriate Assessment in accordance with Article 6 of the Habitats Directive.

6. Appropriate Assessment Conclusion

6.1 Integration of Appropriate Assessment and the Plan

AA of the C & EDP has been incorporated into the Plan making process and has informed the Plan at all stages with changes being made as necessary to minimise potential for impact on the Lower River Suir SAC. Initial reviews of the policies and objectives included in the C&EDP indicated that there was a risk of adverse effects on the integrity of The Lower River Suir SAC unless appropriate mitigation was undertaken. Mitigation measures in the form of specific objectives and policies designed to protect the environment have been provided to ensure compliance with the Habitats Directive Article 6 requirements by integrating measures for the protection of Natura 2000 sites into all policy areas covered by the Plan. Mitigating policies clearly indicate that where any physical development, such as housing, commercial development, roads, service infrastructure or any other form of development, has the potential to significantly impact on a Natura 2000 site, it will be subject to an individual HDA process, as defined by Article 6(3) and (4) of the Habitats Directive. In particular the Plan includes the following policies:

- Policy AH5: Lower River Suir SAC: It is the policy of the Council to maintain the habitats and species within the Lower River Suir SAC site at favourable conservation status.
- Policy INF8 Wastewater: It is the policy of the Council to facilitate the provision, upgrading and maintenance of adequate and appropriate Waste Water Service Network in Clonmel to service new development and in assessing planning applications will require;
 - (a) Proposed developments to comply with the detailed requirements of the Council including the River Basin Management Plan and the protection of the Lower River Suir cSAC and water status.
 - (b) Proposed developments to connect to the public sewer where available.
- Section 7.2.1 of the Draft C&EDP states “Plans, projects and any development that has the potential to impact on the Lower River Suir SAC will be subject to Appropriate Assessment in accordance with Article 6 of the habitats Directive”.
- Section 9.7 of the Draft C&EDP, in relation to developments, states “An Environmental Impact Assessment will be required to be compiled by the developer (using the appropriate specialist consultants) to support applications for projects likely to have significant effects on the environment by reason of their size, nature or location. Any development that has the potential to impact on the Lower River Suir SAC will be subject to Appropriate Assessment in accordance with Article 6 of the Habitats Directive”.

These reiterate the commitment to ensure that all development that arises through implementation of this C & EDP and which would potentially have a negative impact on the Natura 2000 site, will be subject to assessment under the Habitats Directive. In addition to the above mentioned policies/objectives, mitigation which will serve to ensure compliance with the Habitats Directive and the protection of the Natura 2000 network, have also been included in the Plan. These policies include the following:

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- Policy INF 15: Polluter Pays. It is the policy of the Council to implement the ‘polluter pays’ principle with particular regard to industrial discharges and to implement the provisions of the various water pollution and environmental protection legislation and regulations.
 - Section 3.4.2 Key Public Areas: The river channel to the south of the Island has potential as a non-engine water sports area and the Council will support appropriate developments to achieve this potential that do no compromise the river’s status as an Special Area of Conservation.
 - 7.2.1 Special Areas of Conservation: The maintenance of habitats and species within this Natura 2000 site at favourable conservation condition will contribute towards the overall maintenance of those habitats and species at national level.

6.2 Conclusion and Statement

The likely impacts that will arise from the implementation of the C & EDP have been examined in the context of a number of factors that could potentially affect the integrity of the Natura 2000 network. On the basis of the findings of this AA it was concluded that the C&EDP has fully integrated the findings of the AA throughout the policies and objectives of the Plan, and therefore the implementation of the C&EDP is not likely to have any significant adverse effects upon the integrity of any Natura 2000 site within or adjacent to the C&EDP area.

The full process from Stage 1 to Stage 4 of the AA process will continue to be relevant and to be applied during the life time of the C & EDP and during the course of the planning and development of Clonmel Town. It is the responsibility of Clonmel Borough Council and South Tipperary County Council in implementing the Plan to consider the findings of this AA and Article 6 of the Habitats Directive and to ensure that the implementation of the Plan will not have a significant adverse impact on the Lower River Suir SAC.



APPENDIX A
NPWS Site Synopsis

SITE SYNOPSIS

SITE NAME : LOWER RIVER SUIR

SITE CODE : 002137

This site consists of the freshwater stretches of the River Suir immediately south of Thurles, the tidal stretches as far as the confluence with the Barrow/Nore immediately east of Cheekpoint in Co. Waterford and many tributaries including the Clodiagh in Co. Waterford, the Lingaun, Anner, Nire, Tar, Aherlow, Multeen and Clodiagh in Co. Tipperary. The Suir and its tributaries flows through the counties of Tipperary, Kilkenny and Waterford. Upstream of Waterford city, the swinging meanders of the Suir crisscross the Devonian sandstone rim of hard rocks no less than three times as they leave the limestone-floored downfold below Carrick In the vicinity of Carrick-on-Suir the river follows the limestone floor of the Carrick Syncline. Upstream of Clonmel the river and its tributaries traverse Upper Palaeozoic Rocks, mainly the Lower Carboniferous Visean and Tournaisian. The freshwater stretches of the Clodiagh River in Co. Waterford traverse Silurian rocks, through narrow bands of Old Red Sandstone and Lower Avonian Shales before reaching the carboniferous limestone close to its confluence with the Suir. The Aherlow River flows through a Carboniferous limestone valley, with outcrops of Old Red Sandstone forming the Galtee Mountains to the south and the Slievenamuck range to the north. Glacial deposits of sands and gravels are common along the valley bottom, flanking the present-day river course.

The site is a candidate SAC selected for the presence of the priority habitats on Annex I of the E.U. Habitats Directive - alluvial wet woodlands and Yew Wood. The site is also selected as a candidate SAC for floating river vegetation, Atlantic salt meadows, Mediterranean salt meadows, old oak woodlands and eutrophic tall herbs, all habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected for the following species listed on Annex II of the same directive - Sea Lamprey, River Lamprey, Brook Lamprey, Freshwater Pearl Mussel, Crayfish, Twaite Shad, Atlantic Salmon and Otter.

Alluvial wet woodland is declining habitat in Europe as a result of drainage and reclamation. The best examples of this type of woodland in the site are found on the islands just below Carrick-on-Suir and at Fiddown Island. Species occurring here include Almond Willow (*Salix triandra*), White Willow (*S. alba*), Grey Willow (*S. cinerea*), Osier (*S. viminalis*), with Iris (*Iris pseudacorus*), Hemlock Water-dropwort (*Oenanthe crocata*), Angelica (*Angelica sylvestris*), Pendulus Sedge (*Carex pendula*), Meadowsweet (*Filipendula ulmaria*) and Valerian (*Valeriana officinalis*). The terrain is littered with dead trunks and branches and intersected with small channels which carry small streams to the river. The bryophyte and lichen floras appear to be rich and require further investigation. A small plot is currently being coppiced and managed by National Parks and Wildlife. In the drier areas the wet woodland species merge with other tree and shrub species including Ash (*Fraxinus excelsior*), Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*) and Blackthorn (*Prunus spinosa*). This adds further to the ecological interest of this site. Eutrophic tall herb vegetation occurs in association with the various areas of alluvial forest and elsewhere where the flood-plain of the river is intact. Characteristic species of the habitat include Meadowsweet (*Filipendula ulmaria*), Purple Loosestrife (*Lythrum salicaria*), Marsh Ragwort (*Senecio aquaticus*), Ground Ivy (*Glechoma hederacea*) and Hedge Bindweed (*Calystegia sepium*).

Old oak woodlands are also of importance at the site. The best examples are seen in Portlaw Wood which lies on both sides of the Clodiagh River. On the south-facing side the stand is more open and the Oaks (mainly *Quercus robur*) are well grown and spreading. Ivy (*Hedera helix*) and

Bramble (*Rubus fruticosus*) are common on the ground, indicating relatively high light conditions. Oak regeneration is dense, varying in age from 0-40 years and Holly (*Ilex aquifolium*) is fairly common but mostly quite young. Across the valley, by contrast, the trees are much more closely spaced and though taller are poorly grown on average. There are no clearings; large Oaks extend to the boundary wall. In the darker conditions, Ivy is much rarer and Holly much more frequent, forming a closed canopy in places. Oak regeneration is uncommon since there are as yet few natural clearings. The shallowness of the soil on the northfacing slope probably contributes to the poor tree growth there. The acid nature of the substrate has induced a "mountain" type Oakwood community to develop. There is an extensive species list present throughout including an abundance of mosses, liverworts and lichens. The rare lichen *Lobaria pulmonaria*, an indicator of ancient woodlands, is found.

Inchinquillib Wood consists of three small separate sloping blocks of woodland in a valley cut by the young Multeen River and its tributaries through acidic Old Red Sandstone, and Silurian rocks. Two blocks, both with an eastern aspect, located to the north of the road, are predominantly of Sessile oak (*Quercus petraea*) and Hazel, with Downy Birch (*Betula pubescens*), Ash and Holly. The ground flora is quite mixed with for example Wood sedge (*Carex sylvatica*), Bluebell (*Hyacinthoides non-scriptus*), Primrose (*Primula vulgaris*), Wood-sorrel (*Oxalis acetosella*), Pignut (*Conopodium majus*) and Hard fern (*Blechnum spicant*). The base poor nature of the underlying rock is, to some extent masked by the overlying drift. The third block, to the south of the road, and with a northern aspect, is a similar although less mature mixture of Sessile Oak, Birch and Holly, the influence of the drift is more marked, with the occurrence of Wood anemone (*Anemone nemorosa*) amongst the ground flora. Floating river vegetation is evident in the freshwater stretches of the River Suir and along many of its tributaries. Typical species found include Canadian Pondweed (*Elodea canadensis*), Milfoil (*Myriophyllum* spp.), Fennel Pondweed (*Potamogeton pectinatus*), Curled Pondweed (*P. crispus*), Perfoliate Pondweed (*P. perfoliatus*), Pond Water-crowfoot (*Ranunculus peltatus*), other Crowfoots (*Ranunculus* spp.) and the moss *Fontinalis antipyretica*. At a couple of locations along the river, Opposite leaved Pondweed (*Groenlandia densa*) occurs. This species is protected under the Flora (Protection) Order, 1999.

The Aherlow River is fast-flowing and mostly follows a natural unmodified river channel. Submerged vegetation includes the aquatic moss *Fontinalis antipyretica* and Stream Water-crowfoot (*Ranunculus pectinatus*), while shallow areas support species such as Reed Canary-grass (*Phalaris arundinacea*), Brooklime (*Veronica beccabunga*) and Water Mint (*Mentha aquatica*). The river bank is fringed in places with Alder (*Alnus glutinosa*) and Willows (*Salix* spp.).

The Multeen River is fast flowing, mostly gravel-bottomed and appears to follow a natural unmodified river channel. Water Crowfoots occur in abundance and the aquatic moss *Fontinalis antipyretica* is also common. In sheltered shallows, species such as Water-cress (*Rorippa nasturtium-aquaticum*) and Water-starworts (*Callitriche* spp.) occur. The river channel is fringed for most of its length with Alder, Willow and a narrow strip of marshy vegetation. Salt meadows occur below Waterford City in old meadows where the embankment is absent, or has been breached, and along the tidal stretches of some of the in-flowing rivers below Little Island. There are very narrow, non-continuous bands of this habitat along both banks. More extensive areas are also seen along the south bank at Ballynakill, the east side of Little Island, and in three large salt meadows between Ballynakill and Cheekpoint. The Atlantic and Mediterranean sub types are generally intermixed. The species list is extensive and includes Red Fescue (*Festuca rubra*), Oraches (*Atriplex* spp.), Sea Aster (*Aster tripolium*), Sea Couch Grass (*Elymus pycnanthus*), frequent Sea Milkwort (*Glaux maritima*), occasional Wild Celery (*Apium graveolens*), Parsley

Water-dropwort (*Oenanthe lachenalii*), English Scurvygrass (*Cochlearia anglica*) and Sea Arrowgrass (*Triglochin maritima*). These species are more representative of the Atlantic sub-type of the habitat. Common Cord-grass (*Spartina anglica*), is rather frequent along the main channel edge and up the internal channels. The legally protected (Flora (Protection) Order, 1999) Meadow Barley (*Hordeum secalinum*) grows at the landward transition of the saltmarsh. Sea Rush (*Juncus maritimus*), an indicator of the Mediterranean salt meadows, also occurs. Other habitats at the site include wet and dry grassland, marsh, reed swamp, improved grassland, coniferous plantations, deciduous woodland, scrub, tidal river, stony shore and mudflats. The most dominant habitat adjoining the river is improved grassland, although there are wet fields with species such as Yellow Flag (*Iris pseudacorus*), Meadow Sweet (*Filipendula ulmaria*), Rushes (*Juncus* spp.), Meadow Buttercup (*Ranunculus acris*) and Cuckoo Flower (*Cardamine pratensis*). Cabragh marshes, just below Thurles, lie in a low-lying tributary valley into which the main river floods in winter. Here there is an extensive area of Common Reed (*Phragmites australis*) with associated marshland and peaty fen. The transition between vegetation types is often well displayed. A number of wetland plants of interest occur, in particular the Narrow-leaved Bulrush (*Typha angustifolia*), Bottle Sedge (*Carex rostrata*) and Blunt-flowered Rush (*Juncus subnodulosus*). The marsh is naturally eutrophic but it has also the nutritional legacy of the former sugar factory which discharged into it through a number of holding lagoons, now removed. Production is high which is seen in the size of such species as Celery-leaved Buttercup (*Ranunculus sceleratus*) as well as in the reeds themselves.

Throughout the Lower River Suir site are small areas of woodland other than those described above. These tend to be a mixture of native and non-native species, although there are some areas of semi-natural wet woodland with species such as Ash and Willow. Cahir Park Woodlands is a narrow tract of mixed deciduous woodland lying on the flat lying floodplain of the River Suir. This estate woodland was planted over one hundred years ago and it contains a large component of exotic tree species. However, due to original planting and natural regeneration there is now a good mix of native and exotic species. About 5km north west of Cashel, Ardmayle pond is a long, possibly artificial water body running parallel to the River Suir. It is partly shaded by planted Lime (*Tilia* hybrids), Sycamore (*Acer pseudoplatanus*) and the native Alder. Growing beneath the trees are shade tolerant species such as Remote sedge (*Carex remota*).

The site is of particular conservation interest for the presence of a number of Annex II animal species, including Freshwater Pearl Mussel (*Margaritifera margaritifera* and *M. m. durrovensis*), Freshwater Crayfish (*Austropotamobius pallipes*), Salmon (*Salmo salar*), Twaite Shad (*Alosa fallax fallax*), three species of Lampreys - Sea Lamprey (*Petromyzon marinus*), Brook Lamprey (*Lampetra planeri*) and River Lamprey (*Lampetra fluviatilis*) and Otter (*Lutra lutra*). This is one of only three known spawning grounds in the country for Twaite Shad.

The site also supports populations of several other animal species. Those which are listed in the Irish Red Data Book include Daubenton's Bat (*Myotis daubentoni*), Natterer's Bat (*M. nattereri*), Pipistrelle (*Pipistrellus pipistrellus*), Pine Marten (*Martes martes*), Badger (*Meles meles*), the Irish Hare (*Lepus timidus hibernicus*), Smelt (*Osmerus eperlanus*) and the Frog (*Rana temporaria*). Breeding stocks of Carp are found in Kilsheelan Lake. This is one of only two lakes in the country which is known to have supported breeding Carp. Carp require unusually high summer water

temperatures to breed in Ireland and the site may therefore support interesting invertebrate populations.

Parts of the site have also been identified as of ornithological importance for a number of Annex I (EU Birds Directive) bird species, including Greenland White-fronted Goose (10), Golden Plover (1490), Whooper Swan (7) and Kingfisher. Figures given in brackets are the average maximum counts from 4 count areas within the site for the three winters between 1994 and 1997. Wintering populations of migratory birds use the site. Flocks are seen in Coolfinn Marsh and also along the reedbeds and saltmarsh areas of the Suir. Coolfinn supports nationally important numbers of Greylag Geese on a regular basis. Numbers between 600 and 700 are recorded. Other species occurring include Mallard (21), Teal (159), Widgeon (26), Tufted Duck (60), Pintail (4), Pochard (2), Little Grebe (2), Black-tailed Godwit (20), Oystercatcher (16), Lapwing (993), Dunlin (101), Curlew (195), Redshank (28), Greenshank (4) and Green Sandpiper (1). Nationally important numbers of Lapwing (2750) were recorded at Faithlegg in the winter of 1996/97. In Cabragh marshes there is abundant food for surface feeding wildfowl which total at 1,000 or so in winter. Widgeon, Teal and Mallard are numerous and the latter has a large breeding population - with up to 400 in summer. In addition, less frequent species like Shoveler and Pintail occur and there are records for both Whooper and Bewick's swans. Kingfisher, a species that is listed on Annex I of the EU Birds Directive, occurs along some of the many tributaries throughout the site. Landuse at the site consists mainly of agricultural activities including grazing, silage production, fertilising and land reclamation. The grassland is intensively managed and the rivers are therefore vulnerable to pollution from run-off of fertilisers and slurry.

Arable crops are also grown. Fishing is a main tourist attraction on stretches of the Suir and some of its tributaries and there are a number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place on the rivers.

The Aherlow River is a designated Salmonid Water under the EU Freshwater Fish Directive. Other recreational activities such as boating, golfing and walking are also popular. Several industrial developments, which discharge into the river, border the site including three dairy related operations and a tannery.

The Lower River Suir contains excellent examples of a number of Annex I habitats, including the priority habitat Alluvial Forest. The site also supports populations of several Annex II animal species and a number of Red Data Book animal species. The presence of two legally protected plants (Flora (Protection) Order, 1999) and the ornithological importance of the river adds further to the ecological interest of this site.