

# ENVIRONMENTAL REPORT

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OF THE

## OFFALY COUNTY DEVELOPMENT PLAN 2009-2015

### STRATEGIC ENVIRONMENTAL ASSESSMENT



**For: Offaly County Council**

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## List of Abbreviations

DoEHLG	Department of the Environment, Heritage and Local Government
DCMNR	Department of Communications, Marine and Natural Resources
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ERBD	Eastern River Basin District
EU	European Union
MRPGs	Midlands Regional Planning Guidelines
NHA	Natural Heritage Area
NIAH	National Inventory of Architectural Heritage
NSS	National Spatial Strategy
OCC	Offaly City Council
OCDP	Offaly County Development Plan
RMP	Record of Monuments and Places
RPS	Record of Protected Structures
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEO	Strategic Environmental Objective
SERBD	South Eastern River Basin District
SI No.	Statutory Instrument Number
SPA	Special Protection Area
SRBD	Shannon River Basin District
WFD	Water Framework Directive

## Glossary

- **Biotic Index Values (Q Values)**

The Biotic Index Values, or Q values, are assigned to rivers in accordance with biological monitoring of surface waters - low Q ratings, as low as Q1, are indicative of low biodiversity and polluted waters, and high Q ratings, as high as Q5, are indicative of high biodiversity and unpolluted waters. Good status as defined by the Water Framework Directive equates to approximately Q4 in the national scheme of biological classification of rivers as set out by the Environmental Protection Agency.

- **Environmental Problems**

Annex I of Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27 June 2001, on the assessment of the effects of certain plans and programmes on the environment (the Strategic Environmental Assessment Directive) requires that information is provided on 'any existing environmental problems which are relevant to the plan or programme', thus, helping to ensure that the proposed strategic action does not make existing environmental problems worse.

Environmental problems arise where there is a conflict between current environmental conditions and ideal targets. If environmental problems are identified at the offset they can help focus attention on important issues and geographical areas where environmental effects of the plan or programme may be likely.

- **Environmental Vectors**

Environmental vectors are environmental components, such as air, water or soil, through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings.

- **Mitigate**

To make or become less severe or harsh

- **Mitigation Measures**

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing a human action, be it a plan, programme or project. Mitigation involves ameliorating significant negative effects. Where there are significant negative effects, consideration should be given in the first instance to preventing such effects or, where this is not possible, to lessening or offsetting those effects. Mitigation measures can be roughly divided into those that: *avoid* effects; *reduce* the magnitude or extent, probability and/or severity of effects; *repair* effects after they have occurred; and *compensate* for effects, balancing out negative impacts with other positive ones.

- **Protected Structure**

Protected Structure is the term used in the Planning Act of 2000 to define a structure included by a planning authority in its Record of Protected Structures. Such a structure shall not be altered or demolished in whole or part without obtaining planning permission or confirmation from the planning authority that the part of the structure to be altered is not protected.

- **Recorded Monument**

A monument included in the list and marked on the map which comprises the Record of Monuments and Places that is set out county by county under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological Survey of Ireland. The definition includes Zones of Archaeological Potential in towns and all other monuments of archaeological interest which have so far been identified. Any works at or in relation to a recorded monument requires two months notice to the Department of the Environment, Heritage and Local Government under section 12 of the National Monuments (Amendment) Act, 1994.

- **Scoping**

Scoping is the process of determining what issues are to be addressed, and setting out a methodology in which to address them in a structured manner appropriate to the plan or programme. Scoping is carried out in consultation with the appropriate bodies.

- **Strategic Actions, Policies, Plans and Programmes**

Strategic actions include: *Policies*, which may be considered as inspiration and guidance for action and which set the framework for plans and programmes; *Plans*, sets of co-ordinated and timed objectives for the implementation of the policy; and *Programmes*, sets of projects in a particular area.

- **Strategic Environmental Assessment (SEA)**

Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme before a decision is made to adopt it.

- **Strategic Environmental Objective (SEO)**

Strategic Environmental Objectives (SEOs) are methodological measures which are developed from international, national and local authority policies which generally govern environmental protection objectives and against which the environmental effects of the CDP can be tested. The SEOs are used as standards against which the objectives of the CDP, including the zoning provisions, can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated against.



## Section 1 SEA Introduction and Background

### 1.1 Introduction and Terms of Reference

This is the Environmental Report of the Offaly County Development Plan 2009-2015 Strategic Environmental Assessment. The purpose of the report is to provide a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of development in County Offaly.

The SEA has been carried out in order to comply with the provisions of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004) and in order to improve planning and environmental management of future development in the County. This report should be read in conjunction with the County Development Plan.

### 1.2 SEA Definition

Environmental assessment is a procedure that ensures that the environmental implications of decisions are taken into account before the decisions are made. *Environmental Impact Assessment*, or EIA, is generally used for describing the process of environmental assessment which is limited to individual projects such as waste incinerators, housing developments or roads while *Strategic Environmental Assessment*, or SEA, is the term which has been given to the environmental assessment of plans, and other strategic actions, which help determine what kind of individual projects take place.

SEA is a systematic process of predicting and evaluating the likely environmental effects of implementing a proposed plan, or other strategic action, in order to insure that these effects are appropriately addressed at the earliest appropriate stage of decision-making on a par with economic and social considerations.

What kind of development occurs in County Offaly and where it occurs will be significantly determined by the implementation of the County Development Plan. By anticipating the effects and avoiding areas in which growth cannot be

sustainably accommodated and by directing development towards more compatible and robust receiving environments real improvements in environmental management and planning can occur in County Offaly - planning applications are more likely to be granted permission and the scope of any EIAs which may be required as part of any planning applications are likely to be reduced.

### 1.3 Legislative Context

Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27 June 2001, on the assessment of the effects of certain plans and programmes on the environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including land use planning. The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument Number (SI No.) 435 of 2004), and, the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004). Both sets of Regulations became operational on 21 July 2004.

### 1.4 Implications for Offaly County Council and the Elected Members

As a result of the above legislation, certain plans and programmes which are prepared by Offaly County Council - including County Development Plans - are required to undergo SEA. The findings of the SEA are expressed in an Environmental Report which is submitted to the Elected Members alongside the CDP. The Elected Members must take account of the Environmental Report before the adoption of the Plan. When the Plan is adopted a statement must be made public, summarising, inter alia: how environmental considerations have been integrated into the Plan; and, the reasons for choosing the Plan as adopted over other alternatives detailed in the Environmental Report.

## Section 2 SEA Methodology

### 2.1 Introduction

This section details how the SEA for the CDP has been undertaken alongside the preparation of the Plan. The SEA process up until the

submission of this report has been carried out from May 2007 until February 2009.

Figure 2.1 lays out the main stages in the CDP SEA process.

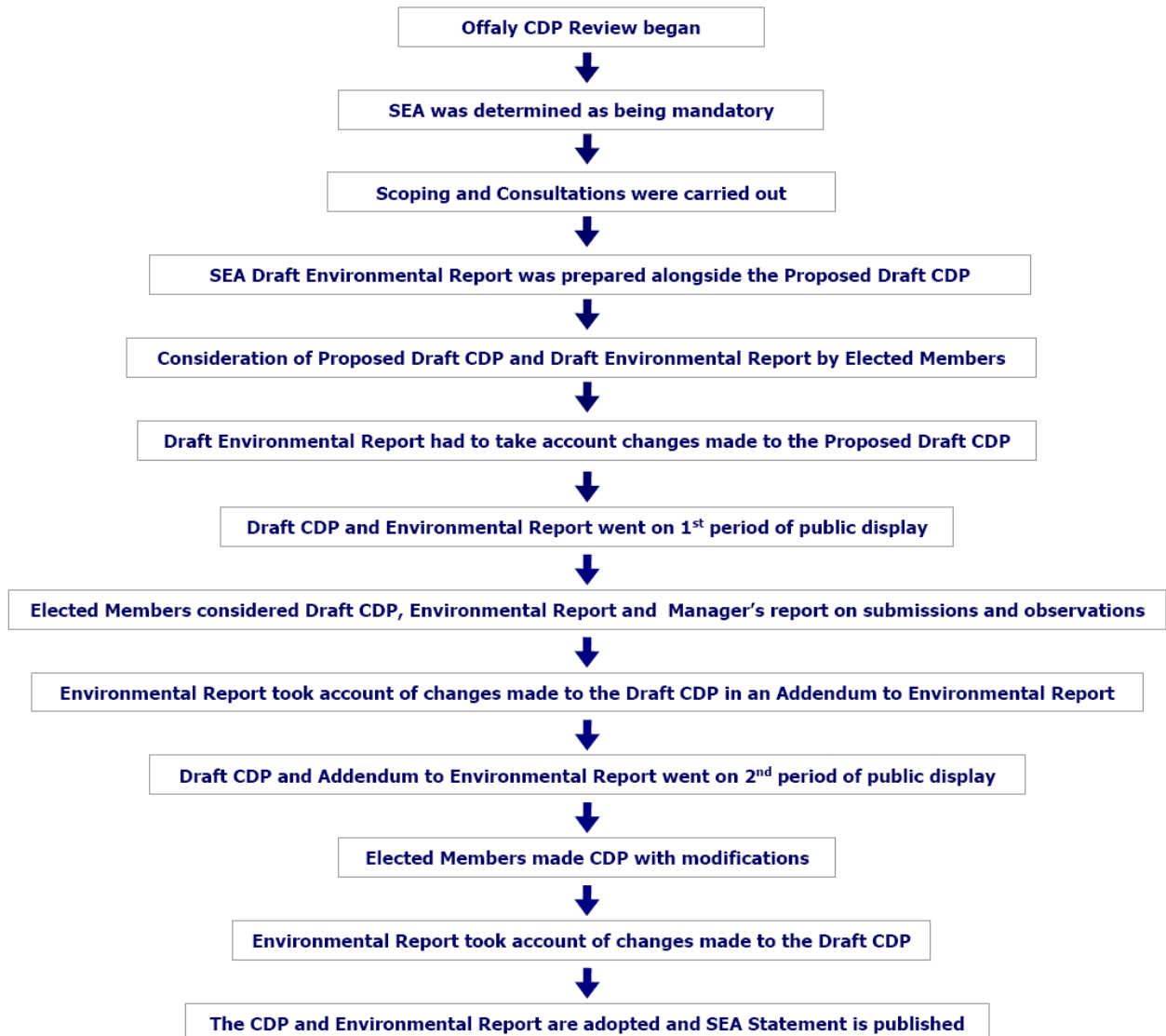


Figure 2.1 County Development Plan and SEA Stages

### 2.2 Scoping

In consultation with the relevant authorities, the scope of environmental issues to be dealt with by the SEA together with the level of detail to which they are to be addressed was broadly

decided on after preliminary data collection. Scoping of the SEA was continuous with certain issues being selected for further examination after certain data was obtained. Scoping helped the SEA to become focused upon the important issues, such as those relating to existing and potential environmental issues and

environmental problems<sup>1</sup>, thereby avoiding resources being wasted on unnecessary data collection.

Scoping facilitated the selection of issues relevant to the environmental components which are specified under the SEA Directive - biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, and landscape.

With regard to human health, impacts relevant to the SEA are those which arise as a result of interactions with environmental vectors (i.e. environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings). Impacts upon human beings arising as a result of social and economic conditions are not considered by SEA.

Mandatory consultations were held with: the EPA; the Department of the Environment, Heritage and Local Government (DoEHLG); the Department of Communications, the Marine and Natural Resources (DCMNR).

In addition to these consultations, the National Roads Authority (NRA), the Southern Regional Fisheries Board, the Central Fisheries Board, the Eastern Regional Fisheries Board, the Shannon Regional Fisheries Board, Roscommon County Council, Westmeath County Council, Meath County Council, Galway County Council, North Tipperary County Council, Kildare County Council, Laois County Council, Limerick County Council and a number of departments within Offaly County Council were sent letters which included invitations to make a submission in relation to the scope and level of detail of the information to be considered in the carrying out of the SEA. The NRA made a written submission.

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<sup>1</sup> Annex I of the SEA Directive requires that information is provided on 'any existing environmental problems which are relevant to the plan or programme', thus, helping to ensure that the proposed strategic action does not make existing environmental problems worse.

Environmental problems arise where there is a conflict between current environmental conditions and ideal targets. If environmental problems are identified at the outset they can help focus attention on important issues and geographical areas where environmental effects of the plan or programme may be likely.

No local authority replied with such a submission.

The most important strategic environmental issues in County Offaly were identified as follows:

- Biodiversity and Flora and Fauna;
- Water quality;
- Waste water treatment infrastructure;
- Cultural Heritage, and;
- Landscape.

The findings of the SEA were communicated to the plan making team at Offaly County Council on an ongoing basis from the outset in order to allow for their integration into the CDP and minimise the potential for significant negative environmental effects arising from implementation of the Plan.

## 2.3 Environmental Baseline Data and Other Strategic Actions

The SEA process is informed by the environmental baseline (i.e. the current state of the environment - flora and fauna, soil, water, cultural heritage etc.) to facilitate: the identification and evaluation of the likely significant environmental effects of implementing the Plan and the alternatives; and, the subsequent monitoring of the effects of the Plan as adopted. Data was collected to describe the environmental baseline and its likely evolution without implementation of the Plan.

The SEA Directive (Annex I) requires that information is provided on 'any existing environmental problems which are relevant to the plan or programme'. Information is therefore provided on existing environmental problems which are relevant to the CDP, thus helping to ensure that the CDP does not exacerbate any existing environmental problems in the County.

The SEA Directive requires that information on the baseline environment be focused upon the relevant aspects of the environmental characteristics of areas likely to be significantly affected and the likely evolution of the current environment in the absence of the strategic

action i.e. the CDP. Any information that does not focus upon this is surplus to requirements; therefore the CDP SEA focuses on the significant issues, disregarding the less significant ones. In addition, the SEA Directive aims to avoid duplication of the assessment whereby a strategic action forms part of a hierarchy. Furthermore, if certain matters are more appropriately assessed at different levels of the hierarchy in which the CDP is positioned, or, if certain matters have already been assessed by a different level of the hierarchy then additional assessment is not needed.

In order to describe the baseline (the current state of the environment) in County Offaly, data was collated from currently available, relevant environmental sources.

## 2.4 Alternatives

The SEA Directive requires that reasonable alternatives (taking into account the objectives and the geographical scope of the plan or programme) are identified described and evaluated for their likely significant effects on the environment.

Taking into account the objectives and the geographical scope of the CDP, alternatives were formulated through consultation with the plan-making team at Offaly County Council and a number of departments at the Council.

## 2.5 The SEA Environmental Report

In this Environmental Report, which was placed on public display alongside the Draft Offaly CDP and updated to accompany the adopted CDP, the likely environmental effects of the Plan and the alternatives are predicted and their significance evaluated with regard to the environmental baseline. The Environmental Report provided the decision-makers, the Elected Members of Offaly County Council, who decided whether or not to adopt the Draft Plan, as well as the public, with a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of growth in County Offaly. Mitigation measures to prevent or reduce significant adverse effects posed by the CDP, or to maximise any benefits arising, are proposed. The alternatives are also

presented in this report, as are measures concerning monitoring.

The Environmental Report was required to be updated in order to take account of amendments made to the Draft CDP and in order to take account of submissions which were made while the Draft Plan and Environmental Report were on public display.

## 2.6 The SEA Statement

When the CDP is adopted a document has been made public, referred to as the SEA Statement (DoEHLG, 2004). This includes information summarising: how environmental considerations have been integrated into the CDP; how the environmental report and submissions and observations made to the Council on the proposed CDP and Environmental Report have been taken into account during the preparation of the CDP; the reasons for choosing the CDP, as adopted, in the light of the other reasonable alternatives dealt with; and, the measures decided upon to monitor the significant environmental effects of implementation of the CDP.

## 2.7 Legislative Conformance

This report complies with the provisions of the SEA Regulations and is written in accordance with Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004).

Table 2.1 (overleaf) is a reproduction of the checklist of information to be contained in the Environmental Report (DoEHLG, 2004)<sup>2</sup> and includes the relevant sections of this report which deal with these requirements.

## 2.8 Difficulties Encountered

The lack of a centralised data source that could make all environmental baseline data for the County both readily available and in a consistent format posed a significant difficulty to the SEA process. This difficulty was overcome by the

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<sup>2</sup> Department of the Environment, Heritage and Local Government (2004) *Implementation of SEA Directive (2001/42/EC): Guidelines for Regional Authorities and Planning Authorities* Dublin: Government of Ireland.

provision of sufficient time resources and through the use of Geographical Information Systems.

The Grand Canal is an Artificial Water Body and therefore this waterbody was not included in the ERBD Risk Assessment. The approach to be taken with regard to the risk assessment and management of Artificial Water Bodies in the context of the WFD is currently being developed by both the EPA and Waterways Ireland. Considering the water quality baseline data which is available for the Canal and the lack of this risk assessment and water quality standards for artificial surface water bodies, it is uncertain as to whether or not there are existing problems with regard to water quality in the Canal.

<b>Information Required to be included in the Environmental Report</b>	<b>Corresponding Section of this Report</b>
(A) Outline of the contents and main objectives of the Plan, and of its relationship with other relevant plans and programmes	Sections 4 and 5
(B) Description of relevant aspects of the current state of the environment and the evolution of that environment without implementation of the Plan	Section 3 and Appendix I
(C) Description of the environmental characteristics of areas likely to be significantly affected	Sections 3, 4, 7 and 8
(D) Identification of any existing environmental problems which are relevant to the Plan, particularly those relating to European protected sites	Section 3
(E) List environmental protection objectives, established at international, EU or national level, which are relevant to the Plan and describe how those objectives and any environmental considerations have been taken into account when preparing the Plan	Sections 4, 7 and 9
(F) Describe the likely significant effects on the environment	Section 7 and 8
(G) Describe any measures envisaged to prevent, reduce and as fully as possible offset any significant adverse environmental effects of implementing the Plan	Section 9
(H) Give an outline of the reasons for selecting the alternatives considered, and a description of how the assessment was undertaken (including any difficulties)	Sections 2, and 6
(I) A description of proposed monitoring measures	Section 10
(J) A non-technical summary of the above information	Appendix II
(K) Interrelationships between each Environmental topic	Addressed as it arises within each Section

**Table 2.1 Checklist of Information included in this Environmental Report**

## Section 3 County Offaly's Baseline Environment

### 3.1 Introduction

The environmental baseline of County Offaly is described in this section. This baseline together with the Strategic Environmental Objectives, which are outlined in Section 4, is used in order to identify, describe and evaluate the likely significant environmental effects of implementing the CDP and in order to determine appropriate monitoring measures.

The environmental baseline is described in line with the legislative requirements, encompassing the following components – biodiversity, flora and fauna, population, human health, soil, water, air and climatic factors, material assets, cultural heritage, landscape and the interrelationship between these components. A description is also included of the likely effects upon each environmental component under a *do-nothing scenario* i.e. the likely evolution of the environment without the implementation of the CDP.

County Offaly is located in the centre of Ireland bordering Counties Galway, Roscommon, Westmeath, Meath, Kildare, Laois and Tipperary (see Figure 3.1). The County has an area of approximately 2,000km<sup>2</sup> and a population of 70,868<sup>3</sup> as of Census 2006, with Tullamore, located in the centre of the County, the main town. The County has a predominantly flat landscape and its physical features include boglands, wetlands, eskers, the Slieve Bloom Mountains, the River Shannon and its floodplains and other surface water bodies including the Grand Canal.

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<sup>3</sup> Central Statistics Office (2007) Census 2006 Volume 1 - Population Classified by Area Cork: CSO



**Figure 3.1 Context of County Offaly in relation to the rest of the island of Ireland**

## **3.2 Biodiversity and Flora and Fauna**

### **3.2.1 Overview of the Habitats**

#### **3.2.1.1 Introduction**

Approximately one fifth of the area of County Offaly comprises peatlands and the bulk of the remainder of these lands are in agricultural/forestry use. The clearing of vegetation centuries ago from most of the County and the intensification of agriculture and industrialisation of peat cutting in the 20<sup>th</sup> century has resulted in the replacement of natural habitats with semi-natural, low biodiversity habitats at certain locations.

CORINE Land Cover mapping classifies land cover under various headings. CORINE land cover mapping for County Offaly is shown on

Figure 3.2<sup>4</sup>. The most common land cover headings which are identified across County Offaly include Peat Bog, Pastures, Non-irrigated land, Complex Cultivation Patterns, Coniferous Forest, Broad-leaved Forest, Continuous Urban Fabric and Discontinuous Urban Fabric.

Much of the information for the descriptions provided below has been drawn from *County Offaly: The State of the Wild 2007* (Feehan, 2007)<sup>5</sup>.

#### **3.2.1.2 Peatlands**

County Offaly is covered by a relatively large proportion of peatlands with much of the County covered by a vast lowland raised bog complex

<sup>4</sup> European Environment Agency Coordination of Information on the Environment (2004) Ireland's Corine Land Cover 2000 (CLC2000) Copenhagen: EEA

<sup>5</sup> Feehan, John (2007) *County Offaly: The State of the Wild 2007* Tullamore: Offaly County Council

with the Slieve Bloom uplands area, in the south of the County, covered by blanket bog.

Peatlands have traditionally been a significant asset to Offaly in terms of an energy resource and a source of employment through extraction and power generation, but also as an amenity and educational resource. The international scientific importance of Clara Bog and the success of the Lough Boora parklands are recognition of this amenity value.

Raised Bogs, are dome-shaped bogs which have developed in former lake basins in midland counties with nutrient supply obtained from rainfall. They provide a refuge for various plant and animal species notably providing wintering grounds for several species of birds.

Fifty or sixty years ago species-diverse grassland was widespread in Offaly, and many of the County's bogs were relatively undisturbed. Lowland raised bogs in both County Offaly and the wider region began to decline with the start of industrial peat harvesting in the 1940s. To date most of these bogs have been exploited for peat extraction on a large scale making intact raised bogs rare.

Vast areas of degraded, cutover and cutaway bogs provide valuable marginal habitats across the County and have significant biodiversity potential. For example, in the planned habitats of Lough Boora Parklands and the wider Boora Complex Bord na Móna has developed a mosaic of created wetland and lakes, wild re-colonising grassland, improved grassland, tillage and conifer plantations of varying quality. More extensive areas of these habitats are already appearing and this mosaic may provide the dominant habitat structure in County Offaly in the future.

The blanket bogs of the Slieve Bloom Mountains provide habitats for a wide range of plant and animal species. Much of the blanket bog on the Slieve Blooms has been planted with conifers.

Internationally, Ireland possesses eight percent of the total area of blanket bog known to exist. A significant amount of Ireland's blanket bog has been degraded by human actions. Blanket bogs provide a variety of habitats including flat and sloped areas, flushed fens, swallow holes, pools, lakes, hummocks and ridges. These varied habitats contribute to the unique diversity of rare plant, bird and invertebrate species

which are found in the blanket bogs. Pools of water observable on the surface of the bogs are of particular value, supporting a specialised range of mosses (including species of Sphagnum) and plants and they provide essential feeding habitats for wetland birds.

### **3.2.1.3 Callows of the River Shannon and Little Brosna**

The Callows of the River Shannon and the Little Brosna are subject to a number of designations and provide for a unique combination of breeding, passage and wintering bird species.

About one quarter of the flooded grasslands of the Shannon and Little Brosna Callows occurs within County Offaly, on and around its southern and western borders with Counties Roscommon and Galway. This area contains some of the most valuable and extensive parts of the Callows including: Inch Callow on the Little Brosna; and other callows at Lusmagh, Shannon Harbour, Woodlands, Shannonbridge, Clonmacnoise and Bloomhill on the Shannon.

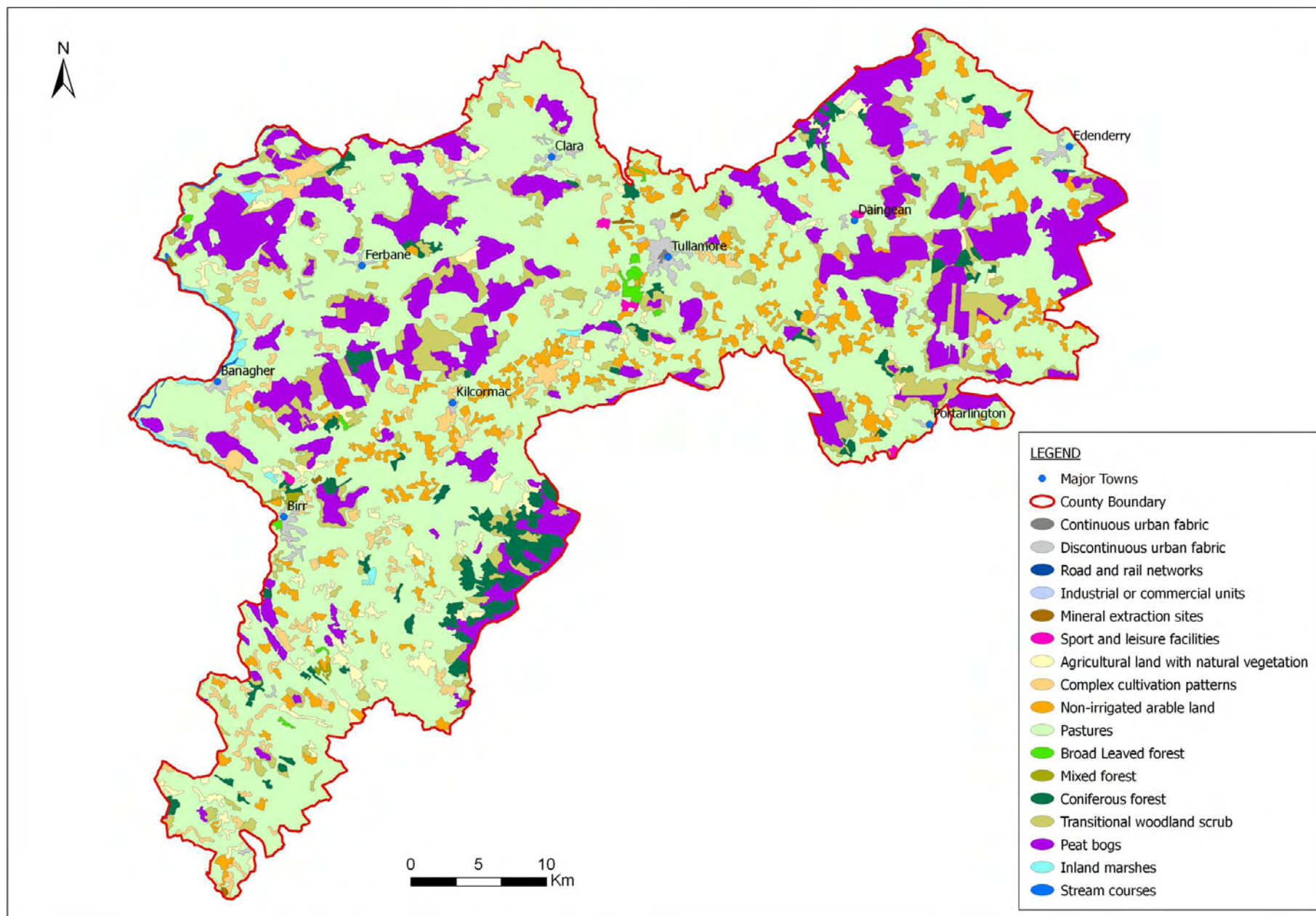
### **3.2.1.4 Woodlands and Agricultural Land**

Over hundreds of years Offaly's native or deciduous woods were felled in order to allow for agricultural use of the land resulting in a large number of much smaller woods with Charleville Wood being the only extensive example. Birch woodlands developing on cutaway bogs, such as the 15 hectare wood at Turraun, comprise a significant proportion of the County's deciduous woodland.

Farm improvements in County Offaly after Ireland joined the EU saw the replacement of traditional pastureland with species-poor swards of ryegrass and white clover, the drainage of species-diverse wetlands, and the removal of hedges in order to make fields bigger and more suited to machinery. The greatly increased use of fertilisers, herbicides and pesticides contributed to the decline of certain species.

The effects of the recent decoupling of agricultural payments and production are beginning to be seen in much of the less productive, marginal areas in the County where agriculture is beginning to decline. Lands which were maintained by agriculture for hundreds of years are no longer being used for food production resulting in the covering of lands with scrub and trees, either due to the development of plantations or through natural





**Figure 3.2 CORINE 2000**

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colonisation processes. This development is resulting in the development of new woodland habitats, supporting varying levels of biodiversity. Many farms now participate in the Rural Environment Protection Scheme (REPS), which aims, inter alia, to protect wildlife habitats and endangered species of flora and fauna.

Coillte owns large tracts of plantation in the Slieve Blooms and isolated plantations elsewhere in the County. Some of these have special value as bird habitats at different stages of their rotation from clear-fell to well-thinned maturity. Coillte now sets aside at least ten percent of its land for broadleaf plantations and five percent of its land for open spaces/biodiversity.

### **3.2.1.5 Rivers and Lakes**

The River Brosna, the Gageborough River, the Clodiagh River, the Tullamore River and the Silver River flow through the centre, north and west of the County eventually meeting the River Shannon in the west. The Little Brosna River and its tributaries flow through the south of the County, entering the Shannon south of Banagher. The Yellow River flows through the north east of the County and into the River Boyne, while the south east of the County is drained by the River Barrow.

These rivers are important parts of the County's ecological network, providing habitat to a number of species and functioning as corridors traversing the County from east to west and linking wide areas of the County, including the Slieve Bloom uplands area, to the River Shannon and its Callows.

There are a number of small lakes across the County including Raheen Lough in the west of the County, Annaghmore Lough and Pallas Lough to the south of Tullamore, Lough Boora which flows into the River Brosna in the west of the County and Fin Lough in the north west of the County.

One river in the County, the River Boyne, is a designated Salmonid Water and is afforded special protection under legislation. In reality however there are many more salmonid waters throughout the County supporting varying amounts of salmonid species, including Atlantic Salmon and Brown Trout, in varying quantities which have not been designated. These waters include the Gageborough River, the Tullamore River, the Clodiagh River, the River Brosna, the

Camcor River, the Kilcormac Silver River, the River Shannon and the Little Brosna River.

Annex II of the Habitats Directive affords special protection for Atlantic Salmon and Sea, Brook and River Lamprey all of which are found in certain waters in County Offaly. The genetically unique Offaly brown trout, the croneen are present in certain rivers in the County including the Camcor in the Slieve Blooms. Pollan is present in the Shannon in one of only five locations in Ireland and the species is found nowhere else in Western Europe.

The County's rivers also support significant populations of coarse fish such as pike, tench and bream which, together with the salmonid species, provide a considerable angling resource.

The Grand Canal is a man-made waterway that flows across the centre of the County from east to west, linking the River Liffey at Dublin to the River Shannon at Shannon Harbour. The Canal traverses large tracts of boglands and is bordered along its banks by hedgerows dating back 200 years and fringes of wild vegetation.

## **3.2.2 Designations**

### **3.2.2.1 Introduction**

A number of sites across the County have one or more ecological designations attached to them. These sites include: the Shannon Callows, stretching along the southern and western County boundary with Roscommon and Galway; the Slieve Bloom Mountains, located in the south eastern uplands area along the County boundary with Laois; and, the Grand Canal, which flows through the centre of the County from south of Edenderry in the east of the County to Shannon Harbour in the west. The majority of designated ecological sites in the County are peat bogs.

### **3.2.2.2 Ramsar Sites**

The Convention of Wetlands of International Importance, especially as Water Fowl Habitat, was established at Ramsar in 1971 and ratified by Ireland in 1984. The main aim of the Convention is to secure the designation by each contracting state of wetlands in its territory for inclusion in a list of wetlands of international importance for waterfowl. This entails the commitment of each contracting state to a policy of protection and management of the designated wetlands, and of formulating and

implementing planning so as to promote the conservation of designated wetlands and, as far as possible, the wise use of wetlands in its territory. Ireland presently has 45 sites designated as Wetlands of International Importance, with surface areas of 66,994 hectares. Of this, Offaly has 2,979 hectares of Wetlands of International Importance spread across four sites.

The following synopses<sup>6</sup> provide details on each of the four sites:

- **Clara Bog, 460ha (Site No. 415)**

Clara Bog is one of the largest raised bogs left in Ireland. The site consists of hummocks, hollows, pools and *Sphagnum* lawns and is unique in the degree of development and varieties of the soak systems present. Soak systems are now almost extinct due to peat extraction. The site is important for several nationally rare mosses and invertebrates.

- **Mongan Bog, 127 ha (Site No. 416)**

Mongan Bog is an excellent example of a Midland raised bog with several special features. The central part is unusually wet and has a particularly pronounced pattern of hummocks, pools and lawns, suggesting that this area is still growing. The bog supports various rare plants or plants with a limited distribution in Ireland. The site is internationally important for wintering the globally vulnerable goose *Anser albifrons flavirostris*.

- **Raheenmore Bog, 162 ha (Site No. 417)**

Raheenmore Bog is a classic example of a Midland raised bog developed in a small basin on the catchment divide between two major river systems. The peat, 15m in places, makes it the deepest known raised bog in Ireland. Vegetation is typical, with a good cover of *Sphagnum* mosses, but the formerly extensive hummock and hollow system is reduced due to conversion to agricultural land.

- **Slieve Bloom Mountains, 2,230 ha (Site No. 335)**

This site comprises the largest and most intact area of mountain blanket bog known in Ireland. Features include areas of well-developed hummock, hollow and pool systems. Vegetation consists of a dwarf shrub and herb layer and extensive cover of *Sphagnum* moss. An absence of rock outcrops limits species and habitat diversity, except in valleys where seepage areas and streams provide increased nutrients.

### 3.2.2.3 Candidate Special Areas of Conservation

Candidate Special Areas of Conservation (cSACs) have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) by the DoEHLG due to their conservation value for habitats and species of importance in the European Union. The sites are *candidate* sites because they are currently under consideration by the Commission of the European Union.

There are seventeen cSACs in County Offaly. These sites are listed under Table 3.1 and mapped on Figure 3.3. Site Synopses<sup>7</sup> for the SACs are included in Appendix I to this report.

Candidate SACs in Offaly cover, inter alia, certain bogs, eskers, callows and rivers. On designation, these cSACs, together with Special Protection Areas, identified below, will become part of Natura 2000 - a network of protected areas throughout the EU established under the Habitats Directive.

### 3.2.2.4 Special Protection Areas

Special Protection Areas (SPAs) have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) by the DoEHLG due to their conservation value for birds of importance in the European Union.

There are six SPAs in County Offaly. These sites are listed under Table 3.2 and mapped on Figure 3.3. Site Synopses<sup>8</sup> for the sites are

<sup>6</sup> Ramsar Convention Secretariat (2000) *The Annotated Ramsar List of Wetlands of International Importance* Switzerland: Ramsar Convention Secretariat

<sup>7</sup> National Parks and Wildlife (various) *Site Synopses for Special Areas of Conservation* Dublin: Government of Ireland

<sup>8</sup> National Parks and Wildlife Service (various) *Site Synopses for Special Protection Areas* Dublin: Government of Ireland

included in Appendix I. It is noted that consideration with regard to the SPA designation is being given to areas in the Slieve Blooms chiefly for the protection of the Hen Harrier.

### 3.2.2.5 Natural Heritage Areas

Natural Heritage Areas (NHAs) are designated due to their national conservation value for ecological and/or geological/geomorphological heritage. They cover nationally important semi-natural and natural habitats, landforms or geomorphological features, wildlife plant and animal species or a diversity of these natural attributes.

Seven Natural Heritage Areas have been designated for protection in County Offaly under the Wildlife (Amendment) Act 2000 and there are thirty six sites for which Natural Heritage Area designations are proposed, including various bogs, eskers and woods.

NHAs and proposed NHAs are listed under Tables 3.3 and 3.4 and mapped on Figure 3.3. Site Synopses<sup>9</sup> for NHAs are included in Appendix I.

### 3.2.2.6 Statutory Nature Reserves

Statutory Nature Reserves are state-owned land, inland waters or foreshore areas forming the habitat of a species or community of flora and fauna of scientific interest or forming part of an ecosystem of scientific interest, which would benefit from protection measures, established under the Wildlife Act, 1976 and the Wildlife (Amendment) Act, 2000 and are protected under Ministerial order. There are four of these reserves in County Offaly the descriptions of which are given below (NPWS, 2007)<sup>10</sup>:

- **Slieve Bloom Mountains (2,300 ha)**

The Slieve Bloom Mountains Nature Reserve is located in on the border between County Laois and County Offaly and was designated in order to ensure the conservation of the mountain blanket bog ecosystem which it constitutes. This Nature Reserve is also a cSAC.

<sup>9</sup> National Parks and Wildlife (various) *Site Synopses for Natural Heritage Areas and proposed Natural Heritage Areas* Dublin: Government of Ireland

<sup>10</sup> National Parks and Wildlife Service (2007) *Statutory Nature Reserves: County Offaly* Dublin: Government of Ireland

- **Clara Bog (460 ha)**

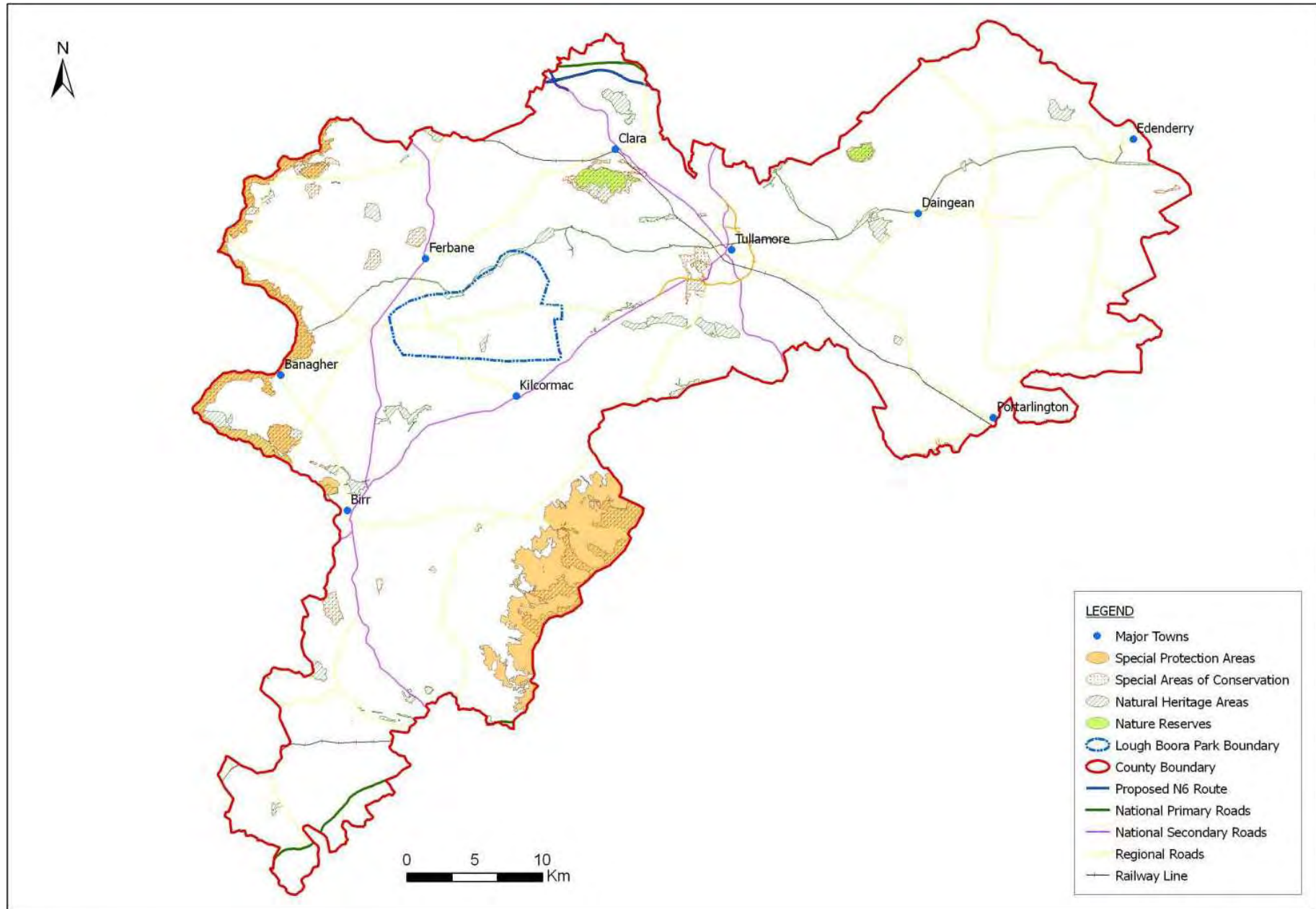
Clara Bog is among one of the few large raised midland bogs remaining substantially intact. It contains a wide variety of vegetation types and habitats and a well-developed drainage (or soak) system. Sphagnum Mosses - which act like a sponge, soaking up and holding water - thrive in the wetter areas of the bog. When the leafy mass of the moss decays it provides the raw material for further bog formation. Some bog plants are specially adapted to live in these wet, nutrient-poor conditions, such as the carnivorous Sundew, which captures insects to supplement its nutrient requirements. Ling Heather is dominant on the drier hummocks, where it provides shelter for Curlew, Snipe and Red Grouse. The Emperor Moth lays its eggs on Ling Heather, and Dragonflies Nymphs feed in the nutrient-rich pools at the edges of the bog and at Clara they also live in the tree-lined pools of the soak system in the middle of the bog. The Nature Reserve is also a cSAC.

- **Mongan Bog (119 ha)**

Mongan Bog is an excellent example of a midland raised bog. It is a valuable addition to the growing network of peatland reserves. Blocking of Bord na Móna drains was carried out in the 1990s in an effort to rehabilitate this bog. The bog is believed to be 9,000 years old and has formed in a basin between two east-west trending eskers. Typical midland raised bog vegetation exists with Sphagnum bog moss species that cause bog growth found in the wetter area to the centre of the bog. Mongan Bog has a notable lichen community due to the lack burning on the high bog in the recent past. There are a good number of wintering Snipe to be found, however, Greenland Whitefronted geese no longer use this bog to the extent that they did in the past. Hen Harriers occasionally hunt over the site in winter. This Nature Reserve is also designated an SPA and it is a cSAC.

- **Raheenmore Bog (162 ha)**

Raheenmore Bog is situated 6 kilometres north west of Daingean and is a well-developed and exceptional example of deep midland raised bog, which is regarded as being of national importance.



**Figure 3.3 Designated Ecological Sites**

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### 3.2.2.7 Designated Salmonid Waters

The main channel of the River Boyne is designated a Salmonid Water under the European Communities (Quality of Salmonid Waters) Regulations 1998 (SI No. 293 of 1988) which implements the European Freshwater Fish Directive 1978 (78/659/EEC). Designated Salmonid Waters are capable of supporting salmon (*Salmo salar*), trout (*Salmo trutta*), char (*Salvelinus*) and whitefish (*Coregonus*). In reality there are many more salmonid waters throughout the County supporting salmonid species in varying quantities, which have not been designated under the legislation.

### 3.2.2.8 Register of Protected Areas

In response to the requirements of the Water Framework Directive a number of water bodies or parts of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife have been listed on Registers of Protected Areas (see Section 3.5 *Water*). In County Offaly, the River Boyne, which flows through part of County Offaly, close to the Town of Edenderry and along the County's boundary with Kildare, has been listed on the RPA for *Habitats Rivers*, and the River Shannon which forms much of the western boundary of the County with Counties Galway and Roscommon has been listed on the RPA for *Species SPA*.

### 3.2.2.9 Biogenic Reserves

A Biogenetic Reserve is an international designation for natural habitats that are especially valuable for nature conservation in Europe. Biogenetic Reserves are designated by the Council of Europe. There are currently fourteen Biogenetic Reserves in Ireland, four of which are located in County Offaly: Clara Bog; Mongan Bog; Slieve Bloom Mountains; and Raheenmore Bog.

### 3.2.3 Ecological Networks

Article 10 of the Habitats Directive also recognises the importance of ecological networks as corridors and stepping stones for wildlife, including for migration, dispersal and genetic exchange of species of flora and fauna. The Directive requires that ecological connectivity and areas of ecological value outside the network of designated ecological sites are maintained and it recognises the need

for the management of these areas through land use planning and development policies.

Ecological networks are important in connecting areas of local biodiversity with each other and with nearby designated sites so as to prevent islands of habitat from being isolated entities. They are composed of linear features, such as treelines, hedgerows and rivers/streams, which provide corridors or stepping stones for wildlife species moving within their normal range. They are particularly important for mammals, especially for bats and small birds.

The County's various rivers and their banks and the hedgerows all play important parts in the County's ecological networks facilitating linkages both between and within the designated ecological sites and the non-designated surrounding countryside.

### 3.2.4 Existing Problems

As a result of agriculture in certain areas of the County, species-poor swards of ryegrass and white clover have dominated, species-diverse wetlands have been drained and hedgerows have been removed in order to make fields bigger and more suited to machinery. The greatly increased use of fertilisers, herbicides and pesticides contributed to the decline of certain species.

Rare bog habitats have been depleted since the introduction of industrial peat harvesting, significantly and adversely impacting upon the County's biodiversity. Some bogs have been reduced due to conversions to agricultural land such as occurred at the extensive Raheenmore Bog.

Aquatic flora and fauna is vulnerable to all forms of pollution such as that which can occur as a result of peat silt and sediment - as has been the case along the River Brosna - silage and slurry from agriculture and industrial and municipal effluents. As identified under Section 3.5 *Water*, a high proportion of the water catchment areas in the County are 'at risk' with regard to meeting legislative water quality objectives under the Water Framework Directive.

Generally, development in County Offaly is not significantly impacting upon designated ecological sites however localised adverse

**Table 3.1 Candidate Special Areas of Conservation**

Site Name	Site Code	Site Name	Site Code
Charleville Wood	000571	Moyclare Bog	000581
Clara Bog	000572	Pilgrim's Road Esker	001776
River Barrow And River Nore	002162	Raheenmore Bog	000582
Ferbane Bog	000575	The Long Derries, Edenderry	000925
Fin Lough	000576	River Shannon Callows	000216
Island Fen	002236	Sharavogue Bog	000585
All Saints Bog and Esker	000566	Slieve Bloom Mountains	000412
Lisduff Fen	002147	Mongan Bog	000580
Ridge Mill, SW of Rapemills	000919		

**Table 3.2 Special Protection Areas**

Site Name	Site Code	Site Name	Site Code
Middle Shannon Callows	004096	River Little Brosna Callows	004086
Mongan Bog	004017	All Saints Bog	004103
Dovegrove Callows	004137	Slieve Bloom Mountains	004160

**Table 3.3 Natural Heritage Areas**

Site Name	Site Code	Site Name	Site Code
Black Castle Bog	000570	Hawkswood	002355
Cangort Bog	000890	River Little Brosna Callows	000564
Clonydonnin Bog	000565	Screggan Bog	000921
Daingean Bog	002033		

**Table 3.4 Proposed Natural Heritage Areas**

<b>Site Name</b>	<b>Site Code</b>	<b>Site Name</b>	<b>Site Code</b>
Annaghmore Lough Fen (Offaly)	000413	Drumkeen, Eagle Hill and Perry's Mill	000900
Ballintemple Bog	000882	Drumkeen National School	002064
Ballyduff Esker	000885	Kilcormac Esker	000906
Ballyduff Wood	001777	Kinnitty (Domestic Dwelling)	000579
Banagher (Domestic Dwelling)	000567	Lough Boora	001365
Birr (Domestic Dwelling)	000568	Lough Nahinch (Tipperary)	000936
Birr (Domestic Dwelling)	000569	Lough Nanag Esker	000910
Bracken's Dwelling near Whiteford	002058	Miltown Park, Shinrone	002065
Camor Wood	000889	Mount St. Joseph Woods	000913
Cloghanbeg	002059	Murphy's Bridge Esker	001775
Cloghan Demesne Bog and Wood	001613	Pallas Lough	000916
Clonad Wood	000574	Raheen Lough	000917
Clonfinlough Esker	000892	Ross and Glenns Eskers	000920
Clonlyon Glebe Bog	000893	St. Joseph's Mountheathon	002063
Clorhane Wood	000894	Woodfield Bog	000586
Derrykeel Meadows	000897	Woodville Woods	000927
Doon Esker Wood	001830	Golden Grove Woods	000903
Dovegrove Callows	000010	Grand Canal	002104
Charleville Wood	000571	Clara Bog	000572
Raheenmore Bog	000582	Roscrea Bog	000583
Lough Coura	000909		



impacts on designated sites may be occurring as a result of individual developments.

With regard to terrestrial flora and fauna, all greenfield development causes an impact - the replacement of natural and semi natural habitats with artificial surfaces results in loss of flora and fauna and therefore adversely impacts upon this environmental component. The significance of the impact of greenfield development depends on whether individual greenfield developments result in the loss of habitats or species of importance together with the cumulative amount of habitats and species lost and fragmented as a result of all greenfield developments. It is noted that development of brownfield sites and re-development can also have impacts on terrestrial flora and fauna.

Ecological networks have been adversely impacted upon by the development of infrastructure such as roads which result in the habitat fragmentation as well as by the development of housing which results in the removal of hedgerows or housing which occurs along the edges of inland surface waters.

### **3.2.5 Evolution of Biodiversity and Flora and Fauna in the absence of a CDP**

In the absence of a CDP, development would have no guidance as to where to be directed and planning applications would be assessed on an individual basis with flora and fauna, habitats and ecological connectivity protected under a number of strategic actions relating to biodiversity and flora and fauna protection.

Any future development along the edges of designated ecological sites would be likely to result in a reduction in habitats and would therefore be likely to reduce ecological connectivity on the edges of these sites.

Development along or adjacent to the banks of rivers could result in a reduction in ecological connectivity within and between these and other habitats.

Pollution of water bodies as a result of any future development within catchments would be likely to adversely impact upon aquatic biodiversity and flora and fauna including salmonid species and other species protected under Annex II of the Habitats Directive.

Agriculture in the less productive, marginal areas of the County is likely to continue to decline resulting in a reduction in the maintenance of these lands and the covering of these lands with scrub and trees - either due to the development of plantations or through natural colonisation processes. This development is resulting in the development of new woodland habitats, supporting varying levels of biodiversity.

The harvesting of peat would be likely to continue in non-designated areas resulting in short to medium terms losses to biodiversity. In the absence of a CDP it is uncertain as to whether such losses could be offset in the long term by encouraging mosaics of wetland and lakes, wild re-colonising grassland, improved grassland, tillage, birch woodlands and conifer plantations as has been realised at the Lough Boora Parklands. This mosaic may provide the dominant habitat structure in County Offaly in the future.

Increasing amounts of less productive agricultural lands would be likely to return to scrub and trees cover, either due to the development of plantations or through natural colonisation processes.

## **3.3 Population and Human Health**

### **3.3.1 Population**

#### **3.3.1.1 Overall Population Change Trends**

As at Census 2006, County Offaly's population stood at 70,868 persons, a significant population increase of 11.3% in four years from a population of 63,663 in 2002 in comparison with a 7.7% increase between 1996 and 2002 and a 1.07% increase between 1991 and 1996 (see Table 3.5). The 2006 figure of 70,868 is the highest population figure for County Offaly since 1881 and reflects the National trend. The CSO estimates that the increase in population of 7,205 between 2002 and 2006 comprised a natural increase of 2,026 persons and a net inward migration of 5,179.

Census Year	Population	% Change
1961	51,533	-1.92
1971	51,829	0.57
1981	58,312	12.51
1986	59,835	2.60
1991	58,494	-2.24
1996	59,117	1.07
2002	63,663	7.7
2006	70,868	11.3

**Table 3.5 Population changes in County Offaly 1961 – 2006**

### 3.3.1.2 Population Distribution Trends

Around two fifths of the County's population is contained within larger towns such as Tullamore, Birr, Edenderry, Clara and Portarlington. However the County remains largely rural in nature, with around three fifths of the population residing in rural areas, evenly split between a well-developed network of smaller towns and villages with populations of less than 1,500 and the open countryside. This population distribution is indicated on Figure 3.4 which shows the 2006 population distribution of the County.

Table 3.6 gives a breakdown of the increases in population directly associated with the Linked Gateway Town of Tullamore and the other large towns and their environs within the County. It shows that the urban centres have performed strongly in terms of population growth over the period between 1996 and 2006.

Council Area	1996	2002	2006	% Change	
				'02-'06	'96-'06
Offaly County	59,117	63,663	70,868	11.3	20
Birr & Environs	4,158	4,411	5,053	14.5	21.5
Tullamore & Environs	10,039	11,098	12,927	16.5	28.8
Edenderry & Environs	3,825	4,559	5,888	29.2	53.9
Portarlington (Co. Offaly)	1,158	1,245	1,609	29.2	39

**Table 3.6 Population changes in County Offaly by Council Area 2002-2006**

- Tullamore

Tullamore, which together with Athlone and Mullingar comprises the Midlands Linked Gateway, has experienced significant population growth over the period 1996 to 2006. As shown on Table 3.6, Tullamore and Environs' population has grown by 12,927 persons in comparison to the 5,053 persons increase in population experienced by Birr and Environs and the 5,888 persons increase in population experienced by Edenderry and Environs.

- Edenderry

Edenderry and its environs has, between 1996 and 2006, had a faster rate of growth than both Tullamore, which is part of the Midland Linked Gateway and Birr, which was traditionally Offaly's second largest town.

- Portarlington

Offaly Local Authorities' Housing Strategy (2007) has found that buoyant population growth has occurred in the period 1996-2006 in Portarlington which, like Edenderry, is situated in the east of the County, under the influence of the Greater Dublin Area. The part of the Town within County Laois grew from 2,756 to 4,395 (59.5%) and that part within County Offaly from 1,245 to 1,609 (29.2%), a combined growth of over 2,000 persons over 4 years.

- Clara

Population growth in Clara has been strong in the latter part of the last 2002-2006 intercensal period and has the potential to remain very strong towards 2010, and at a rate significantly higher than Tullamore. Clara's population growth during the period 2002-2006 was slightly lower than Tullamore's, as would be expected given Tullamore's role as part of the Midlands Linked Gateway. However, pressure for residential development over the period 2006–2007 has been greater in Clara than in Tullamore, possibly due to the higher relative availability/release of zoned land in Clara, coupled with the lower cost of housing.

Figure 3.5 indicates the areas (by DED) of the County which have achieved more rapid population growth over the period 2002 to 2006.

Population growth has been considerably stronger in the eastern part of the County

(particularly around Edenderry, Portarlinton, Daingean and Rhode) than in the remainder over this period, largely due to this area's proximity to the Greater Dublin Area (GDA).

The area adjacent to the N52 and N80 between Tullamore and Tober has also seen significant rates of population increase.

Parts of West and South Offaly have experienced less population growth with some DEDs experiencing decreases in population over the 2002 to 2006 period. However, the areas adjacent to the towns of Banagher and Birr and the village of Shinrone have seen significant population increases since 2002.

### **3.3.2 Human Health**

With regard to human health, impacts relevant to the SEA are those which arise as a result of interactions with environmental vectors (i.e. environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings).

Human health has the potential to be impacted upon by environmental vectors including water, soil and air. Hazards or nuisances to human health can arise as a result of exposure to these vectors and incompatible landuses. These factors have been considered with regard to the description of: the baseline of each environmental component; and the identification and evaluation of the likely significant environmental effects of implementing the plan and the alternatives.

### **3.3.3 Existing Problems**

Environmental problems - such as the contamination of drinking water - arising out of insufficient and untimely provision of waste water treatment infrastructure (see Section 3.7) have the potential to impact upon the health of the County's population.

### **3.3.4 Evolution of Population and Human Health in the absence of a CDP**

The occurrence of growth in areas not identified as having environments which are compatible to such land uses can result in significant adverse impacts on the environment. As there is likely to

be further increases in County Offaly's population over the coming years, there is a need to direct growth towards the most robust and away from the most sensitive environments. This can be done by policies and objectives which are included in a CDP and by zoning sufficient amounts of land in order to ensure that growth is directed towards the most compatible environments. In the absence of a CDP such direction of growth would be unlikely to occur and would be likely to result in significant adverse impacts upon a range of environmental components including the landscape, biodiversity, flora and fauna, cultural heritage and water resources.

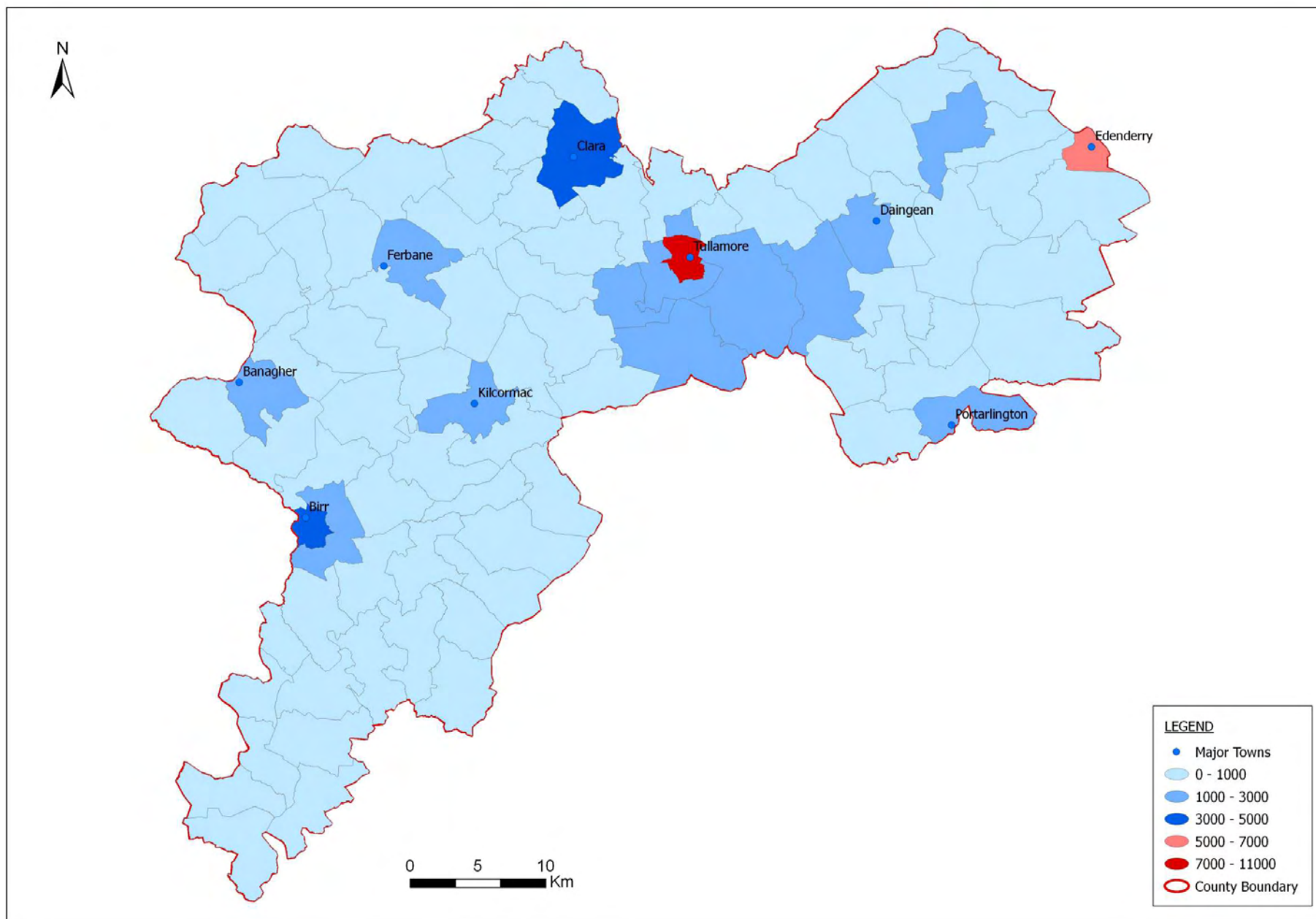
In the absence of a CDP for Offaly there would be no framework for the provision of infrastructure to serve existing and future development and this would be likely to delay or hinder the provision of infrastructure which would have the potential to result in impacts on environmental vectors to which humans are exposed e.g. a lack of appropriate waste water treatment infrastructure could adversely impact upon drinking water quality and subsequently upon human health.

## **3.4 Soil**

### **3.4.1 Introduction**

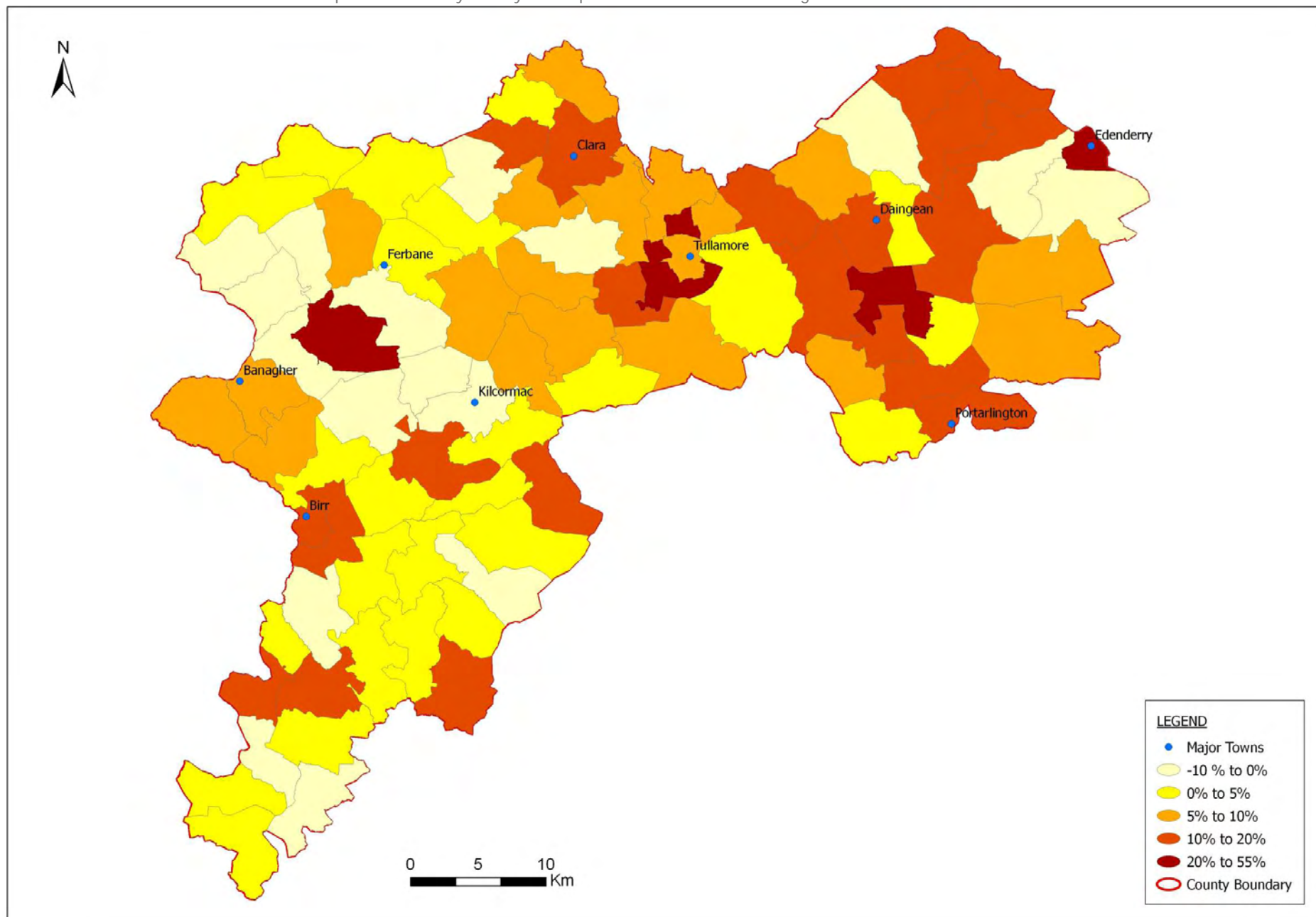
Soil is the top layer of the earth's crust. It is formed by mineral particles, organic matter, water, air and living organisms. Soil can be considered as a non-renewable natural resource because it develops over very long timescales. It is an extremely complex, variable and living medium and performs many vital functions including: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance.

Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action. The parent material of soils in County Offaly consists of a mantle of glacial drift. This drift has been overlain in places by peatlands.



**Figure 3.4 Population Distribution 2006**

CAAS for Offaly County Council



**Figure 3.5 Population Change 2002 to 2006**

CAAS for Offaly County Council

To date, there is no legislation which is specific to the protection of soil resources. However, there is currently an EU Thematic Strategy on the protection of soil which includes a proposal for a Soil Framework Directive which proposes common principles for protecting soils across the EU.

### 3.4.2 Soil Types

Soil type data sourced from Teagasc, Geological Survey of Ireland, Forest Service and EPA is mapped on Figure 3.6<sup>11</sup>. The data shows that County Offaly is covered by a relatively large proportion of bog lands with much of the County covered by a vast lowland raised bog complex as well as the Slieve Bloom uplands area in the south of the County, covered with blanket bog and acidic mineral soils. Certain areas of the raised and blanket bogs are internationally important - supporting a large variety of rare flora and fauna - and large areas are protected by a number of ecological designations identified under Section 3.2. In addition to being a valuable ecological resource, the soil of Offaly's bogs provides employment within the County through areas such as harvesting, tourism and agriculture.

Grey brown podzolic basic mineral soils are dominant in areas outside of the bog areas. They are deep, well drained soils which are derived from calcareous drift composed mainly of limestone with some coal shales and sandstone. Grey brown podzolic soils are relatively fertile, support grasslands and are facilitate the production of a wide range of vegetable crops.

Mineral alluvium soils are found in smaller proportions than the peat soils and grey brown podzolic soils throughout the flood plains of the County's various rivers.

### 3.4.3 Sites of Geological Interest

#### 3.4.3.1 Introduction

Offaly County Council has identified the geomorphological features of eskers and mushroom stones with the intention of maintaining their possible conservation value.

<sup>11</sup> Teagasc, Geological Survey of Ireland, Forest Service and EPA (2006) *Soils and Subsoils Class* Dublin: DoEHLG

The Geological Survey of Ireland and the DoEHLG are currently identifying sites of geological interest that will be proposed as Natural Heritage Areas.

#### 3.4.3.2 Eskers

Eskers are narrow, winding ridges of stratified gravelly and sandy drift deposited between ice walls by meltwater channels flowing on, in, or under glacial ice. They are one of the most distinctive features of the midlands, famous as ancient thoroughfares and for their vegetation.

A comprehensive system of eskers exists in Offaly, mainly concentrated in the northwest and centre of the County. The eskers are of geomorphologic, scientific, ecological, recreational and amenity value and uniqueness. They also have archaeological significance, as they formed the early highways in Ireland. In old Irish, *eiscir* meant *divide* while *riada* meant *road*.

The most comprehensive of these eskers is the Eiscir Riada which runs in an east/west direction across Ireland, dividing the Island into two roughly equal parts. The esker is flanked by boglands in County Offaly and runs in a more or less continuous line from Shannonbridge to Clonmacnoise and onto Clara, Durrow and Rahugh, County Westmeath.

A number of eskers across the County are likely to provide nutrient rich water which feeds the bogs' soak systems across the County. The esker system north of Clara bog is critically important, as it is most likely the source of nutrient rich water which feeds Clara bog's soak systems.

Eskers are mapped on Figure 3.7 and include three to the north and south of Tullamore - at Kilcormac, Geashill and Ballyduff - which form part of an extensive esker system throughout the midlands and a number of ridges between Birr and Banagher.

#### 3.4.3.3 Mushroom Stones

County Offaly contains the best collection of *mushroom stones* in Ireland. These important geological features were shaped by the movement of water in postglacial lakes. Mushroom stones in County Offaly are listed within and protected under the current County Development Plan.

### 3.4.4 Extractive Industries

Quaternary geology comprises the study of soils which have been deposited or formed during the last 2 million years. The quaternary geology in County Offaly, including the deposits which were laid down during and after the last ice age, supports a range of quarrying activities.

Figure 3.7 shows the spatial spread of quarries in the County which have been registered in order to comply with the requirements of Section 261 of the Planning and Development Act 2000<sup>12</sup>. These quarries are generally sand and gravel pits operating in the County from which various sizes and types of sand, gravel and aggregates are being excavated<sup>13</sup>. The largest clusters of quarries are found within relative close proximity of the towns of Tullamore and Birr and along the ridges of a number of eskers.

### 3.4.5 Existing Problems

Generally, development in County Offaly is not significantly impacting upon raised bog sites which are found within a number of designated ecological sites (see Section 3.2). However, raised bogs outside these sites have experienced significant depletion since the introduction of industrial peat harvesting halfway through the twentieth century.

The development of extractive industry at certain locations in County Offaly has led to the depletion of both subsoils, the material which has been quarried, and topsoil, which has been removed in order to obtain the subsoil. This depletion has impacted upon the County's esker network.

Greenfield development involves the building upon and thereby sealing off of non-renewable subsoil as well as topsoil thus representing a significant environmental problem.

Soil can be polluted and contaminated by development which is not serviced by appropriate waste water infrastructure and by agricultural activities.

<sup>12</sup> This does not include quarries which have recent planning permission and therefore would have been outside the registration process.

<sup>13</sup> Geological Survey of Ireland (2001) *Directory of Active Mines, Pits and Quarries in Ireland* Dublin: Government of Ireland

Soil erosion due mainly to surface erosion resulting from construction works and agricultural / forestry operations has major potential to impact on water quality and fishery resources.

### 3.4.6 Evolution of Soil in the absence of a CDP

The harvesting of peat would be likely to continue in the County non-designated areas resulting in losses of peat soils.

It is likely that there would be applications to set up and/or expand quarrying activities in certain areas which are underlain by valuable deposits. Such development would result in the reduction of the non-renewable subsoil and soil resources and could impact upon the County's esker system.

The currently proposed Soil Directive suggests encouraging the rehabilitation of brownfield sites, thus reducing the depletion of greenfield sites. However, in the absence of a CDP there would be no framework for the direction of growth towards brownfield sites in the County, where such direction is appropriate. As a result greenfield development would be likely to occur on an increased basis and would result in the building upon and thereby sealing off of the non-renewable subsoil and soil resources.

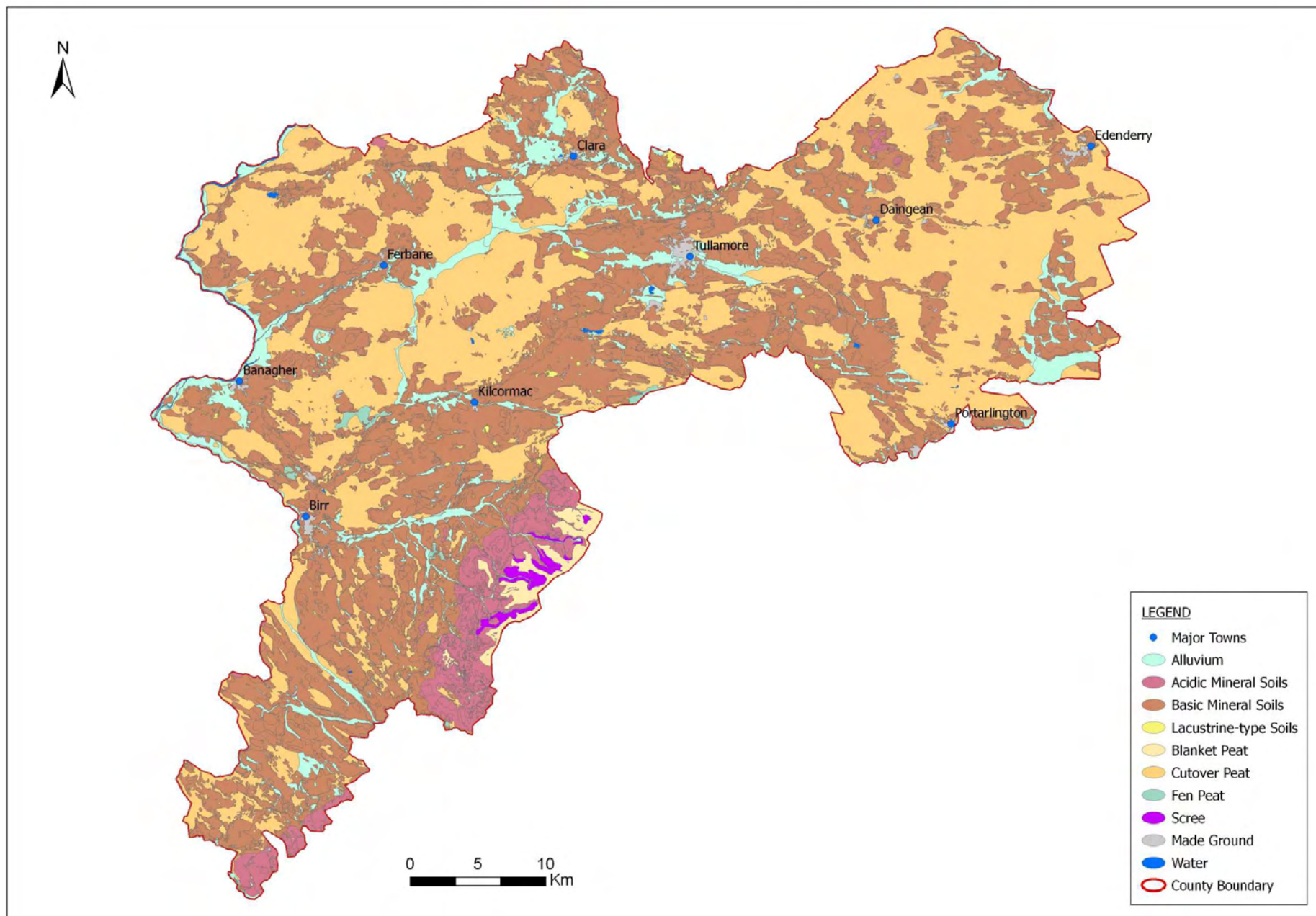
There would be no framework for the provision of infrastructure - such as that relating to waste water treatment - to serve existing and future development and therefore soil would have the potential to be polluted and contaminated as a result of pollution from development which is not serviced by appropriate waste water infrastructure.

## 3.5 Water

### 3.5.1 Introduction

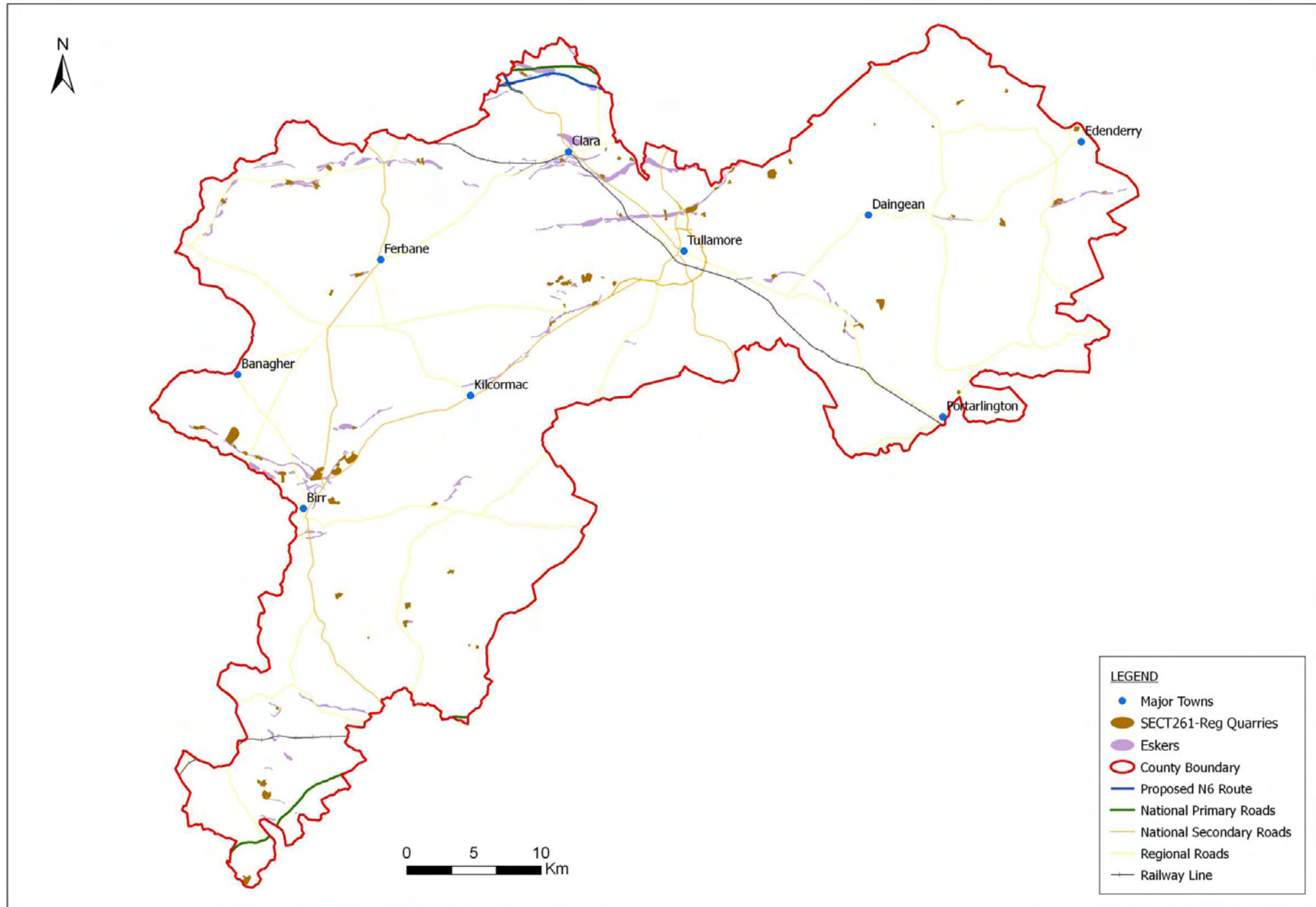
Water in County Offaly has many functions: it provides drinking water to the County's population; it feeds the various bog systems across the County; it sustains the biodiversity and flora and fauna described under Section 3.2 - rivers and wetlands support diverse ecosystems across the County, some of which are subject to ecological designations; it provides for agricultural production; and it is an integral part of the County's landscape.





**Figure 3.6 Soil Type**  
CAAS for Offaly County Council





**Figure 3.7 Eskers and Registered Quarries**

CAAS for Offaly County Council

### 3.5.2 The Water Framework Directive and Risk Assessments

The principal legislation governing water quality in Ireland is the European Communities (Water Policy) Regulations 2003 (SI No. 722 of 2003) which transposes the Water Framework Directive (2000/60/EC). The Water Framework Directive (WFD) requires that all member states implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving good status by 2015. All public bodies, including Offaly County Council, are also required to: coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted; and improve polluted water bodies to good status by 2015.

For the purpose of implementing the WFD, Ireland has been divided into eight river basin districts or areas of land that are drained by a large river or number of rivers and the adjacent estuarine/coastal areas.

County Offaly is located in three different River Basin Districts (RBDs):

- The Shannon RBD (SRBD), which drains 1,470 km<sup>2</sup> or 73% of the County, from east of Tullamore westwards;
- The Eastern RBD (ERBD), which drains 391 km<sup>2</sup> or 20% of the County to the north east, and;
- The South Eastern (RBD), which drains 133 km<sup>2</sup> or 7% of the County to the south east.

For the purposes of assessment, reporting and management, water in the RBDs has been divided into groundwater, rivers, lakes, estuarine waters and coastal waters which are in turn divided into specific, clearly defined *water bodies*.

Each water body has been assessed, on the basis of human activity, whether it is *at risk* or *not at risk* of failing to achieve the WFD's objectives by 2015<sup>14</sup>. The classifications used for reporting this assessment are:

<sup>14</sup> ERBD Project Office (2005) *Article 5 Characterisation Summary Report* Dublin: ERBD Project Office, SRBD Project Office (2005) *Article 5 Characterisation Summary Report* Limerick: SRBD Project Office, SERBD

- (1a) *At Significant Risk* - water body is at risk of failing to meet good status in 2015
- (1b) *Probably at Significant Risk* - water body is thought to be at risk of failing to meet good status in 2015 pending further investigation
- (2a) *Not at Significant Risk* - the water body is expected to meet good status in 2015
- (2b) *Probably Not at Significant Risk* - water body is expected to meet good status in 2015, pending further investigation

Water bodies placed in the (1a) *At Significant Risk* category will need improvement to achieve the required status while water bodies in the (1b) *Probably at Significant Risk* category are likely to need improvement in order to achieve the required status.

In addition to these assessments which are included in each of the RBD Characterisation Reports, the WFD requires that Registers of Protected Areas (RPAs) are compiled for a number of water bodies or part of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife.

It is noted that although the Characterisation Report for each of the RBDs has been published, River Basin Management Plans which will set out to help protect and improve all waters in the RBDs will not be adopted until mid 2009. These Management Plans will provide specific policies for individual river basins in order to implement the requirements of the WFD.

### 3.5.3 Rivers

#### 3.5.3.1 Introduction

The River Brosna and its tributaries (including the Clodiagh and its tributary the Tullamore River, the Silver River) drain most of the centre, north and west of the County flowing into the River Shannon which comprises much

Project Office (2003) *Article 5 Characterisation Summary Report* Carlow: SERBD Project Office

of the County's western boundary. The Little Brosna River, which flows into the River Shannon south of Banagher, together with its tributaries, drains much of the south of the County. The north east of the County is drained by the Yellow River which flows into the River Boyne, while the south east of the County is drained by the River Barrow.

The Grand Canal, a man-made waterway linking the River Liffey at Dublin to the River Shannon at Shannon Harbour in the west of County Offaly flows across the north of the County.

There are a number of small lakes across the County including Raheen Lough in the west of the County, Annaghmore Lough and Pallas Lough to the south of Tullamore, Lough Boora which flows into the River Brosna in the west of the County and Fin Lough in the north west of the County.

### 3.5.3.2 EPA Monitoring

As monitored by the Environmental Protection Agency (EPA), river and stream water quality in County Offaly varies considerably from being unpolluted (Q4, Q4-5 or Q5)<sup>15</sup> to slightly (Q3-4) or moderately polluted (Q2-3 or Q3)<sup>16</sup>. These Biotic Index Values are useful at the local level for identifying carrying capacity in the various rivers; however, the RBD Risk Assessments for the various water bodies are used for the purposes of this County level SEA.

### 3.5.3.3 Risk Assessment and Register of Protected Areas

Figure 3.8 shows the Risk Assessments for river body catchments in County Offaly alongside existing waste water treatment

<sup>15</sup> The Biotic Index Values, or Q values, are assigned to rivers in accordance with biological monitoring of surface waters - low Q ratings, as low as Q1, are indicative of low biodiversity and polluted waters, and high Q ratings, as high as Q5, are indicative of high biodiversity and unpolluted waters. Good status as defined by the Water Framework Directive equates to approximately Q4 in the national scheme of biological classification of rivers as set out by the EPA.

<sup>16</sup> Slightly polluted waters (Q3-4) support reduced or much reduced biological community diversity, have water quality which is fair or doubtful, and, may be of a satisfactory or unsatisfactory condition, referring to the likelihood of interference with beneficial or potential beneficial uses. Moderately polluted waters (Q2-3 or Q3) support much reduced or low biological community diversity, have water quality which is doubtful or poor, and, are of unsatisfactory condition.

infrastructure/capacity needs (see Section 3.7 *Material Assets*).

In terms of achieving the WFD's objectives by 2015 all river catchments in the County - apart from two located in the south of the County near the Slieve Bloom Mountains - are classified as being either *(1a) at significant risk* or *(1b) probably at significant risk* of failing to achieve the WFD's objectives by 2015.

It is noted that all locations at which additional waste water treatment infrastructure/capacity is needed in order to serve existing development are situated in catchments classified as being either *(1a) at significant risk* or *(1b) probably at significant risk* of failing to achieve the WFD's objectives by 2015.

There are a number of rivers in County Offaly listed on various WFD Registers of Protected Areas (RPAs):

- The Tullamore River, which flows through the town of Tullamore, the Little Brosna River, which flows through the town of Roscrea and Birr, and the River Barrow, which flows along the County's border with County Laois, have been listed on the RPA for Nutrient Sensitive Rivers;
- Stretches of the Tullamore River, the Gageborough River (in the north of the County) and the Shannon River are listed on the RPA for Drinking Waters Rivers;
- The River Boyne, which flows through part of County Offaly close to the town of Edenderry and along the County's boundary with Kildare, has been listed on the RPA for Habitats Rivers; and
- The River Shannon has been listed on the RPA for Species SPA

RPA entries in County Offaly are mapped on Figure 3.9. All of these entries in County Offaly are located in catchments which are classified as being either *(1b) probably at significant risk* of failing to achieve the WFD's objectives by 2015 and a number of the entries are located in catchments which need additional waste water treatment infrastructure/capacity in order to serve existing development.

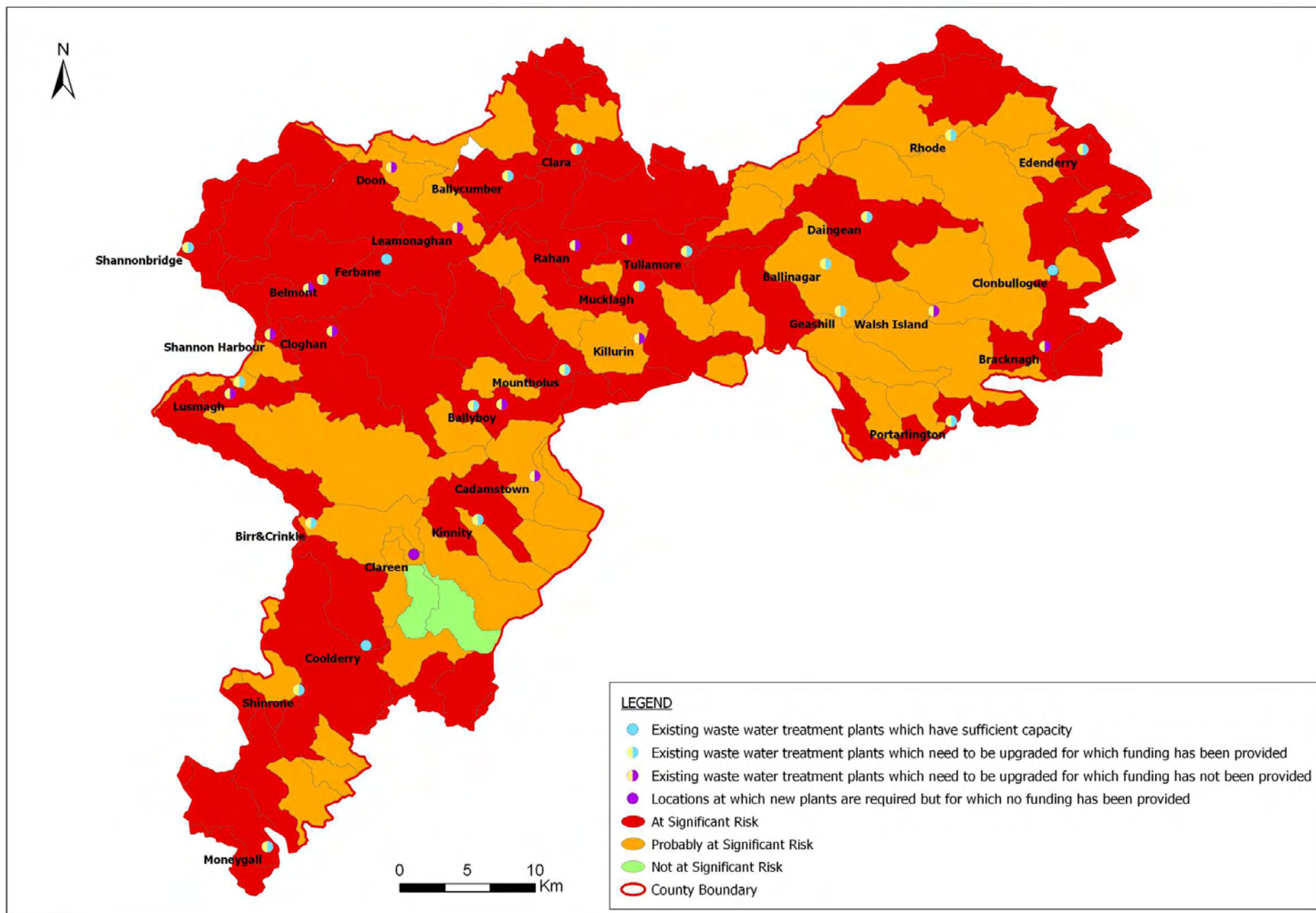
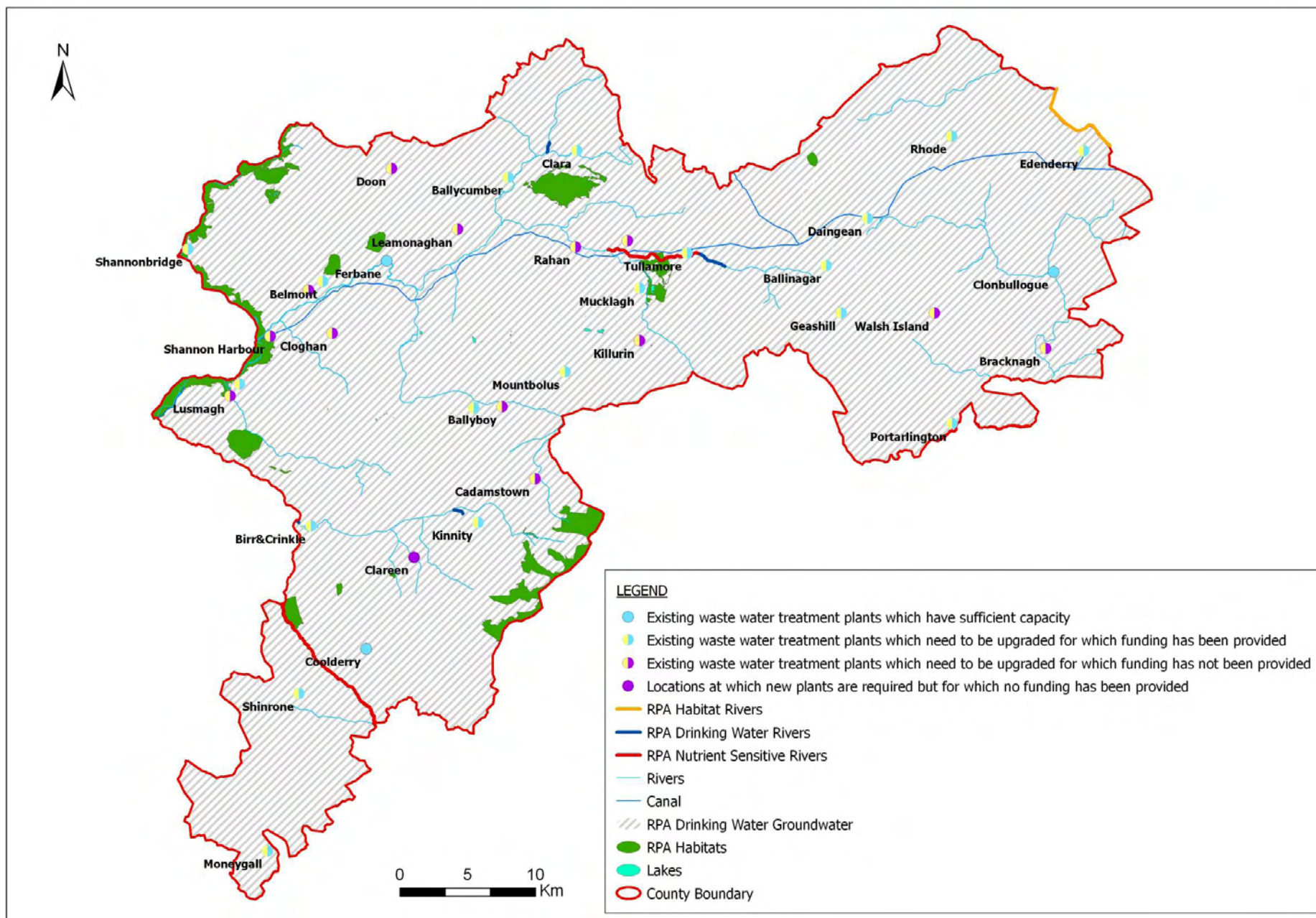


Figure 3.8 WFD River Catchment Risk Assessment and Waste Water Infrastructure/Capacity Needs





**Figure 3.9 WFD Register of Protected Areas**

It is noted that as the Grand Canal is an Artificial Water Body, it was not included in the Risk Assessments of any of the RBDs through which it flows. The approach to be taken with regard to the risk assessment and management of Artificial Water Bodies in the context of the WFD is currently being developed by both the EPA and Waterways Ireland.

### 3.5.4 Lakes

#### 3.5.4.1 EPA Monitoring

There are no lakes in the County which are classified by the Risk Assessments of the various RBDs, however, the trophic status<sup>17</sup> of two lakes south of Tullamore are monitored by the EPA: Annaghmore Lough, which lies on the border between County Offaly and County Laois and Pallas Lough which lies in the Centre of the County.

Both Loughs are identified as being of between Oligotrophic and Mesotrophic<sup>18</sup> status in the most recently published report (EPA, 2003)<sup>19</sup> *Good status* as defined by the Water Framework Directive equates to mesotrophic in the trophic classification of lakes therefore both of these lakes currently achieve good status water quality as required by the WFD.

### 3.5.5 Groundwater

#### 3.5.5.1 Introduction

Groundwater is stored in the void spaces in underground layers of rock, or aquifers. These aquifers are permeable, allowing both the infiltration of water from the soils above them

<sup>17</sup> Nutrient enrichment, resulting in eutrophication, is the principal pressure on lake quality in Ireland. These nutrient inputs result in plant growth in lakes whose presence is quantified by a measure of the algal pigment chlorophyll. Lake trophic status, or the extent to which a lake is nutrient enriched, is determined by a consideration of the annual maximum chlorophyll values.

<sup>18</sup> Oligotrophic lakes have low algal growth, high dissolved oxygen, very low levels of pollution and generally no impairment of use, supporting diverse biological communities. Mesotrophic lakes have moderate to substantial algal growth, moderate to low dissolved oxygen, low to significant levels of pollution and little to significant impairment of use, supporting biological communities of reduced to low diversity.

<sup>19</sup> Environmental Protection Agency (2005) *Water Quality in Ireland 2001-2003* Wexford: Environmental Protection Agency

and the yielding of water to surface and coastal waters. Groundwater is the part of the subsurface water that is in the saturated zone - the zone below the water table, the uppermost level of saturation in an aquifer at which the pressure is atmospheric, in which all pores and fissures are full of water. Groundwater bodies in County Offaly follow the pattern of the County's geology, the empty spaces of which they are contained in.

The bulk of water supplies in the County are derived from ground water reserves and they provide a very cost effective source of water supply. Consequently particular attention must be paid to their protection from contamination.

#### 3.5.5.2 Aquifer Vulnerability

The Geological Survey of Ireland (GSI) rates aquifers according to their vulnerability to pollution. Figure 3.10 maps this rating alongside Aquifer Protection Zones<sup>20</sup> and waste water treatment infrastructure/capacity needs (see Section 3.7 *Material Assets*).

Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter underground water. Extreme aquifer vulnerability (which can be found in locations across the entire county with the largest area at the Slieve Bloom uplands and foothills in the south of the County) and high aquifer vulnerability (which is the most common vulnerability to be found in the County) are the two classifications of aquifers which are most sensitive to an imposed contaminant load - the majority of the County's ground waters are classified as being either of extreme or high vulnerability.

It is noted that most locations at which additional waste water treatment infrastructure/capacity is needed in order to serve existing development are situated over aquifers of extreme or high vulnerability.

#### 3.5.5.3 Risk Assessment and Register of Protected Areas

Figure 3.11 maps the RBD Risk Assessments for Groundwater in County Offaly and waste water treatment infrastructure/capacity needs. Most of

<sup>20</sup> The current Offaly County Development Plan 2003 - 2009, identifies Aquifer Protection Zones (APZs) for both public and private water schemes, enabling the application of restrictive policy to these sensitive zones.

the groundwater bodies in County Offaly are assessed as being either *(2a) Not at Significant Risk* or *(2b) Probably Not at Significant Risk* however it is noted that groundwater bodies closest to the towns of Birr and Tullamore - where a significant amount of the County's development and settlement has taken place in the past and is likely to take place in the future - are generally assessed as being *probably at significant risk* of failing to achieve the WFD's objectives by 2015.

A number of locations at which additional waste water treatment infrastructure/capacity is needed in order to serve existing development - including Birr, Tullamore, Daingean, Walsh Island, Cadamstown and Portarlinton - are located over groundwater bodies classified as being *(1b) probably at significant risk* of failing to achieve the WFD's objectives by 2015.

Groundwater bodies in County Offaly are listed on the RPA for Groundwater Drinking Water (see Figure 3.9).

### 3.5.6 Flooding

The risk of flooding in County Offaly has been increased in the past by human actions including the clearing of vegetation to make way for agriculture and the development of settlements in the flood plains of rivers.

There are a number of areas in the County which are prone to flooding including the Shannon Callows (the flood plains of the River Shannon) and the flood plains of the Tullamore River and the Little Brosna River.

Infrastructural development, culverting and forestry operations all present an ongoing flooding hazard.

### 3.5.7 Existing Problems

There are severe environmental problems in County Offaly with regard to water quality which have the potential for significant adverse impact upon biodiversity and flora and fauna, drinking water supplies and human health.

The majority of river catchments (most of which are located closest to the largest settlement centres) are classified as being either *(1a) at significant risk* or *(1b) probably at significant risk* of failing to achieve the WFD's objectives by 2015.

With regard to the County's groundwater, the majority of the groundwaters are classified as being either of extreme or high vulnerability; while groundwaters underlying the areas where most development and settlement has taken place in the past and is likely to take place in the future are generally assessed as being *at significant risk* of failing to achieve the WFD's objectives.

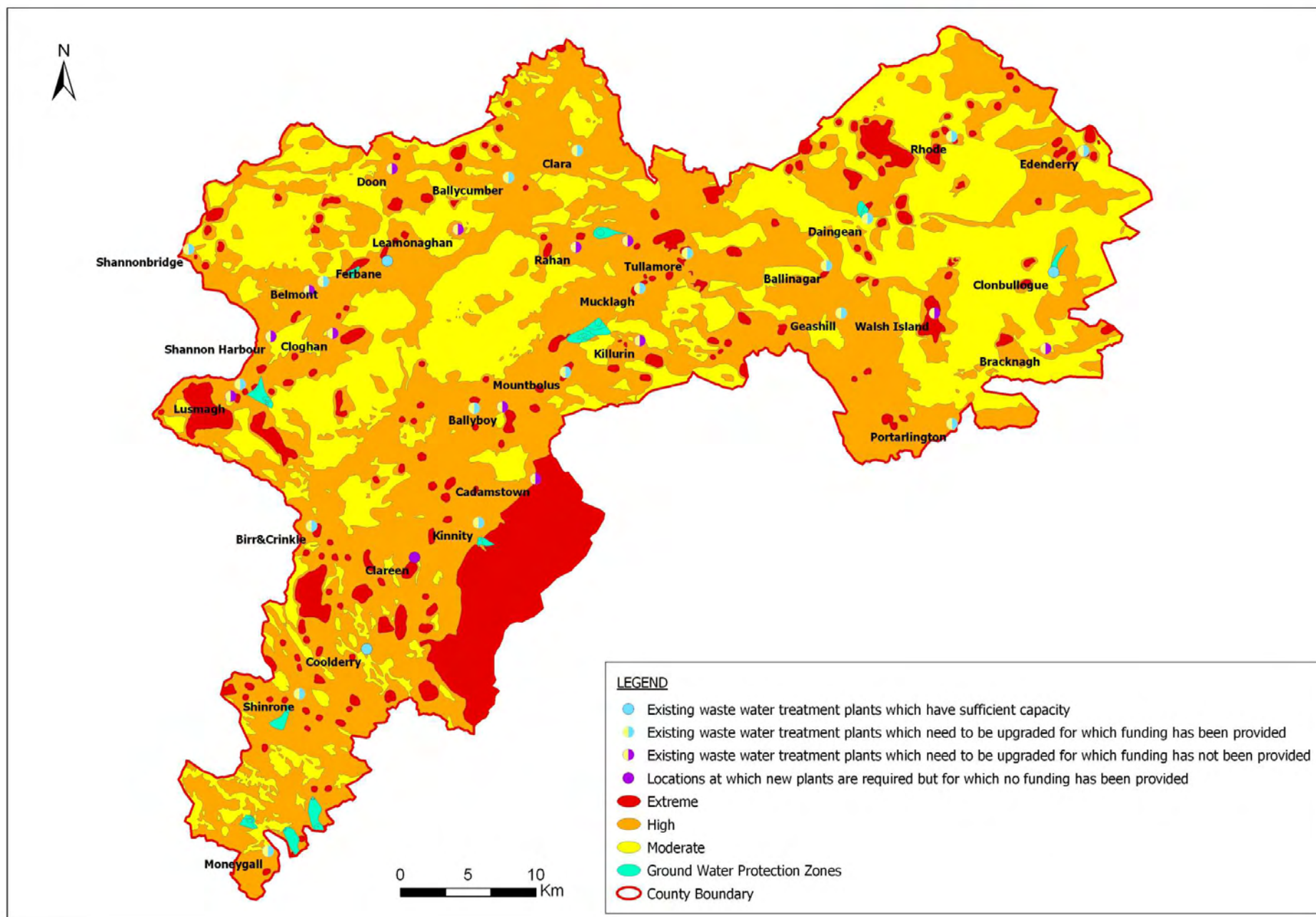
In addition to the sensitivities indicated by these risk assessments, there are a number of channel lengths included on various Registers of Protected Areas (RPAs) by virtue of how their waters are used by people and by wildlife and groundwater bodies in the County are listed on the RPA for Groundwater which is used for Drinking Water.

The failure to provide appropriate waste water treatment infrastructure and capacity alongside development (see Section 3.7 *Material Assets*) presents a significant problem which is likely to affect Offaly County Council's ability to meet its commitments under the WFD.

### 3.5.8 Evolution of Water in the absence of a CDP

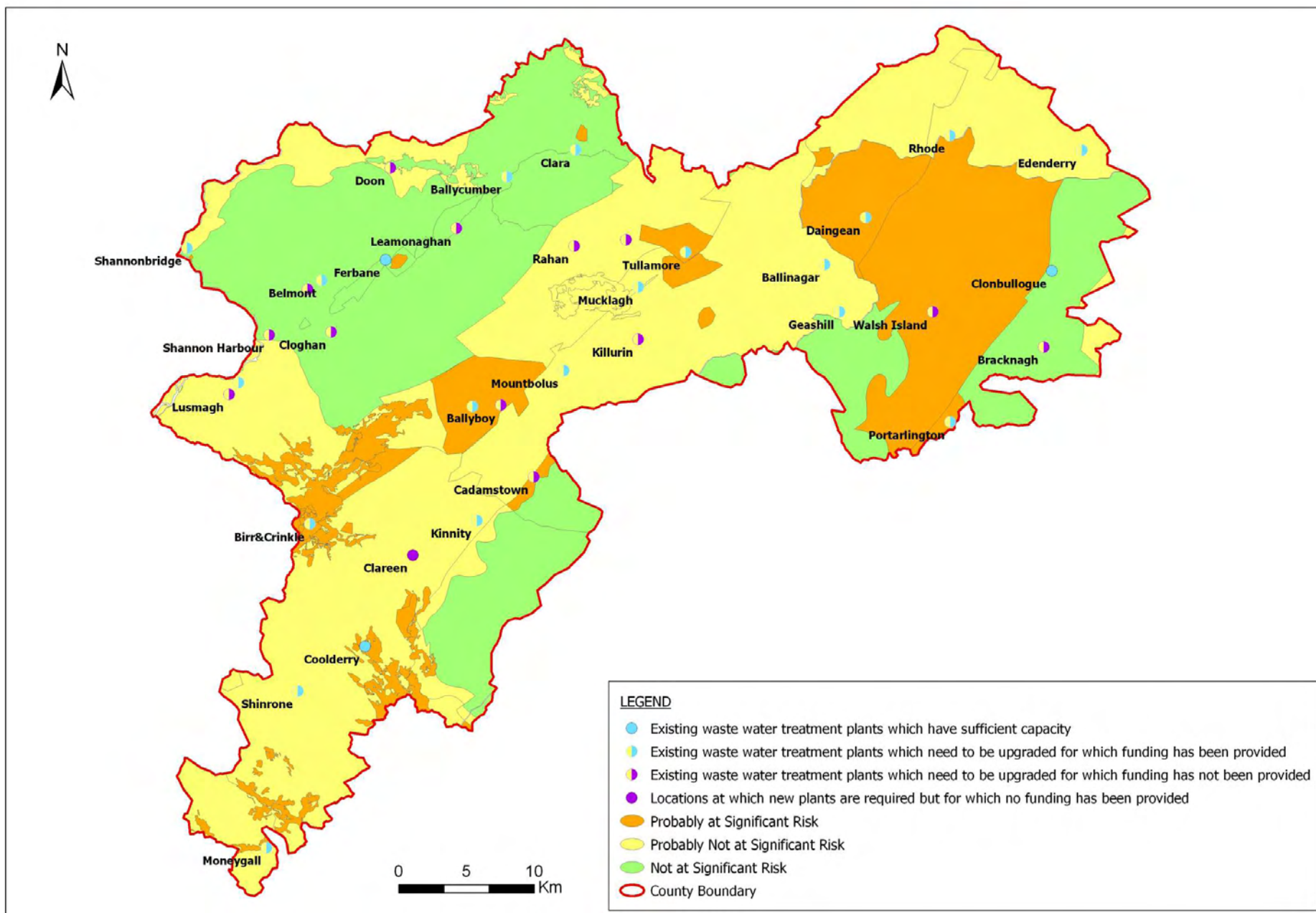
Based on the risk assessment included in the various RBD Characterisation Reports, a sizable proportion of water bodies in County Offaly would be unlikely to meet their commitments under the WFD.

If existing waste water treatment infrastructure/capacity needs are not provided for and if new development was not accompanied by appropriate waste water infrastructure/capacity then it is likely that: a significant amount of water bodies in County Offaly would fail to meet WFD commitments; and significant adverse impacts upon the County's biodiversity and flora and fauna, drinking water supplies and human health as a result of poor water quality would be likely to occur.



**Figure 3.10 GSI Ground Water Vulnerability, CDP Aquifer Protection Zones and Waste Water Treatment Infrastructure/Capacity Needs**





**Figure 3.11 WFD Ground Water Body Risk Assessment and Waste Water Infrastructure/Capacity Needs**

### 3.6 Air and Climatic Factors

#### 3.6.1 Ambient Air Quality

##### 3.6.1.1 Introduction

In order to protect human health, vegetation and ecosystems, EU directives set down air quality standards in Ireland and the other member states for a wide variety of pollutants. These rules include how ambient air quality should be monitored, assessed and managed.

The principles to this approach are set out under the Air Quality Framework Directive 1996 as transposed into Irish law under the Environmental Protection Agency Act 1992 (Ambient Air Quality Assessment and Management) Regulations 1999 (SI No. 33 of 1999).

Four daughter directives lay down limits or thresholds for specific pollutants. The first two of these directives cover: sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead; and carbon monoxide and benzene. Two more daughter directives deal with: ozone; and polyaromatic hydrocarbons, arsenic, nickel, cadmium and mercury in ambient air.

In order to comply with these directives, the EPA measures the levels of a number of atmospheric pollutants. For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Regulations (2002). The main areas defined in each zone are:

- Zone A: Dublin Conurbation.
- Zone B: Cork Conurbation.
- Zone C: Other cities and large towns comprising Galway, Limerick, Waterford, Clonmel, Kilkenny, Sligo, Drogheda, Wexford, Athlone, Ennis, Bray, Naas, Carlow, Tralee and Dundalk.
- Zone D: Rural Ireland, i.e. the remainder of the State - small towns and rural areas of the country - excluding Zones A, B and C.

County Offaly is located in Zone D and air quality is monitored by the EPA at one location

in the County, Ferbane in the north west of the County.

##### 3.6.1.2 Assessment Results

Air quality in Ferbane was most recently assessed between 11 October 2006 and 28 March 2007. Monitoring was done by a mobile unit containing continuous monitors for sulphur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO) and particulate matter 10 (PM<sub>10</sub>). Metals in air were also measured. The air quality assessment is shown on Table 3.7<sup>21</sup>.

Pollutant	Compliance		
SO <sub>2</sub>	below threshold	lower	assessment
NO <sub>2</sub>	below threshold	lower	assessment
CO	below threshold	lower	assessment
PM <sub>10</sub>	above threshold	upper	assessment

**Table 3.7 Air Quality Assessment- Compliance of pollutants with thresholds**

The Air Quality Framework Directive states that: modelling or objective estimation techniques may be used to assess ambient air quality if levels of the pollutant in question in that zone are below the lower assessment threshold; and continuous monitoring is required by the Air Quality Framework Directive if levels exceed the upper assessment threshold.

The implications of this assessment are, therefore, that: levels of PM<sub>10</sub> must be monitored continuously; and levels of nitrogen dioxide, sulphur dioxide and lead may be assessed using modelling or objective estimation.

There are many sources of particulate matter (dust) including vehicle exhaust emissions, soil and road surfaces, construction works and industrial emissions. Particulate matter can be formed from reactions between different pollutant gases. Small particles can penetrate the lungs and cause damage. These are known as PM<sub>10</sub> (diameter less than 10µm) and PM<sub>2.5</sub> (diameter less than 2.5µm). There are high levels of PM<sub>10</sub> in many cities and towns. In

<sup>21</sup> EPA (2007) Ambient Air Monitoring in Ferbane, County Offaly 4th October 2006 to 29th March 2007 Wexford: EPA

smokeless fuel zones, levels of particulate matter decreased after the ban on bituminous coal.

### 3.6.1.3 Licensed Facilities

There are four licensed waste facilities in the County, Rentabin and KMC Metals Recycling on the outskirts of Tullamore, Derryclure Landfill to the south of Tullamore and Clonbulloge Ash Repository in the east of the County.

There are eighteen Integrated Pollution Prevention Control (IPPC) licences spread across the County. IPPC licenses aim to prevent or reduce emissions to air, water and land, reduce waste and use energy/resources efficiently. Most of the eighteen licenses in the County relate to the energy sector and are held by Bord na Móna or the Electricity Supply Board.

## 3.6.2 Climatic Factors

In order to reduce greenhouse gas emissions the internationally agreed Kyoto Protocol established emissions reduction targets for developing countries. Ireland's emission target for greenhouse gases is to limit the increase in their combined emissions during the five-year period 2008-2012 to 13 per cent above 1990 levels.

Based on the latest inventory figures, the EPA estimates that Ireland's emissions in 2005 were 25.4 per cent higher than the baseline estimate that underlies Ireland's allowable emissions for the period 2008-2012, as proposed to the European Commission in 2006<sup>22</sup>.

Implementation of the Offaly County Development Plan would enable policies and objectives relating to energy conservation and renewable energy to be realised as well as encouraging a reduction in transport related emissions as a result of implementation of the Plan's Settlement Strategy.

## 3.6.3 Existing Problems

It is considered that in general air quality in the County does not pose a problem and that exceedences of particulate matter 10 (PM10) in Ferbane are being dealt with by the EPA with an appropriate response.

<sup>22</sup> EPA (2007) Ireland's Greenhouse Gas Emissions Preliminary Statement for 2005 Wexford: Environmental Protection Agency

There are no existing problems which are specific to climatic factors in County Offaly.

## 3.6.4 Evolution of Air and Climatic Factors in the absence of a CDP

In the absence of a CDP for Offaly there would be no framework for the location of new development and as a consequence development would be likely to occur in a piecemeal fashion, spread out across wide areas. This would result in significant increases in travel related emissions to air.

In addition the realisation of certain policies and objectives relating to energy conservation and renewable energy, contained in the CDP, would be made more difficult.

## 3.7 Material Assets

### 3.7.1 Waste Water

The treatment of wastewater is governed by the Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC) transposed into Irish law by the Urban Waste Water Treatment Regulations 2001 (SI 254 of 2001). The Directive aims to protect the environment from the adverse effects of the wastewater discharges by ensuring that wastewater is appropriately treated before it is discharged to the environment. The Regulations stipulate that sewage treatment facilities are in place in all towns by 2005. The treatment of wastewater is also relevant to the Water Framework Directive which requires all public bodies, including Offaly County Council, to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and bring polluted water bodies up to good status by 2015 (see Section 3.5 *Water*).

The policy of Offaly County Council is to improve and extend Water Services in the County. The National Development Plan (2007-2013) recognises the need to address the infrastructural deficit in the water services sector and an increased level of funding is now in place. This funding should have the effect of accelerating the provision of waste water infrastructure over the next number of years.

Consultation with the Offaly County Council's Water Services Department identified that there is insufficient waste water treatment infrastructure in County Offaly to serve existing and proposed populations - there is a need to provide additional waste water infrastructure/capacity.

Figure 3.12 maps existing waste water treatment infrastructure and waste water treatment infrastructure/capacity needs under the following categorisations:

- Existing waste water treatment plants which have sufficient capacity;
- Existing waste water treatment plants which need to be upgraded for which funding has been provided;
- Existing waste water treatment plants which need to be upgraded for which funding has not been provided; and
- Locations at which new plants are required but for which no funding has been provided.

Out of a total of thirty six waste water treatment plants across the County, there are only three plants which have sufficient capacity to deal with the needs of existing development. Thirty two of the treatment plants need to be upgraded in order to deal with the needs of existing development - nineteen of these plants have been provided funding while thirteen have not been provided funding. One location - Clareen - needs a waste water treatment plant in order to serve existing development however no funding has been provided for this. This failure to provide appropriate waste water treatment infrastructure and capacity alongside development presents a significant problem which is likely to affect Offaly County Council's ability to meet its commitments under the WFD.

### 3.7.2 Drinking Water

#### 3.7.2.1 Introduction

The EPA publishes annual reports on the quality of drinking water in Ireland which utilises the monitoring data collected by Local Authorities. Drinking water quality in County Offaly is discussed under the sections below with

reference to the most recent EPA report on the subject<sup>23</sup>.

Drinking water is supplied in County Offaly via a range of public and private schemes (Table 3.8). The majority of the population are served by 'Public Water Supplies'. These are sanitary authority operated schemes (though these may be run by a private contractor on behalf of the sanitary authority) and they supply water to the majority of households in Ireland.

The other type of drinking water supply schemes present in the County was identified as being 'Public Group Water Schemes' - schemes where the water is provided by the sanitary authority but responsibility for distribution of the water rests with the group scheme. These schemes tend to be supplied off larger public water supplies.

Type of Supply	Number of Supply Zones	Population Served
Public Water Supplies	24	42,334
Public Group Water Schemes	0	-
Private Group Water Schemes	18	14,094
Small Private Supplies	None identified	None identified

**Table 3.8 Summary of Water Supplies**

County Offaly was identified in the EPA Report<sup>24</sup> as having:

- No 'Private Group Water Schemes' (where the owners of the scheme (usually representatives of the local community) source and distribute their own water). Combined; the 'public' and 'private' group water schemes supply water to around 10% of the population of Ireland; and
- No 'Small Private Supplies' (a large group of different types of supplies comprising industrial water supplies (such as those used in the brewing industry) to boreholes serving single houses. The majority of these supplies

<sup>23</sup> EPA (2006) The Quality of Drinking Water in Ireland- A Report for the Year 2005 Wexford: Environmental Protection Agency

<sup>24</sup> Ibid.

are exempt from the requirements of the Regulations, except where the water is supplied as part of a public or commercial activity) identified.

### 3.7.2.2 Assessment of Monitoring

Offaly County Council carried out analysis on 235 check and 44 audit samples during 2005. Sampling and analysis carried out in all but one of the public water supplies met the minimum monitoring frequencies as required in the Regulations. However, no monitoring was carried out in private water supplies that supply water as part of a public or commercial activity.

### 3.7.2.3 Overall Compliance

The overall rate of compliance in Offaly County Council, 98.5% was satisfactory and was above the national average in 2005. The level of compliance with the indicator parametric values - while less than that of the microbiological and chemical parametric values - was nonetheless satisfactory.

### 3.7.2.4 Compliance with E. coli Standard

Compliance with the microbiological parametric values was good in both public water supplies and private group water schemes. There were two incidents of E. coli contamination of public water supplies in Offaly during 2005, both in the Dungar supply. Both incidents were moderate exceedences and were due to mains contamination of the distribution network. A survey of the network has been carried out to rectify the problem. The microbiological quality of the private group water schemes was also good in the majority of schemes with just one of the 18 schemes monitored contaminated with E. coli during 2005.

### 3.7.2.5 Compliance with Chemical and Indicator Parametric Values

Compliance with the chemical standards was good in public water supplies in Offaly. However, elevated levels of nitrates were detected in two supplies, the Dunkerrin and Mount Bolus supplies while there was an exceedence of the pesticides parametric value in Birr supply on one occasion during 2005. There were no exceedences of the chemical parametric value in any of the private group water schemes monitored during 2005.

Though compliance with the indicator parametric value was less than that of the

microbiological or chemical parametric values in 2005 it was satisfactory. However, compliance with the aluminium parametric value in public water supplies remained low (89% compliance) and was mainly due to the continued failure of the Tullamore supply to comply with the aluminium parametric value (12 of 26 samples analysed exceeded) and is due to the plant operating above capacity and the failure of the new source to come into operation as expected in 2005.

Compliance with the indicator parametric values in private group water schemes was higher than that in the public water supplies though compliance with the coliform bacteria parametric value was less than satisfactory (88%) and in need of improvement.

## 3.7.3 Wind Power

There is ongoing interest in the development of wind power in the County and this is likely to continue with implications for other resources, particularly the landscape. A Wind Energy Strategy is included as part of the CDP.

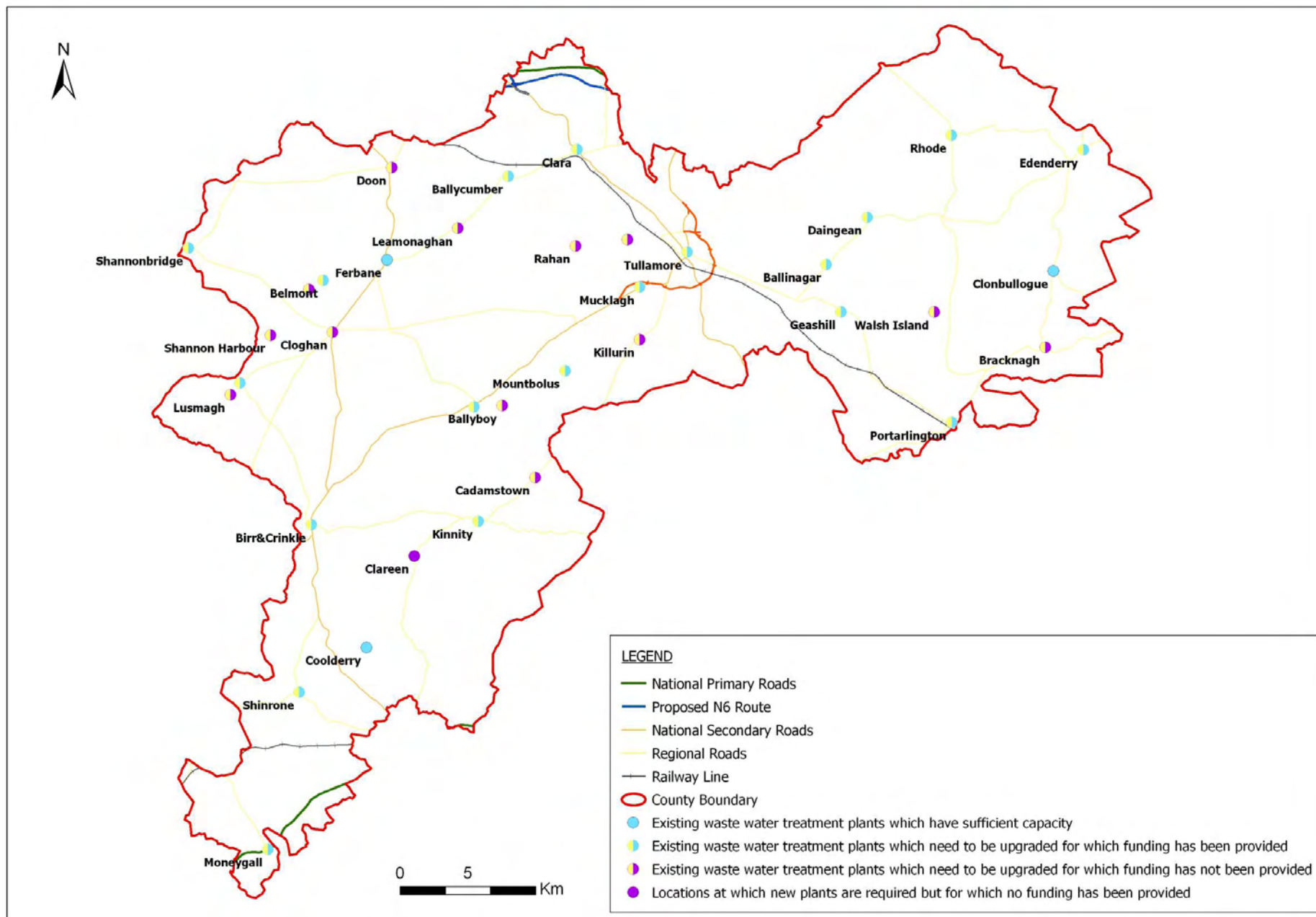
## 3.7.4 Existing Problems

County Offaly has experienced relatively large growth in recent years and there are certain areas whereby development has exceeded infrastructural development, for example where construction of development has preceded waste water treatment infrastructure or exceeded existing waste water treatment infrastructure capacity.

There is a lack of appropriate waste water treatment infrastructure in many parts of County Offaly. The lack of this infrastructure is likely to be adversely impacting upon water bodies identified under Section 3.5 as being *at significant risk* or *probably at significant risk* in terms of achieving the WFD's objectives by 2015.

As identified above, the EPA<sup>25</sup> found that the overall rate of compliance in Offaly for drinking water quality was satisfactory and above the National average in 2005. However, it is noted that no monitoring was carried out in private

<sup>25</sup> Environmental Protection Agency's (2006) *The Quality of Drinking Water in Ireland- A Report for the Year 2005*



**Figure 3.12 Waste Water Treatment Infrastructure/Capacity Needs**

water supplies that supply water as part of a public or commercial activity and that the coliform bacteria parametric value was less than satisfactory (88%) and in need of improvement.

In order to accommodate recent and future growth, programmes of waste water treatment plants and networks, water supply infrastructure, transport infrastructure and powerlines etc need to be implemented. These programmes are likely to have significant adverse impacts on the environment if not mitigated. These programmes would require environmental assessments to be carried out on them in order to prevent such impacts. The Wind Energy Strategy referred to at section 3.7.3 will help minimise potential adverse impacts of any wind power developments.

### **3.7.5 Evolution of Material Assets in the absence of a CDP**

In the absence of a CDP for Offaly there would be no framework to provide the infrastructure which is necessary across the County to serve existing and proposed development such as waste water treatment plants and networks, water supply infrastructure, transport infrastructure and powerlines etc.

Failure to provide sufficient infrastructure for development would be likely to result in significant adverse impacts. For example, failure to upgrade and provide new waste water infrastructure would be likely to adversely impact upon water quality and indirectly significantly adversely impact upon biodiversity and flora and fauna, drinking water supplies and human health.

## **3.8 Cultural Heritage**

### **3.8.1 Introduction**

Heritage, by definition, means inherited properties, inherited characteristics and anything transmitted by past ages and ancestors. It covers everything, from objects and buildings to the environment. Cultural heritage includes physical buildings, structures and objects complete or in part, which have been left on the landscape by previous and indeed current generations.

The heritage of Offaly is a unique resource which is fundamental to the cultural identity of the County and the quality of life of its citizens- it is central to how we see ourselves and to our identity as individuals and communities. Historic buildings can define a region's localities and communities and can become a focus of community identity and pride. An historic church or park, for example, can help define a neighbourhood and create a sense of local cohesion.

### **3.8.2 Archaeological Heritage**

#### **3.8.2.1 Introduction**

Archaeology is the study of past societies through the material remains left by those societies and the evidence of their environment. Archaeological heritage consists of such material remains (whether in the form of sites and monuments or artefacts in the sense of moveable objects) and environmental evidence. As archaeological heritage can be used to gain knowledge and understanding of the past it is of great cultural and scientific importance. Archaeological sites and monuments vary greatly in form and date; examples include earthworks of different types and periods, (e.g. early historic ringforts and prehistoric burial mounds), megalithic tombs from the Prehistoric period, medieval buildings, urban archaeological deposits and underwater features such as wrecks.

Archaeological sites may have no visible surface features; the surface features of an archaeological site may have decayed completely or been deliberately removed but archaeological deposits and features may survive beneath the surface. Such sites may sometimes be detected as crop-marks visible from the air or have their presence indicated by the occurrence of artefact scatters in ploughed land, but in other cases may remain invisible unless uncovered through ground disturbance. Wetland environments such as peatlands have a high potential to contain archaeological sites (including trackways, field systems, and settlement sites) which are either difficult or impossible to identify from surface examination alone.

The Christian era, which resulted in the establishment of large monasteries and village clusters, and proceeding successive invasions modified the landscape of County Offaly and left behind archaeological heritage.



The ancient monastic site of Clonmacnoise is situated in the north east of Offaly and was founded by St. Ciaran in the sixth century. From the eighth to tenth centuries the monastery was a scriptorium where skills of calligraphy and illustration were perfected. Metal workers produced some fine Celtic craftwork in gold, silver and bronze.

Three churches are found at Rahan to the west of Tullamore in the centre of the County. The site was founded in the 7th century by St. Carthage. The most intact church's circular windows are carved in low relief and are unique in Ireland.

St. Manchan founded a monastery at Lemanaghan in the first half of the seventh century. A tomb-shaped reliquary, St Manchan's Shrine is preserved in Boher church - the shrine is the largest and most magnificent ancient reliquary in Ireland and was made at Clonmacnoise around 1130 AD.

Some of the finest early Christian manuscripts were written in the scriptoria of Clonmacnoise, Birr, and Durrow. The Great Books written in the monasteries of Offaly include the Rawlinson Manuscript, MacRegol's Gospels or the Book of Birr and the Book of Durrow. These books are considered to be some of the finest examples of medieval Irish manuscripts. Derrinboy Armlets - gold ornaments believed to be almost 3,000 years old were discovered in Derrinboy bog in 1959 are now preserved in the National Museum in Dublin.

The Esker Riada has archaeological significance, as it formed the early highways in Ireland, and nowadays the *Monastic Way of Ireland* follows the Esker Riada or Kings Highway, providing an alternative, ancient route from Dublin to Galway. The route links various monasteries and sites of archaeological significance in County Offaly including those at Edenderry, Croghan Hill, Durrow, Tullamore, Rahan, Clara Bog, Lemanaghan, and Clonmacnoise.

### 3.8.2.2 Monuments

The term 'monument' includes all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes. All monuments in existence before 1700 A.D. are automatically considered to be

historic monuments within the meaning of the National Monuments Acts.

- Recorded Monuments

A recorded monument is a monument included in the list and marked on the map which comprises the Record of Monuments and Places set out county by county under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological Survey of Ireland. The definition includes Zones of Archaeological Potential in towns and all other monuments of archaeological interest which have so far been identified. Zones of Archaeological Potential have been identified in the following: Banagher, Birr, Daingean, Dunkerrin and Seir Kieran. Any works at or in relation to a recorded monument requires two months notice to the Department of the Environment, Heritage and Local Government under section 12 of the National Monuments (Amendment) Act, 1994.

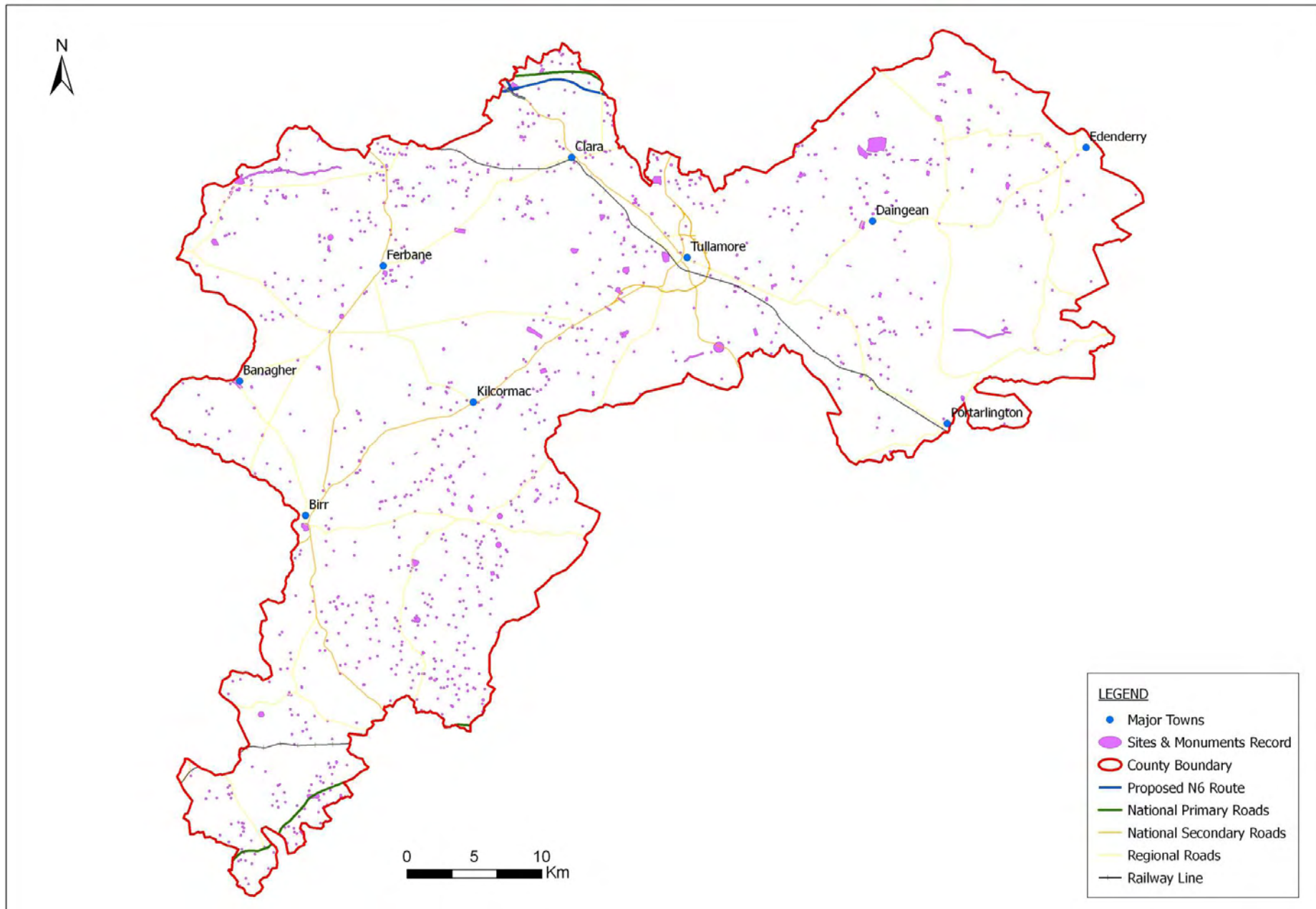
Entries to the Record of Monuments and Places are mapped on Figure 3.13. The spatial distribution of monuments shows that in the past people were widely spread across the County with the only areas in which widespread evidence of past habitation has not been identified being certain bog areas in the centre of the County and the uplands area of the Slieve Bloom Mountains.

- National Monuments

The term 'national monument' refers to a monument or the remains of a monument together with the site of the monument, the preservation of which is of national importance by reason of historical, architectural, traditional, artistic, or archaeological interest.

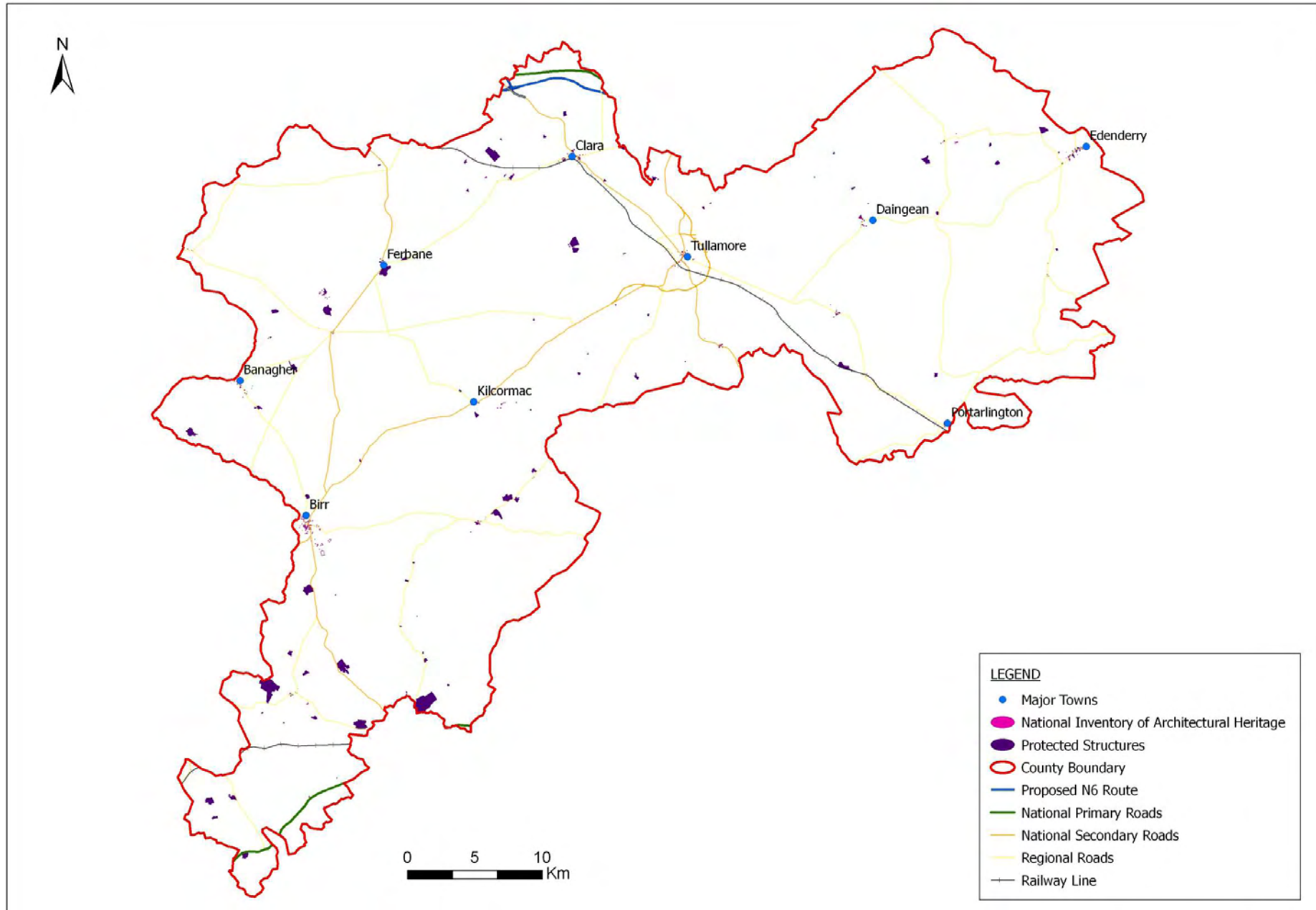
There are seven national monuments in County Offaly which are in State Ownership (see ), three national monuments which are in State Guardianship (see Table 3.10) and nine monuments in County Offaly which are Protected by Preservation Orders (see Table 3.11). It should be noted that any direct impacts on national monuments in State or Local Authority care or subject to a preservation order will require the consent of the Minister for the Environment, Heritage and Local Government under Section 14 of the National Monuments Act 1930 as amended by Section 5 of the National Monuments (Amendment) Act 2004.





**Figure 3.13 Archaeological Heritage**

CAAS for Offaly County Council



**Figure 3.14 Architectural Heritage**

CAAS for Offaly County Council

Reg. No.	Monument	Townland
510	High Cross and Remains of Church; Kinnitty	Castletown and Glinsk
497	Sier Kieran Monastic Churchland and Settlement	Clonmore and Churchtown
532	Earthwork	Clonin
81	Churches, Two Round Towers, Crosses, slabs	Clonmacnoise
82	Two Churches	Rahan Demesne
601	Land at Clonmacnoise	Clonmacnoise
617	Medieval Deserted Village	Cannakill
313	High Cross and Grave Slab	Durrow Demesne

**Table 3.9 National Monuments in State Ownership**

Reg. No.	Monument	Townland
336	Clonfinlough Stone	Clonfinlough
505	Church and slabs	Gallen

**Table 3.10 National Monuments in Guardianship of the State**

PO. No.	Monument	Townland
8	Crannog (Ballinaderry Lough)	Ballynahinch
49	Coole Castle	Kilcolgan
86	Clonony Castle	Clonony More
6/56	Ringfort	Broughal
1/57	Ballykean Ring Barrow (O Dempseys Ring)	Ballykean
3/86	Motte Castle Earthworks	Rathlihen
23/76	Hillfort (excluding School and Rectory bldgs.)	Glebe and Ballycurragh
5/2000	Cemetery & Enclosure	Derryvilla
TPO 2.01	Ecclesiastical Remains	Clonmacnoise

**Table 3.11 Monuments Protected by Preservation Orders**

### 3.8.3 Architectural Heritage

The term architectural heritage is defined in the Architectural Heritage (National Inventory) and Historic Monuments Act 1999 as meaning all:

- structures and buildings together with their settings and attendant grounds, fixtures and fittings;
- groups of structures and buildings; and
- sites

which are of technical, historical, archaeological, artistic, cultural, scientific, social, or technical interest.

County Offaly has a rich architectural heritage. Clusters of architecturally important structures to be found in the urban centres of Birr, Ballyboy, Ballycumber, Banagher, Cloghan, Edenderry, Ferbane, Daingean, Kilcormac, Killeagh, Portarlinton, Rahan, Shinrone and Tullamore and dispersed across the County's countryside. This heritage includes country

houses, old mills, thatched houses, monasteries, towers, churches and bridges. In addition there are a number of castles and demesnes dispersed across the County such as Kinnitty Castle, Leap Castle, Charleville Castle and Birr Castle.

The Record of Protected Structures (RPS) included in the current Development Plan is legislated for under Section 51 of the Planning and Development Act 2000 and includes structures which form part of the architectural heritage and which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. All structures, buildings, or erections, which came into existence after 1700 A.D., can be protected through enlistment in the RPS.

Protected Structures are defined as structures, or parts of structures that are of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view. The term 'structure' encompasses the interior of the structure, the surrounding

land or 'curtilage' of the structure, any other structures lying within that curtilage.

There are around 359 entries to the RPS in County Offaly with no Architectural Conservation Areas (ACAs) designated. As well as there being a number of buildings in Offaly included on the RPS, there 1196 additional structures that are listed in the National Inventory of Architectural Heritage (NIAH).

The NIAH is a state initiative under the administration of the DoEHLG which was established on a statutory basis under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999. Its purpose is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. It is intended that the NIAH provides the basis for the inclusion of particular structures in the RPS.

Figure 3.14 maps entries to the RPS and the NIAH across the County.

### **3.8.4 Existing Environmental Problems**

Although the aforementioned cultural heritage is protected under legislation, impacts can still occur as a result of development.

Development on sites adjoining protected monuments, places or structures can adversely impact upon the context of these cultural heritage items in both townscapes and landscapes if unmitigated against.

Previously unknown archaeology can be damaged as a result of development which causes ground disturbance.

Development which involves material alteration or additions to protected structures can detract from the special character of the structure and its setting, and have the potential to result in the loss of features of architectural or historic interest and the historic form and structural integrity of the structure are retained.

Encouraging and facilitating the accommodation of growth on brownfield sites will contribute to mitigating a number of the adverse impacts associated with greenfield development, however, brownfield development has the

potential to significantly adversely impact upon cultural heritage - both archaeological and architectural - if unmitigated against. These impacts are most likely in heritage towns.

### **3.8.5 Evolution of Cultural Heritage in the absence of a CDP**

In the absence of a CDP for Offaly, development would have no guidance as to where to be directed and planning applications would continue to be assessed on an individual basis with cultural heritage protected under a number of strategic actions relating to archaeological and architectural protection. Cultural heritage would be likely to be impacted upon by the nature of permitted applications.

The CDP has increased the number of structures listed on the RPS by adding to it structures which are included on the NIAH for the County. The CDP has also recommended the carrying out of a number of ACA studies. In the absence of this Plan the NIAH structures would not be protected by inclusion on the RPS and ACA studies would not be carried out.

## **3.9 Landscape**

### **3.9.1 Introduction**

Offaly comprises a predominantly flat, undulating landscape which is particularly typified by its extent of boglands. It also comprises an esker landscape which encapsulates the geographical change that emerged following the ice age and merits protection given its unique importance in providing scientific, recreational and amenity value. The Slieve Blooms Mountains and foothills area located to the south west of the County is the only substantial upland area within the County.

Other significant landscape features include the River Shannon which runs along the western county boundary and its callows, the Grand Canal which traverses the County, important archaeological and historical landscapes such as Clonmacnoise and Durrow and Croghan Hill (an extinct volcano).

### 3.9.2 County Offaly Landscape Classification

The importance of landscape and visual amenity and the role of its protection are recognised in the Planning and Development Act 2000, which requires that Development Plans include objectives for the preservation of the landscape, views and the amenities of places and features of natural beauty.

In accordance with the DoEHLG's *Landscape and Landscape Assessment Guidelines* (2000), Offaly County Council have prepared a Landscape Classification for the County which classifies the different landscapes of the County in relation to their different characteristics and values and their degree of sensitivity to various kinds of development.

This Landscape Classification identifies ten distinct landscape types which have similar character-contributing elements such as slope, vegetation and landuse. Each of these ten landscape types have been attributed one of three sensitivity classes; Low Sensitivity (Class 1); Moderate Sensitivity (Class 2); and High Sensitivity. The landscape sensitivity classes relate to the ability of certain landscapes to accommodate change or intervention without suffering unacceptable effects to character and values.

With regard to these three landscape sensitivity classes, Table 3.12 identifies the acceptability of development and the need for landscaping and appropriate design.

Sensitivity Class	Acceptability of Development	Need for Landscaping and Appropriate Design
Class 1 - Low sensitivity / degraded	All kinds of development	High
Class 2 - Moderate sensitivity	Some kinds of development	Very High
Class 3 - High sensitivity	Few Kinds of development	Essential

**Table 3.12 Landscape Sensitivity Class and Implications for Development and Design**

The following sections detail the characteristics and sensitivities of each of the ten landscape types. Directions for new developments within specific landscape types which are included in the Landscape Classification are also detailed.

Figure 3.15 shows the spatial distribution of Landscape Sensitivity Classes across County Offaly.

### 3.9.3 Class 1 - Low Sensitivity

#### 3.9.3.1 Rural and Agricultural Offaly

**Characteristics:** County Offaly is predominantly a rural county, which, apart from its bogland landscape, comprises mainly an agricultural landscape.

**Sensitivities and directions for new developments:** These areas can effectively absorb appropriately designed and located development in all categories including masts and wind energy installations, afforestation and agricultural structures. Due to the rural nature of the area, scattered development that cannot be screened by forestry should use materials and colours that are sympathetic to the landscape generally. New housing should respect design guidelines and the vernacular building and settlement patterns.

### 3.9.4 Class 2 - Moderate Sensitivity

#### 3.9.4.1 Cutaway Bogs

**Characteristics:** Cutaway bogs cover a large part of the landscape of Offaly. There are probable landuses for these landscapes, which include wilderness, grassland, forestry and recreation. Overtime the characteristics of this landscape could change and the sensitivity class attributed to it could become Class 3 - High Sensitivity.

**Sensitivities and directions for new developments:** This cutaway bog landscape is potentially very valuable as a *green* backdrop to future development. Lough Boora acts as a proto-type in the creation of parkland character. The Council recognises the need for land use plans for the future development and utilisation of large areas of cutaway bog.

### 3.9.5 Class 3 - High Sensitivity

#### 3.9.5.1 The Grand Canal Corridor

**Characteristics:** The Offaly section of the Grand Canal comprises some 64 kilometres from Edenderry to Shannon Harbour. It passes through the towns of Daingean and Tullamore. There is a disused Kilbeggan branch line, which is now used as a walking route. The canal traverses large tracts of boglands and is bordered by hedgerows dating back 200 years and little fringes of wild vegetation along the bank.

**Sensitivities and directions for new developments:** The Grand Canal is a focus for a wide range of uses, especially for recreation and tourism purposes. The visual quality of the surrounding areas is intrinsic to maintain the attractiveness of the Grand Canal corridor. Hence, the corridor is especially sensitive to large development structures, insensitively designed sporadic housing and large-scale land uses such as extractive industries. As the landscape around the Grand Canal Corridor is both flat and undulating, height restriction should apply to developments in the flatter areas to avoid long distant visual intrusion.

#### 3.9.5.2 Archaeological and Historical Landscapes

**Characteristics:** County Offaly is rich in landscapes of archaeological and historic interests. This ranges from large ecclesiastical sites such as Clonmacnoise and Durrow Abbey to archaeological features such as the Durrow and Kinnitty High Crosses. There are many castles and demesnes in the County such as Birr Castle and Charleville Castle as well as a number of entries to the Record of Monuments and Places (see Section 3.8.2).

**Sensitivities and directions for new developments:** These landscapes are sensitive to new developments, which could damage the historical character and the social importance of the area. The council shall endeavour to ensure that all planning applications for development, refurbishment, restoration works etc within close proximity to these areas are developed in a sensitive and sympathetic manner

#### 3.9.5.3 Slieve Bloom Upland Area

**Characteristics:** The Slieve Bloom Mountains rise as a broad, bleak crest of moorland above the surrounding plains and form the only

substantial upland area in County Offaly. The mountains afford a range of spectacular views, forest and riverside walks, picnic sites, historic and archaeological sites and areas of scientific interest. The entire mountain area has a number of ecologically designated sites and has the largest unbroken area of upland blanket peat in Ireland.

**Sensitivities and directions for new developments:** This area is extremely sensitive to all categories of development, as the upland area itself is visible from extensive surrounding areas. It is particularly sensitive to large agricultural structures, sporadic housing, major afforestation proposals and masts. Softening of the coniferous edge with native deciduous planting is recommended and new recreational facilities associated with forestry should be developed using natural materials, while not more than 32% of the mountain area should be subject to tree planting. Car parking should be set within existing tree canopy where it will not cause visual intrusion from viewpoints.

#### 3.9.5.4 The Esker Landscape

**Characteristics:** The Esker Riada traverses the north-western corner of County Offaly in a more or less continuous line from Shannonbridge to Clonmacnoise and onto Clara, Durrow and Rahugh. Eskers were built up from sand and gravel under the ice cap about ten thousand years ago and also have archaeological significance, as they formed the early highways in Ireland. In old Irish, *eiscir* meant *divide* while *riada* meant *road*. The Slí Mór followed the Eiscir Riada.

**Sensitivities and directions for new developments:** The eskers have geomorphological, scientific, historical, recreational and amenity value and uniqueness. The esker system north of Clara bog is critically important, as it is most likely the source of nutrient rich water, which feeds the bogs soak systems. Hence, the esker landscape is highly sensitive to any future development and the opening up of new pits for sand and gravel extraction will be restricted.

#### 3.9.5.5 The Shannon River Floodplain

**Characteristics:** The Offaly section of Shannon River runs along the western boundary of the County and passes through Banagher, Shannon Harbour and Shannonbridge. There are local scenic views along the river and to the local heritage sites such as Clonmacnoise and the

Callows. The Shannon Callows, water meadows that are the breeding grounds for thousands of migrant wild birds, is an important habitat within this river landscape. These lands are extremely liable to flooding.

**Sensitivities and directions for new developments:** It is the policy of the County to protect the views of special interest and to protect this landscape. Development should not be of a nature which could damage the sensitive ecological habitats and the archaeological aspects of the river corridor. The attractive waterside edge is open and flat and is therefore highly sensitive to development. Development should be located within pockets of existing vegetation to assist screening. Buildings should also be clustered together to avoid ribbon development along the river edge. This will maintain long distant views out to the countryside beyond. Development at the water edge is inappropriate, as it would be exposed to view. Development is prohibited in that part of the Shannon River Valley that carries a nature designation.

### 3.9.5.6 Bogland Areas

**Characteristics:** County Offaly contains a number of raised boglands. Clara bog, an important natural heritage area is preserved for its flora, fauna and soak system and Mongan bog near Clonmacnoise is preserved for its intricate and unusual habitats. Other important areas in this regard are the All Saints Bog, Sharavogue Bog, Slieve Bloom Blanket Bog and Raheenmore.

**Sensitivities and directions for new developments:** While bog is a major natural resource and has a critical role in employment provision, Offaly County Council has a strong policy of conservation of a representative sample of peatlands and the protection of peatland habitats.

### 3.9.5.7 Wetlands - including Lough Boora Parklands, Pallas Lake

**Characteristics:** The Lough Boora parklands include Turraun Wetlands, Finnamore Lakes Area and Loch Clocháin Wetlands. These areas were previously cutaway bogs. This area is now a nature reserve colonised by fen type

vegetation, which boasts a rich diversity of flora and fauna.

The Lough Boora parklands provide an open, expansive vista that is currently largely free of buildings and associated installations such as overhead wires.

**Sensitivities and directions for new developments:** There is a sense of place and peacefulness in this newly created wetland area and at Pallas Lake. Any development, which occurs here and the surrounding areas should be small scale and have minimum visual and noise impacts. Hence, development in the surrounding areas should be controlled including insensitively designed agricultural buildings.

### 3.9.5.8 Croghan Hill and Environs

**Characteristics:** Croghan Hill, Raheenmore Bog (which was designated a nature reserve under the Wildlife Act 1976) and Cannakill Deserted Medieval Village are the main elements of the high amenity area. Croghan Hill is an extinct volcano 769 feet above sea level and commands views over Offaly and the surrounding counties.

**Sensitivities and directions for new developments:** This is an area of archaeological and high amenity value and is highly sensitive to new developments. Croghan Hill, due to its elevated nature, impacts on the visual quality of the surrounding area and is highly sensitive developments of any nature, particularly quarrying.

## 3.9.6 Views and Prospects of Special Amenity Value or Special Interest

Views and prospects of Special Amenity Value or Special Interest including those which are associated with high amenity have been identified by Offaly County Council and are listed on Table 3.13 below are also worthy of protection.

Figure 3.16 shows protected scenic views which are protected from the effects of development under the current County Development Plan.

View From	View to
N80 in the townland of Ballynasragh, Pigeonhouse, Killeigh, Derryclure, Derrybeg and Cloncon	South- West Slieve Bloom Mountains and Killeigh Village.
Road Number L-08003 in the Slieve Bloom Mountains, Townland of Clogh, Ballykelly, Coolcreen, Glenletter, Glenregan, Castletown, Forelacka and Glinsk	Mountains, River Shannon northwards over lowlands
Pilgrims Road (Road No. L-07013) in the townlands of Clonmacnoise, Clonascra, Ballyduff and Bloomhill.	Clonmacnoise and River Shannon, Eskers, Mongan Bog and Finlough.
Road Number R444 in the townlands of Clonmacnoise, Ceevagh	River Shannon and boglands
N52 in the townland of Heath, Bunaterin, Derrydolney, Ballywilliam, Curraghmore, Ballynacard, Bally na Curra	Slieve Bloom Mountains
R356 and Road No. L-07014 in the townlands of Cushcallow, Park, Mullaghakeeraun and Curralahan.	River Shannon and Boglands
Road L-01018 in the townlands of Cannakill and Croghan Demesne.	Slieve Bloom Mountains
Townlands of Barnan, Kilduff, Old Croghan, Croghan Demesne, Down.	Views towards Croghan Hill and Boglands.
County Road Number 95 in the townlands of Grovesend and Coole.	South to Boglands.
Road Number L-03004 in the townlands of Skehannagh, Killagally Glebe, Ballyclare	Southwards towards Slieve Bloom Mountains
Regional Road R357 in the townlands of Lumcloon, Bun, Rin, Leabeg and Leamore	Southwards towards Slieve Bloom Mountains
Road Number L-07009 in the townland of Stonestown	Over Boglands and Slieve Bloom Mountains
Road Number L-03012 in the townlands of Glaster, Ballynasrah, Newtown, Kilmochonna	Over Little Brosna and Callows
R440 in the townlands of Kyle, Cloghanmore, Streamstown, Ballinree, Killaun.	Towards Slieve Bloom Mountains
Road Number L-04006 in the townland of Knock	Slieve Bloom Mountains, Leap Castle
Road Number L-04025 in the townlands of Clonee, Cumber Lower	Westward over Farmland
Road Number L-06034 in the townlands of Knockhill and Drinagh	Towards North East and North West over lowlands.
Road Number L-08008 in the townlands of Grange, Bellhill, Longford Big and Church Land	View towards Seir Kieran Monastic Settlement.
County Road Number L-02011 in the townlands of Rahan Demesne, Newtown	Churches and Earthworks

**Table 3.13 Views and Prospects of Special Amenity Value or Interest**

### 3.9.7 Existing Problems

Since the industrialisation of peat harvesting in the 1950s County Offaly's raised bog landscape has been significantly changed losing ecological, aesthetic and recreational values. This loss of value has resulted in a decreased sensitivity, increasing the ability of these new landscapes to accommodate further change or intervention without suffering unacceptable effects to their new character and reduced values.

In the past, the development of pits for sand and gravel extraction has impacted upon the esker landscape of the County and its various geomorphological, scientific, historical, recreational and amenity values.

An environmental problem with regard to the environmental component of landscape is the visual impact which occurs in sensitive landscapes, such as those in upland areas, as a result of developments such as one off houses. Such developments, which individually often do not have significant adverse impacts, have the potential to cumulatively and adversely



significantly impact upon these sensitive landscapes.

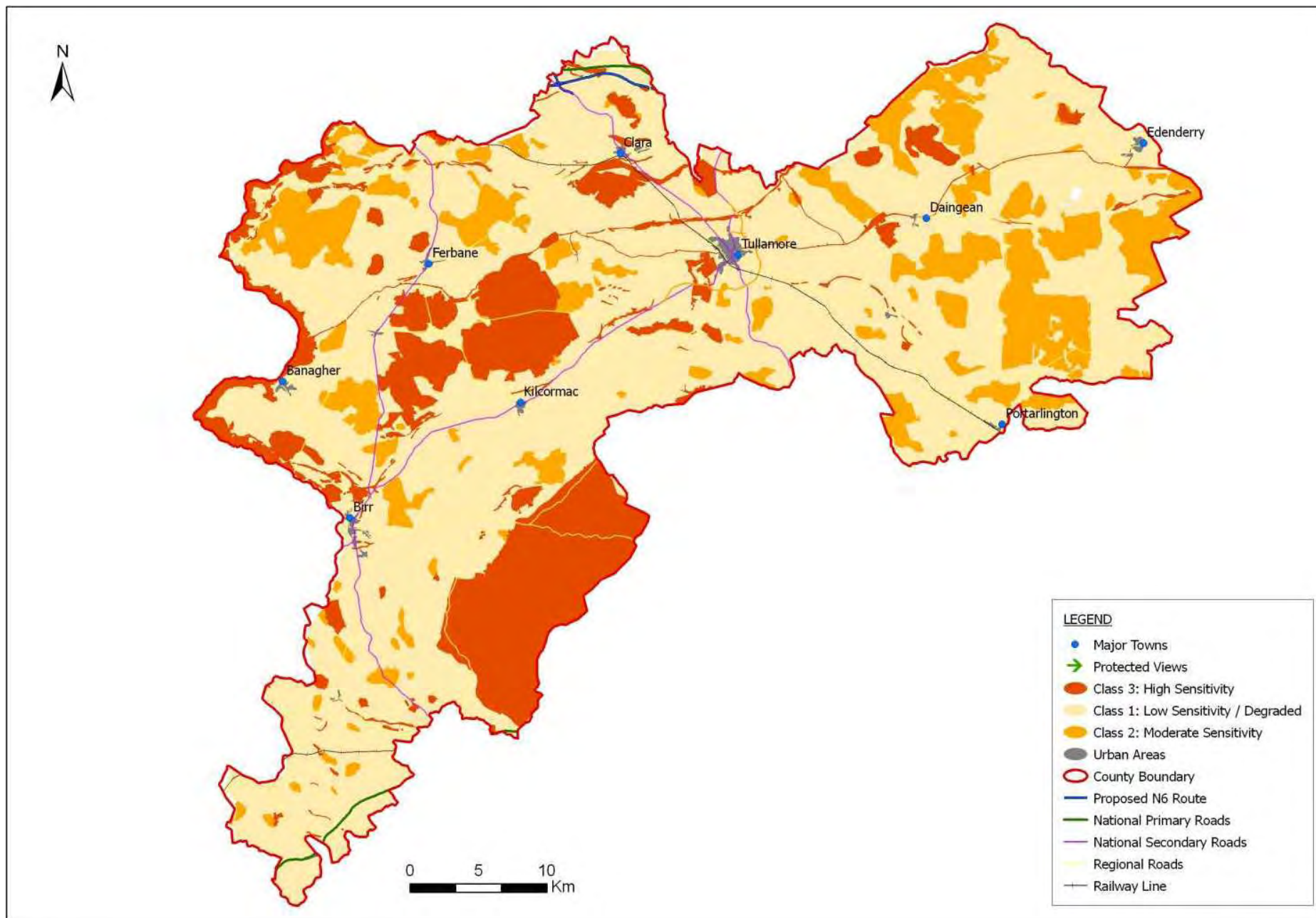
### **3.9.8 Evolution of Landscape in the Absence of a CDP**

All new developments would not be directed to the most appropriate locations and would have to be assessed on an application by application basis.

The harvesting of peat would be likely to continue into the future around existing cutaway bogs and in other bog areas resulting in a reduction of landscape values. It is uncertain in the absence of a CDP as to whether these losses could be offset in the long term by encouraging future ecological and recreational uses.

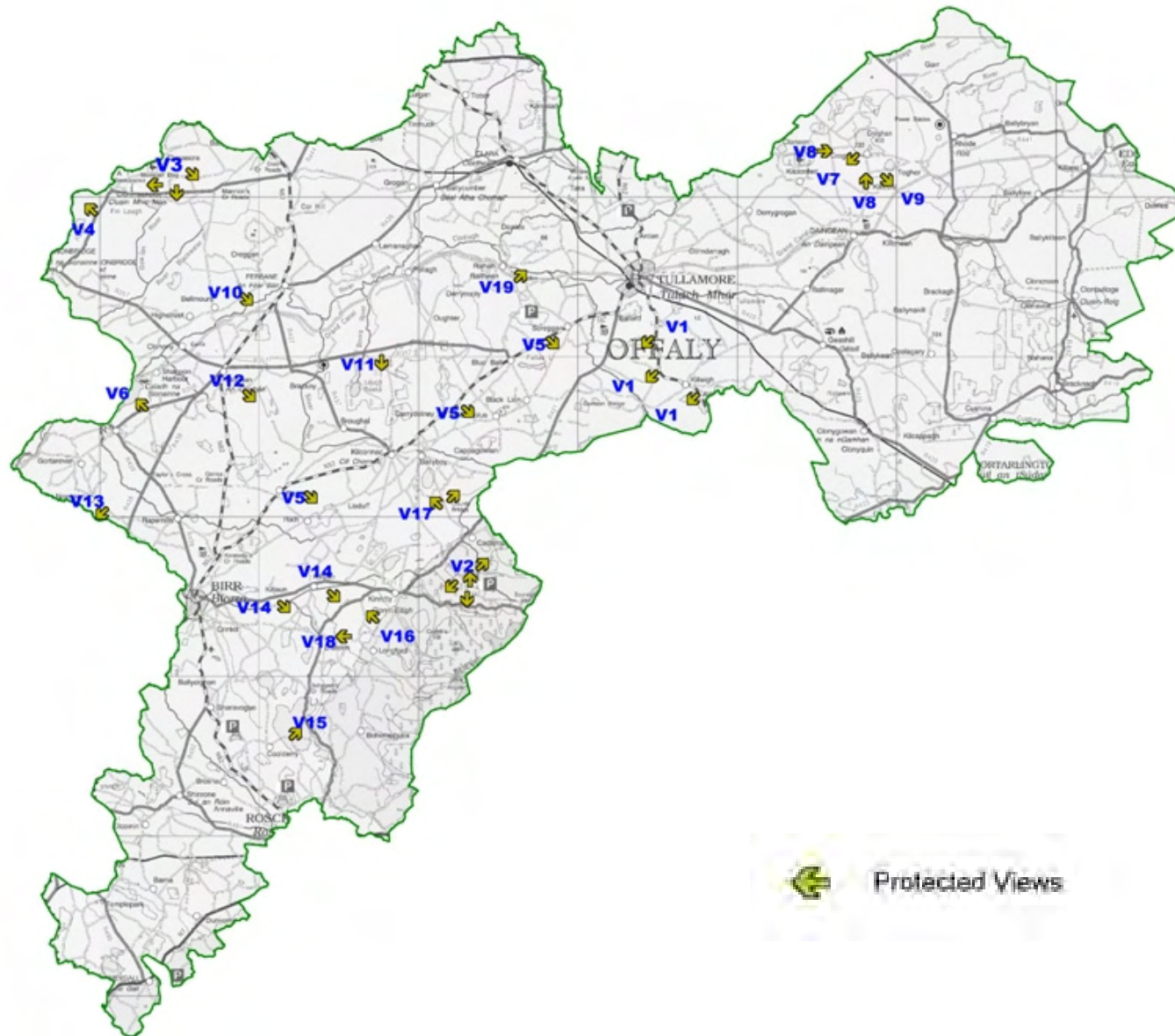
It is likely that in the absence of a CDP there would be no framework directing housing developments to appropriate locations or requiring certain mitigation measures for developments located in sensitive landscapes, such as the Slieve Bloom Upland Area or the River Shannon Floodplain. It is likely that one off housing applications would increase as would the potential that sensitive landscapes and sensitive landscape components - such as views and prospects of special amenity value or interest - would be impacted upon.

Restrictions on new pits for sand and gravel extraction in the County's esker landscape would be reduced and as a result there would be likely to be further impacts on the values of this landscape.



**Figure 3.15 Landscape Sensitivity Classes**

CAAS for Offaly County Council



**Figure 3.16 Protected Views**

significant risk as well as 'Class 2: Moderate Sensitivity' landscape areas.

### 3.10 Overlay Mapping of Environmental Sensitivities

#### 3.10.1 Introduction

In order to identify where most sensitivities in the County occur, a number of the environmental sensitivities described above were weighted and mapped overlapping each other.

Environmental sensitivities are indicated by colours which range from acute vulnerability (red) to elevated/high vulnerability (orange) to moderate vulnerability (yellow) and low vulnerability (green). Where the mapping shows a concentration of environmental sensitivities there is an increased likelihood that development will conflict with these sensitivities and cause environmental deterioration. This is particularly the case where the cumulative development of small-scale projects, such as rural housing, gradually causes a slow deterioration of a resource, such as water quality.

#### 3.10.2 Methodology

A weighting system applied through Geographical Information System (GIS) software was used in order to calculate the vulnerability of all areas in the County. Equal value is given to all environmental components (landscape, water, biodiversity etc.) although a distinction made between the various sensitivity factors of each aspect:

- High sensitivity factors are given a weighting of 10 points and include: ecological designations; surface and groundwater bodies at significant risk; entries to the Record of Monuments and Places; entries to the Record of Protected Structures and National Inventory of Architectural Heritage; and 'Class 3: High Sensitivity' landscape areas.
- Moderate sensitivity factors are given half the weighting of the high sensitivity factors and include surface and groundwater bodies that are probably at

The scale of sensitivity for each area of the County corresponds to the sensitivity factors: 5 points corresponds to one moderate sensitivity factor; 10 points corresponds to two moderate sensitivity factors *or* one high sensitivity factor; 20 points corresponds to four moderate sensitivity factors *or* two moderate sensitivity factors and one high sensitivity factor *or* two high sensitivity factors (and so on).

The scores for each area are added together in order to determine overall vulnerability as is shown on Table 3.14.

Score	Vulnerability Class
5-20	Low
20-30	Moderate
30-40	Elevated
40-50	High
50-65	Extreme
> 60	Acute

**Table 3.14 Overall Vulnerability Classes**

#### 3.10.3 Mapping

Figure 3.17 Overlay of Weighted Environmental Sensitivities (all selected factors given equal weighting) is an overlay of environmental sensitivities with all selected environmental factors given equal weight.

The weighting system used for *Figure 3.18 Overlay of Weighted Environmental Sensitivities (Ecological Designations given greater weight)* places more importance on ecological sensitivities (consequently these factors are given double the rating of other factors). Similarly, *Figure 3.19 Overlay of Weighted Environmental Sensitivities (Landscape Sensitivities given greater weight)* places more importance on landscape sensitivities.

#### 3.10.4 Quantification of Sensitivities

Table 3.15 quantifies the area of the County which falls under each of the vulnerability area classifications when all selected factors are given equal weighting. It is noted that the majority of the County's area (86.8%) is classified, under this weighting system, as being of a low or moderate vulnerability with a

relatively smaller area (13.18%) classified as being elevated, high or extreme.

Vulnerability Class	Area (km <sup>2</sup> )	Percentage of Total County Area
Low	1625.54	81.23
Moderate	111.54	5.57
Elevated	187.49	9.37
High	31.87	1.59
Extreme	44.46	2.22
Acute	0.24	0.02
Total	2001.14	100%

**Table 3.15 Quantification of Vulnerability Classes**

### 3.10.5 Conclusions

Figures 3.16 to 3.18 show that each overlay method identifies that most of the County is covered by areas of low vulnerability.

Significant pockets of moderate to acute vulnerability areas are however identified by each method.

The vulnerability attributed to these areas varies between each method however the areas themselves are consistently identified as being of a greater vulnerability than other, low vulnerability areas within the County.

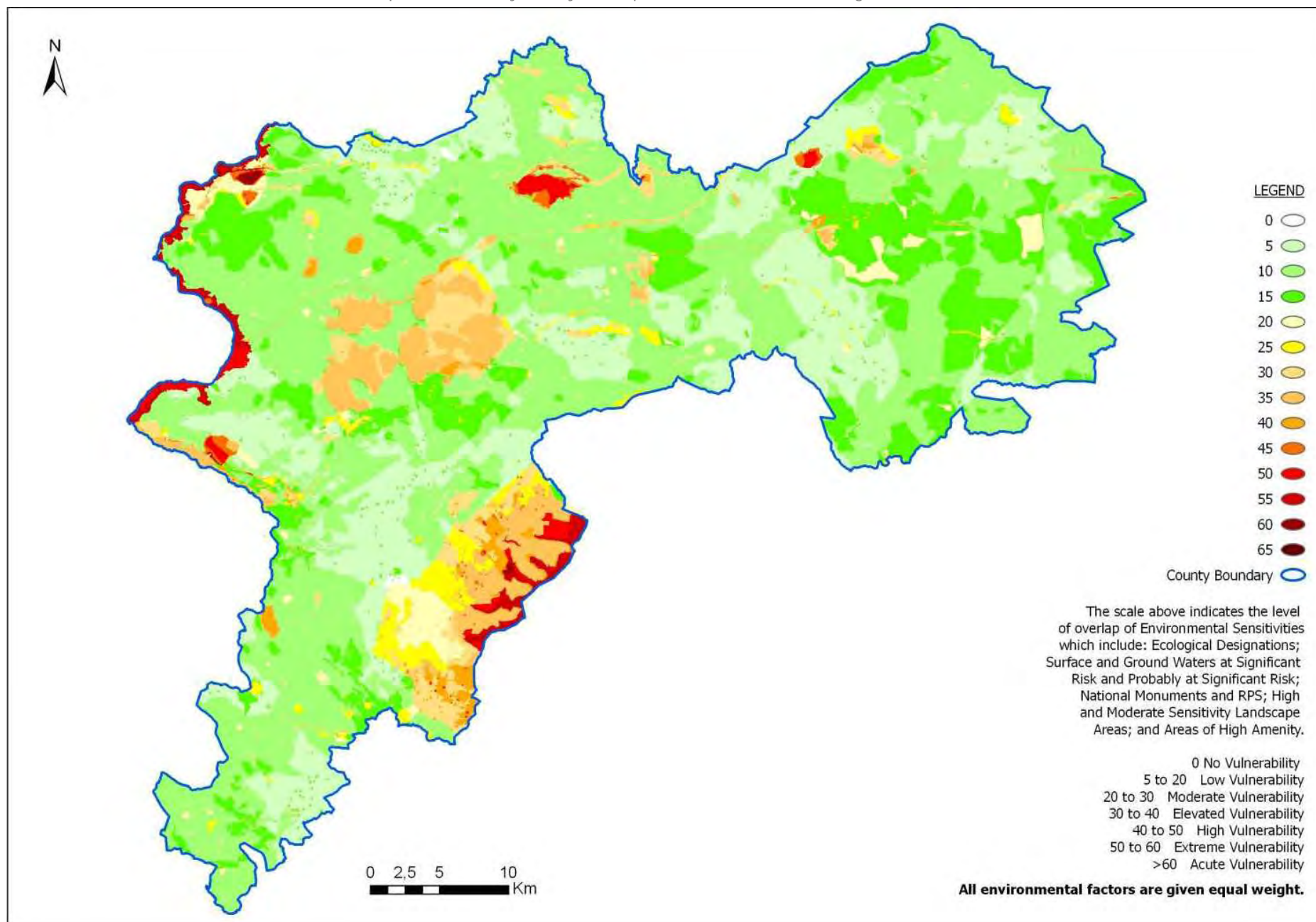
The most vulnerable areas in the County were identified as being located at locations including the following:

- the River Shannon and along its Callows;
- the River Brosna and the Grand Canal;
- Lough Boora Parkland area;
- Clara Bog;
- All Saints Bog and Esker;
- Raheenmore Bog;
- Screggan Bog;
- Pallas Lough;
- Black Castle Bog;
- Sharavogue Bog; and
- The Slieve Bloom Mountains.

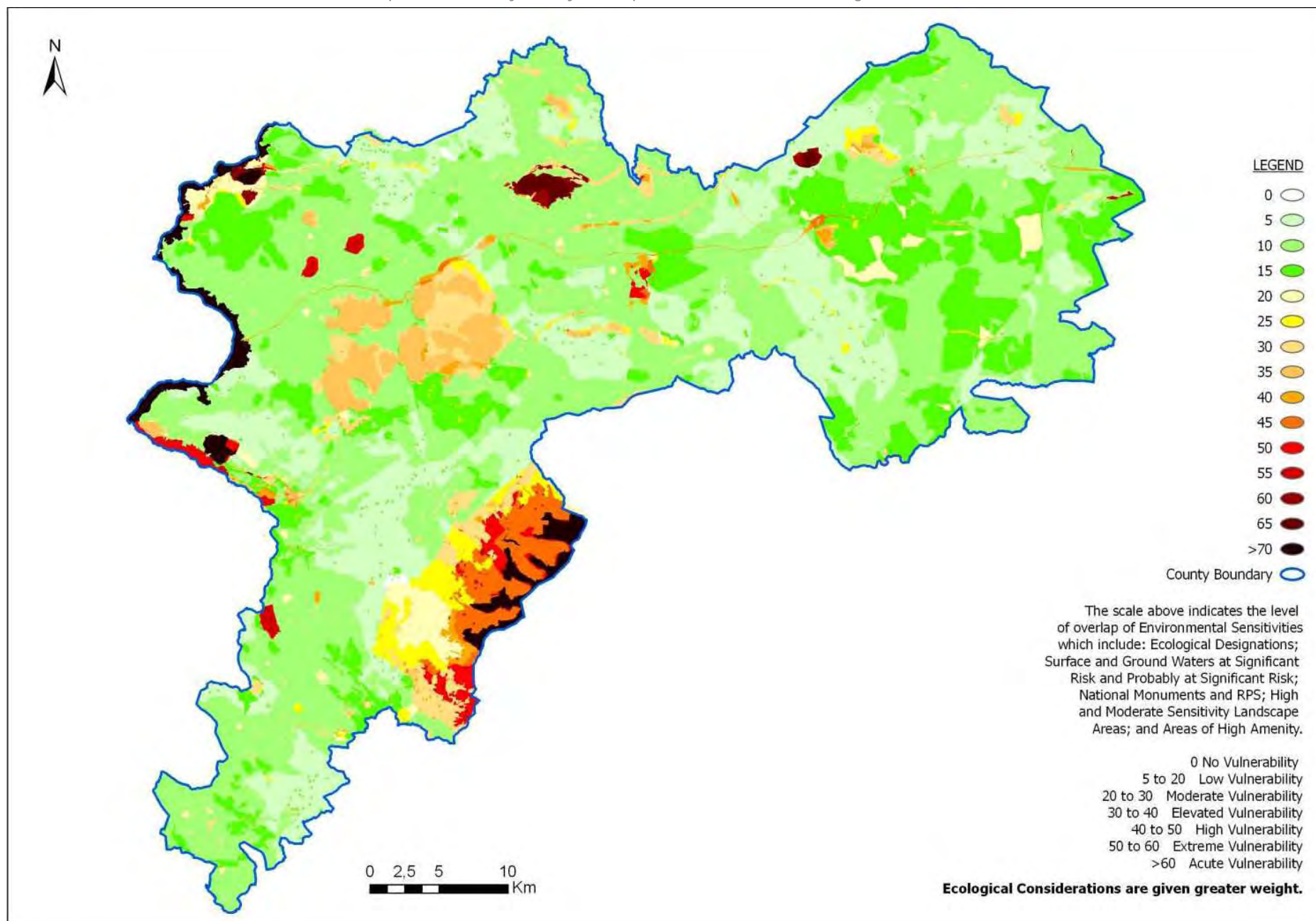
### 3.10.6 Limitations

It is noted that there are elements of subjectivity to the weighting systems used in this section. However, it is also noted that efforts were made to be as objective as possible - for Figure 3.17 each factor was given an equal weighting depending on whether it is a *highly* or a *moderately* sensitive factor while for Figures 3.17 and 3.18 an attempt has been made to take account of place differing importance on the environmental components of biodiversity, flora and fauna and landscape.



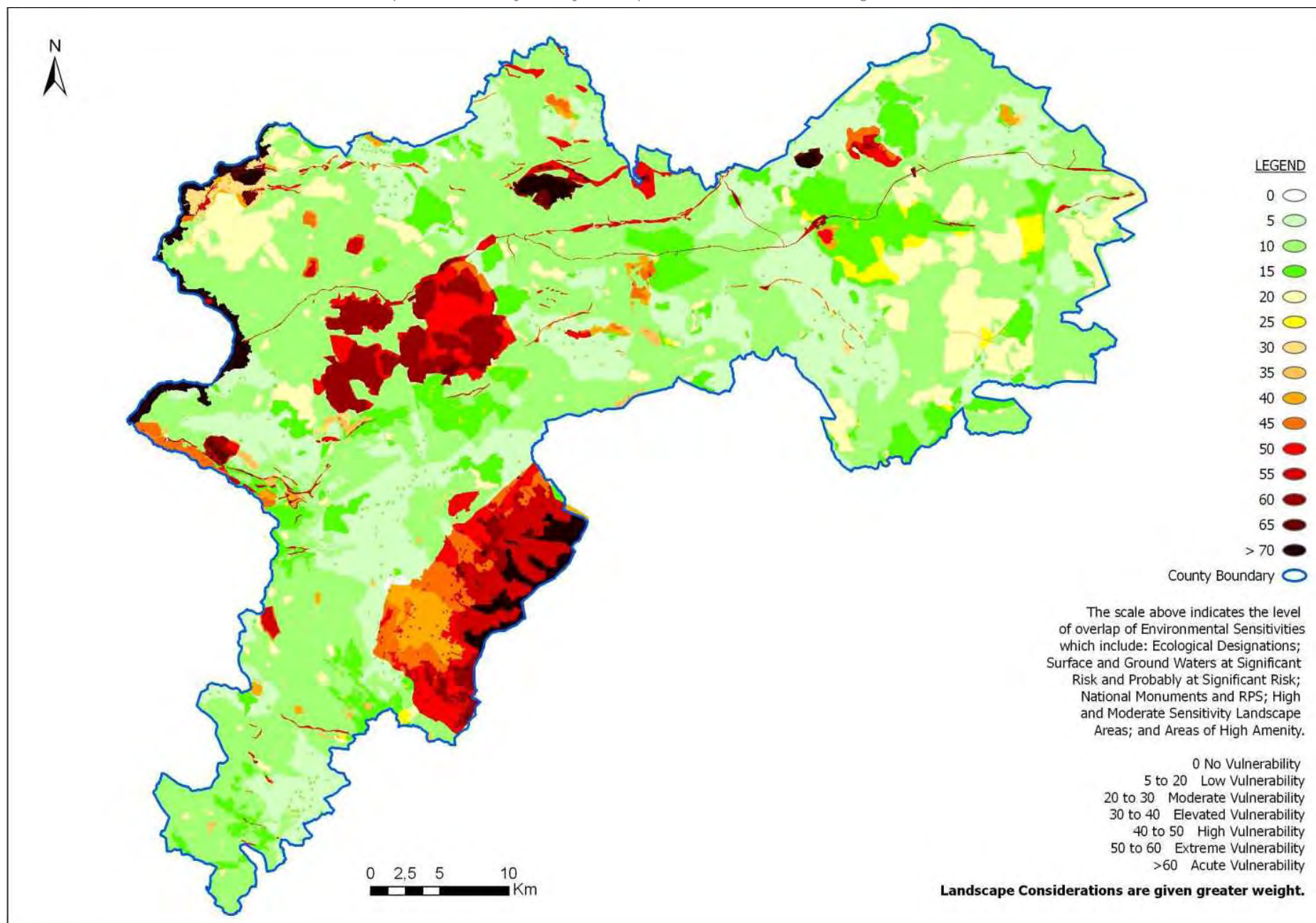


**Figure 3.17 Overlay of Weighted Environmental Sensitivities (all selected factors given equal weighting)**



**Figure 3.18 Overlay of Weighted Environmental Sensitivities (Ecological Designations given greater weight)**





**Figure 3.19 Overlay of Weighted Environmental Sensitivities (Landscape Sensitivities given greater weight)**



## Section 4 Strategic Environmental Objectives

### 4.1 Introduction

Strategic Environmental Objectives (SEOs) are methodological measures against which the environmental effects of the CDP can be tested. If complied with in full, SEOs would result in an environmentally neutral impact from implementation of the plan. The SEOs are set out under a range of topics and are used as standards against which the development strategies, policies and objectives of the CDP can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated.

SEOs are distinct from the objectives of the CDP - although they will often overlap - and are developed from international, national and regional policies which generally govern environmental protection objectives. Such policies include those of various European Directives which have been transposed into Irish law and other relevant Irish environmental legislation, all of which are intended to be implemented at county level in Offaly and integrated into any plan for the County.

The SEA Directive requires that the evaluation of plans be focused upon the relevant aspects of the environmental characteristics of areas likely to be significantly affected. In compliance with this requirement, SEOs have been developed for the relevant environmental components of this SEA. Focus has been developed throughout the SEA, from the scoping stage to the compilation of the existing environmental baseline. Most attention has been given to environmental components which are likely to be impacted as a result of implementation of a CDP.

A number of SEOs are linked to indicators which can facilitate the monitoring of the CDP, if adopted and implemented, as well as to targets which the CDP can help work towards.

The primary source used in formulating the SEOs was Table 4B of the SEA Guidelines (DoEHLG, 2004)<sup>26</sup>. This list has been amended

to give affect to objectives that are considered relevant to this CDP. The use of SEOs, although not a statutory requirement, does fulfil obligations set out in Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004).

### 4.2 Biodiversity, Flora and Fauna

#### 4.2.1 International, European and National Strategic Actions

##### 4.2.1.1 UN Convention on Biological Diversity 1992

The United Nations Convention on Biological Diversity 1992 requires the promotion of the conservation and sustainable use of biodiversity.

##### 4.2.1.2 National Biodiversity Plan 2002

The preparation and implementation of Ireland's National Biodiversity Plan 2002<sup>27</sup> complies with an obligation under the UN Convention on Biological Diversity. The overall goal of the Plan is to secure the conservation, including where possible the enhancement and sustainable use of biological diversity in Ireland and to contribute to conservation and sustainable use of biodiversity globally. Objectives following on from this goal are to:

- Conserve habitat diversity, including all sites of special biodiversity importance;
- Conserve species diversity;
- Conserve genetic diversity, both wild and domesticated; and
- Contribute to the conservation and sustainable use of biodiversity and to advancing other obligations of the CBD in the EU, regionally and internationally.

<sup>26</sup> Department of the Environment, Heritage and Local Government (2004) *Implementation of SEA Directive (2001/42/EC): Guidelines for Regional Authorities and Planning Authorities* Dublin: Government of Ireland.

<sup>27</sup> Department of Arts, Heritage, Gaeltacht and the Islands (2002) *National Biodiversity Plan* Dublin: Government of Ireland

#### **4.2.1.3 Habitats Directive 1992**

The European Council Directive on the Conservation of natural habitats and of wild fauna and flora (92/43/EEC), referred to as the Habitats Directive, aims to ensure the conservation of certain natural habitats and species which are at favourable conservation status. Article 10 of the Habitats Directive recognises the importance of ecological networks as corridors and stepping stones for wildlife, including for migration, dispersal and genetic exchange of species of flora and fauna. The Directive requires that ecological connectivity and areas of ecological value outside the network of designated ecological sites are maintained and it recognises the need for the management of these areas through land use planning and development policies.

Special Areas of Conservation (SACs) are designated and protected under the under the Habitats Directive 1992 (92/43/EEC) due to their conservation value for habitats and species of importance in the European Union. In Ireland, the habitats and species occurring in SACs are protected from effects of development occurring outside their boundaries under Section 18 "Prohibition of works on lands outside a European site" of the European Communities (Natural Habitats) Regulations 1997. The Regulations require that where a development is proposed to be carried out, on any land that is not within a protected site and is liable to have an adverse impacts on the protected site in question, including direct, cumulative and indirect impacts, an appropriate assessment, which conforms to an environmental impact assessment, of the likely effects of the proposed development on the site is undertaken. Depending on the conclusions of this assessment such development may be refused planning permission.

The Habitats Directive seeks to establish Natura 2000, a network of protected areas throughout the EU. It is the responsibility of each member state to designate SACs to protect habitats and species, which, together with the SPAs designated under the 1979 Birds Directive, form Natura 2000.

#### **4.2.1.4 Birds Directive 1979**

The 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC), referred to as the Birds Directive, - as well as its amending acts - seek to: protect, manage and

regulate all bird species naturally living in the wild within the European territory of the Member States, including the eggs of these birds, their nests and their habitats; and regulate the exploitation of these species.

Special Protection Areas (SPAs) are provided protection under the Directive and have been designated by the DoEHLG due to their conservation value for birds of importance in the European Union.

#### **4.2.1.5 Wildlife Act 1976 and Wildlife (Amendment) Act 2000**

Natural Heritage Areas are designated and protected due to their national conservation value for ecological and/or geological/geomorphological heritage under the Wildlife (Amendment) Act 2000.

Statutory Nature Reserves are state-owned land, inland waters or foreshore areas forming the habitat of a species or community of flora and fauna of scientific interest or forming part of an ecosystem of scientific interest, which would benefit from protection measures, established under the Wildlife Act, 1976 and the Wildlife (Amendment) Act, 2000. Statutory Nature Reserves are protected under Ministerial order.

#### **4.2.1.6 Convention on Wetlands of International Importance**

The Convention of Wetlands of International Importance, especially as Water Fowl Habitat, was established at Ramsar in 1971 and ratified by Ireland in 1984. The main aim of the Convention is to secure the designation by each contracting state of wetlands in its territory for inclusion in a list of wetlands of international importance for waterfowl. This entails the commitment of each contracting state to a policy of protection and management of the designated wetlands, and of formulating and implementing planning so as to promote the conservation of designated wetlands and, as far as possible, the wise use of wetlands in its territory.

#### **4.2.1.7 European Freshwater Directive 1978**

Salmonid Waters are designated and protected under the European Communities (Quality of Salmonid Waters) Regulations 1998 (SI No. 293 of 1988) which implements the European Council Directive on the quality of fresh waters needing protection or improvement in order to

support fish life (78/659/EEC), referred to as the European Freshwater Directive as amended and codified.

#### 4.2.2 SEOs, Indicators and Targets for Biodiversity, Flora and Fauna

The following SEOs, Indicators and Targets for biodiversity, flora and fauna have been developed with regard to the County's environmental baseline and the objectives of the above strategic actions.

<b>SEO B1:</b>	To avoid loss of relevant habitats, geological features, species or their sustaining resources in designated ecological sites
<b>Indicator B1:</b>	Percentage of relevant habitats and designated ecological sites lost as a result of implementation of the CDP
<b>Target B1:</b>	No losses of relevant habitats, species or their sustaining resources in designated ecological sites as a result of implementation of the CDP

<b>SEO B2:</b>	To avoid significant adverse impacts, including direct, cumulative and indirect impacts, to relevant habitats, geological features, species or their sustaining resources in designated ecological sites by development within or adjacent to these sites
<b>Indicator B2:</b>	Number of significant adverse impacts, including direct, cumulative and indirect impacts, to relevant habitats, geological features, species or their sustaining resources in designated ecological sites by development within or adjacent to these sites as a result of implementation of the CDP
<b>Target B2:</b>	No significant adverse impacts, including direct, cumulative and indirect impacts, to relevant habitats, geological features, species or their sustaining resources in designated ecological sites by development within or adjacent to these sites as a result of implementation of the CDP

<b>SEO B3:</b>	To sustain, enhance or - where relevant - prevent the loss of ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity
<b>Indicator B3:</b>	Percentage loss of connectivity between areas of local biodiversity as a result of implementation of the CDP - as evidenced from a resurvey of CORINE mapping
<b>Target B3:</b>	No ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity to be lost without remediation as a result of implementation of the CDP

Note: the impact of implementing the CDP on aquatic biodiversity and flora and fauna is influenced by impacts upon the quality of surface water bodies which relate to SEO W1.

## 4.3 Population and Human Health

### 4.3.1 Population

#### 4.3.1.1 National Spatial Strategy 2000 - 2020

The National Spatial Strategy (see also Section 5.2 of the ER) - sets out that the Midlands region of the country, which includes Offaly, should, by means of harnessing key drivers, compete with other regions, most notably the Greater Dublin Area (GDA) for comprehensive development i.e. jobs, services, housing. The alternative would be to continue the trend of providing a housing or 'dormitory' function to serve the GDA with commercial and enterprise potential in turn 'leaking' eastwards out of the region.

In order to promote sustainable development and allow for infrastructural and service provision to be economically viable, it is essential to consolidate the physical growth of the County's urban areas. This can be achieved through the development of vacant, derelict and underutilised lands, in particular where they are in close proximity to public transport routes.

#### 4.3.1.2 Midland Regional Planning Guidelines 2004-2016

The Midlands Regional Planning Guidelines 2004-2016 (MRPGs) (see also Section 5.2 of the ER) plan for an increase in population within the Midlands Region, of which County Offaly is part.

Arising from the targets under the MRPGs it is estimated that County Offaly could potentially develop from its 2006 population of 70,868 to approximately 93,000 by the year 2020, or approximately 85,000 by 2015 - an increase of approximately 14,000 over 2006 population figures.

The MRPGs prescribe that Tullamore, as part of the 'Central Development Area' of the region and part of the linked Gateway should account for a very significant proportion of this growth with the balance going to Birr, other towns, and the rural area in progressively lower proportions. This means that Tullamore is targeted to grow to a population of approximately 30,000 by 2020 from 13,000 in 2006.

#### 4.3.1.3 Residential Density Guidelines 1999

The DoEHLG's Residential Density Guidelines 1999 recommend planning authorities to promote higher residential densities, particularly in redeveloping 'brownfield' sites and in proximity to town centres and public transport corridors.

### 4.3.2 Human Health

The impact of implementing the CDP on human health is influenced by the extent to which new development is accompanied by appropriate infrastructure - this relates to SEO M1 - and impacts upon the quality of water bodies - these relate to SEOs W1 and W2. Strategic actions have been identified under the relevant sections from which the aforementioned SEOs have been developed.

#### 4.3.3 SEOs, Indicators and Targets for Human Health

It is noted that the impacts of implementing the CDP on both the spatial distribution of population and the nature of development (with regard to greenfield and brownfield development) across the County relates to SEO S1 which deals with aims to maximise sustainable brownfield development.

The impact of implementing the CDP on human health is determined by the impacts which the CDP has upon environmental vectors.

<b>SEO HH1:</b>	To protect human health from hazards or nuisances arising from exposure to incompatible landuses
<b>Indicator HH1:</b>	Occurrence (any) of a spatially concentrated deterioration in human health
<b>Target HH1:</b>	No spatial concentrations of health problems arising from environmental factors

## 4.4 Soil

### 4.4.1 Proposal for a Soil Framework Directive

To date, there is no legislation which is specific to the protection of soil resources. However, there is currently an EU Thematic Strategy on the protection of soil which includes a proposal for a Soil Framework Directive which proposes common principles for protecting soils across the EU.

Article 5 of the proposed Directive states that, for the purposes of preserving the various functions of soil; sealing, the development of artificial surfaces on top of soil resources, should be limited. The proposed Directive suggests that this may be achieved through rehabilitating brownfield sites, thus reducing the depletion of greenfield sites. The proposed Directive also states soil should be used in a sustainable manner which preserves its capacity to deliver ecological, economic and social services, while maintaining its functions so that future generations can meet their needs.

### 4.4.2 SEOs, Indicators and Targets for Soil

The following SEOs, Indicators and Targets for soil have been developed with regard to the environmental baseline, the proposed Soil Directive and the land use strategic actions detailed under Section 4.3.1 *Population*.

<b>SEO S1:</b>	Maximise the sustainable re-use of brownfield lands, and maximise the use of the existing built environment rather than developing greenfield lands <sup>28</sup>
<b>Indicator S1:</b>	Area of brownfield land developed over the plan period
<b>Target S1:</b>	Reduced availability of brownfield land (subject to availability on the open market, the demand for such land and the ability for such lands to be sustainably re-used within the provisions of the CDP) at the end of the CDP lifespan

<sup>28</sup> SEO S1 was identified as conflicting with SEOs CH1 and CH2

<b>SEO S2:</b>	To permit sustainable: quarrying of non-renewable sand, gravel, rock deposits, and: harvesting of peatlands
<b>Indicator S2i:</b>	Proportion of excavated area returned to productive use
<b>Indicator S2ii:</b>	Proportion of harvested area returned to productive use
<b>Target S2i:</b>	All extraction sites to have progressive rehabilitation programmes in place with agreed rehabilitation targets
<b>Target S2ii:</b>	All harvesting sites to have progressive rehabilitation programmes in place with agreed rehabilitation targets

Note: the impact of implementing the CDP on soil quality is influenced by impacts upon the quality of water bodies which relate to SEO W1 and W2.

## 4.5 Water

### 4.5.1 The Water Framework Directive 2000

#### 4.5.1.1 Introduction

Since 2000, Water Management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). The WFD has been transposed into Irish legislation by the European Communities (Water Policy) Regulations 2003 (SI No. 722 of 2003). The WFD requires that all member states implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving good status by 2015.

#### 4.5.1.2 Good Status for Surface Waters

Good status as defined by the Water Framework Directive equates to approximately Q4 in the national scheme of biological classification of rivers and mesotrophic in the trophic classification of lakes, as set out by the EPA.

#### 4.5.1.3 Quality Standards and Threshold Values for Ground Water

Detailed provisions to achieve the aims of the WFD for ground water have been presented in a Groundwater Daughter Directive (Directive 2006/118/EC on the protection of groundwater against pollution and deterioration).

This Directive sets up environmental objectives of good groundwater quantitative and chemical status, as well as ensuring a continuity to the 1980 Groundwater Directive (Directive 80/68/EEC on the protection of groundwater against pollution caused by dangerous substances) which is due to be repealed under the WFD by the end of 2013.

Article 3 of the 2006 Directive required that the assessment of the chemical status of groundwater use both quality standards identified in Annex I of the Directive and threshold values to be set by individual member states.

Groundwater quality standards are environmental quality standards expressed as the concentration of a particular pollutant, group of pollutants or indicator of pollution in groundwater, which should not be exceeded in order to protect human health and the environment. Annex I of the Directive sets standards for two pollutants: Nitrates - 50mg/l - and; Active substances in pesticides<sup>29</sup>, including their relevant metabolites, degradation and reaction products - 0,1 µg/l and 0,5 µg/l (total<sup>30</sup>).

Irish groundwater threshold values<sup>31</sup> are currently in the process of being set by the EPA.

<sup>29</sup> 'Pesticides' means plant protection products and biocidal products as defined in Article 2 of Directive 91/414/EEC and in Article 2 of Directive 98/8/EC, respectively.

<sup>30</sup> 'Total' means the sum of all individual pesticides detected and quantified in the monitoring procedure, including their relevant metabolites, degradation and reaction products.

<sup>31</sup> Threshold values are to be established by Member States for all pollutants and indicators of pollution which characterise groundwater bodies classified as being at risk of failing to achieve good groundwater chemical status under the WFD. Threshold values are required to be established in a way that, should the monitoring results at a representative monitoring point exceed the thresholds, this will indicate a risk that one or more of the conditions for good groundwater chemical status - with regard to the ability of groundwater to support human uses and

#### 4.5.1.4 Register of Protected Areas

The WFD requires that Registers of Protected Areas (RPAs) are compiled for a number water bodies or part of water bodies which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife.

#### 4.5.2 SEOs, Indicators and Targets for Water

The following SEOs, Indicators and Targets for water have been developed with regard to County Offaly's environmental baseline and the objectives of the above strategic actions.

<b>SEO W1:</b>	To maintain and improve, where possible, the quality of rivers
<b>Indicator W1:</b>	Biotic Quality Rating (Q Value)
<b>Target W1i:</b>	To maintain a biotic quality rating of Q4, in line with the requirement to achieve good water status under the Water Framework Directive, by 2015
<b>Target W1ii:</b>	To improve biotic quality ratings, where possible, to Q5

<b>SEO W2:</b>	To prevent pollution and contamination of ground water
<b>Indicator W2:</b>	Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC
<b>Target W2:</b>	Compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC

## 4.6 Air and Climatic Factors

### 4.6.1 Kyoto Protocol

In order to reduce greenhouse gas emissions the internationally agreed Kyoto Protocol established emissions reduction targets for developing countries. Ireland's emission target for greenhouse gases is to limit the increase in their combined emissions during the five-year

with regard to waters used for the abstraction of drinking water - are not being met.

period 2008-2012 to 13 per cent above 1990 levels.

#### 4.6.2 SEOs, Indicators and Targets for Air and Climatic Factors

The following SEOs, Indicators and Targets for air and climatic factors have been developed with regard to County Offaly's environmental baseline and the objectives of the above strategic actions.

<b>SEO A1:</b>	To minimise increases in travel related greenhouse emissions to air
<b>Indicator A1i<sup>32</sup>:</b>	Percentage of population County Offaly travelling to work or school by public transport or non-mechanical means
<b>Target A1i:</b>	An increase in the percentage of the population travelling to work or school by public transport or non-mechanical means
<b>Indicator A1ii<sup>33</sup>:</b>	Average distance travelled to work or school by the population of County Offaly
<b>Target A1ii:</b>	A decrease in the average distance travelled to work or school by the population of County Offaly

### 4.7 Material Assets

#### 4.7.1 Waste Water

The treatment of wastewater is governed by the Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC) transposed into Irish law by the Urban Waste Water Treatment Regulations 2001 (SI 254 of 2001). The Directive aims to protect the environment from the adverse effects of the wastewater discharges by ensuring that wastewater is appropriately treated before it is discharged to the environment. Also the treatment of waste water is relevant to the Water Framework Directive which requires all

<sup>32</sup> As measured by the Central Statistics Office

<sup>33</sup> As measured by the Central Statistics Office

public bodies, including Offaly County Council, to coordinate their policies and operations so as to maintain the good status of water bodies which are currently unpolluted and bring polluted water bodies up to good status by 2015.

#### 4.7.2 Drinking Water

Drinking water quality values set by the European Communities (Drinking Water) Regulations, 2000 and trigger values set by the Geological Survey of Ireland (1999)<sup>34</sup> are integrated into SEO HH1 and SEO W2.

#### 4.7.3 SEOs, Indicators and Targets

The following SEOs, Indicators and Targets for material assets have been developed with regard to County Offaly's environmental baseline and the objectives of the above strategic actions.

<b>SEO M1:</b>	To serve new development with appropriate waste water treatment
<b>Indicator M1:</b>	Number of new developments granted permission which cannot be adequately served by a public waste water treatment plant over the lifetime of the CDP
<b>Target M1:</b>	No new developments granted permission which cannot be adequately served by a public waste water treatment plant over the lifetime of the CDP

### 4.8 Cultural Heritage

#### 4.8.1 Archaeological Heritage

##### 4.8.1.1 Valletta Convention 1992

The European Convention on Protection of the Archaeological Heritage known as the Valletta Convention of 1992. This was ratified by Ireland in 1997 and requires that appropriate

<sup>34</sup> Geological Survey of Ireland (1999) *Protocol for the delineation of Source Protection Zones (including Nitrate Vulnerable Zones) around public groundwater supply sources* Dublin: Geological Survey of Ireland



consideration be given to archaeological issues at all stages of the planning and development process.

#### **4.8.1.2 National Heritage Plan for Ireland 2002**

The core objective of the National Heritage Plan for Ireland 2002<sup>35</sup> is to protect Ireland's heritage. In this regard the 'polluter pays' principle and the precautionary principle are operable.

#### **4.8.1.3 National Monuments Acts**

Archaeology in Ireland is protected under the National Monuments Acts 1930 to 2004.

Recorded monuments are protected by inclusion on the list and marked on the map which comprises the Record of Monuments and Places set out county by county under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological Survey of Ireland. The definition includes Zones of Archaeological Potential in towns and all other monuments of archaeological interest which have so far been identified.

Any works at or in relation to a recorded monument requires two months notice to the Department of the Environment, Heritage and Local Government under section 12 of the National Monuments (Amendment) Act, 1994.

Direct impacts on national monuments in State or Local Authority care or subject to a preservation order require the consent of the Minister for the Environment, Heritage and Local Government under Section 14 of the National Monuments Act 1930 as amended by Section 5 of the National Monuments (Amendment) Act 2004.

### **4.8.2 Architectural Heritage**

#### **4.8.2.1 Planning and Development Act 2000**

The Record of Protected Structures (RPS) included in the current Development Plan is legislated for under Section 51 of the Planning and Development Act 2000 and includes structures which form part of the architectural heritage and which are of special architectural,

historical, archaeological, artistic, cultural, scientific, social or technical interest. All structures, buildings, or erections, which came into existence after 1700 A.D., can be protected through enlistment in the RPS.

#### **4.8.2.2 Architectural Heritage and Historic Monuments Act 1999**

The National Inventory of Architectural Heritage (NIAH) is a state initiative under the administration of the DoEHLG which was established on a statutory basis under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999. Its purpose is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. It is intended that the NIAH provides the basis for the inclusion of particular structures in the RPS. All RPS entries are entries to the NIAH.

### **4.8.3 SEOs, Indicators and Targets**

The following SEOs, Indicators and Targets for cultural heritage have been developed with regard to County Offaly's environmental baseline and the above strategic actions.

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<sup>35</sup> Department of Arts, Heritage, Gaeltacht and the Islands (2002) *National Heritage Plan for Ireland* Dublin: Government of Ireland

<b>SEO CH1:</b>	To protect the archaeological heritage of County Offaly with regard to entries to the Record of Monuments and Places - including Zones of Archaeological Potential - and the context of the above within the surrounding landscape where relevant.
<b>Indicator CH1:</b>	Number of unauthorised developments occurring which result in full or partial loss to entries to the Record of Monuments and Places - including Zones of Archaeological Potential - and the context of the above within the surrounding landscape where relevant.
<b>Target CH1:</b>	No unauthorised developments occurring which result in full or partial loss to entries to the Record of Monuments and Places - including Zones of Archaeological Potential - and the context of the above within the surrounding landscape where relevant.

<b>SEO CH2:</b>	To preserve and protect the special interest and character of County Offaly's architectural heritage with regard to entries to the Record of Protected Structures and their context within the surrounding landscape where relevant.
<b>Indicator CH2i:</b>	Number of unauthorised developments occurring which result in physical loss or loss entries to the Record of Protected Structures and/or their context within the surrounding landscape where relevant.
<b>Indicator CH2ii:</b>	Number of additions to the Record of Protected Structures and the number of additional ACAs.
<b>Target CH2i:</b>	No unauthorised developments occurring which result in physical loss or loss entries to the Record of Protected Structures and/or their context within the surrounding landscape where relevant.
<b>Target CH2ii:</b>	Make Additions to the Record of Protected Structures and make additional ACAs, where appropriate.

## 4.9 Landscape

### 4.9.1 European Landscape Convention 2000

Ireland signed and ratified the European Landscape Convention (2000) in 2002 with the Convention entering into force in Ireland in 2004. The aims of the Convention include: to conserve and maintain the significant or characteristic features of a landscape, justified by its heritage value derived from its natural configuration and/or from human activity; to harmonise changes in the landscape which are brought about by social, economic and environmental processes, and to enhance landscapes.

#### 4.9.2 SEOs, Indicators and Targets

The following SEOs, Indicators and Targets for landscape have been developed with regard to County Offaly environmental baseline and the above strategic action.

<b>SEO L1:</b>	To protect County Offaly's sensitive landscapes and designated scenic views
<b>Indicator L1:</b>	Number of complaints by statutory consultees regarding avoidable impacts resulting from development which is granted permission under the CDP
<b>Target L1:</b>	No developments permitted which result in avoidable impacts on the County's sensitive landscapes.

## **Section 5 A Development Plan for County Offaly**

### **5.1 Legislative Context**

Under Section 9 of the Planning and Development Act 2000, 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 plan consists of a written statement and a plan(s) indicating the development objectives of for the area in question. It is required to set out an overall strategy for the proper planning and sustainable development of the area in question. It is in this context in which Offaly County Council has prepared and adopted the County Development Plan to which this report refers.

The Offaly County Development Plan (CDP), with which this report should be read in conjunction with, has been prepared in response to the aforementioned requirement, in response to the development pressures facing County Offaly and the need to provide a positive framework for the future development of the County that is consistent with the policies and objectives contained in higher level forward planning strategic actions such as the National Spatial Strategy 2002 - 2020 and the Midlands Regional Planning Guidelines 2004 - 2020.

The CDP is intended to provide for the proper planning and sustainable development for County Offaly for a duration of six years from the date on which it is adopted. It consists of a written statement and maps which give a graphic representation of the proposals of the Plan, indicating land use and other development standards together with various local objectives.

### **5.2 Relevant Forward Planning Strategic Actions**

#### **5.2.1 Introduction**

The Offaly CDP is nested in a hierarchy of land use forward planning strategic actions. The CDP must be consistent with the objectives of these strategic actions while any programmes or projects which take place in County Offaly must be consistent with the CDP.

#### **5.2.2 National Spatial Strategy 2000-2020**

This National Spatial Strategy (NSS) is a twenty year planning framework designed to achieve a better balance of social, economic, physical development and population growth between regions, adding a spatial dimension to social and economic planning in Ireland. The Strategy provides a national framework for regional, county and town plans in relation to policy guidance for the long-term development of Ireland.

It sets out that the Midlands region of the country, which includes Offaly, should, by means of harnessing key drivers, compete with other regions, most notably the Greater Dublin Area (GDA) for comprehensive development i.e. jobs, services, housing. The alternative would be to continue the trend of providing a housing or 'dormitory' function to serve the GDA with commercial and enterprise potential in turn 'leaking' eastwards out of the region.

#### **5.2.3 Midlands Regional Planning Guidelines 2004-2016**

Ireland is divided into eight regional forward planning regions, Dublin, Midlands, Mid East, Mid West, South East, South West, West and Border, each with its own regional planning authority composed of Elected Members selected by the constituent local government councils. Regional planning authorities are required, under the Planning and Development (Regional Planning Guidelines) Regulations 2003 (S.I. No. 175 of 2003), to draw up regional planning guidelines (RPGs), long term strategic planning frameworks, for their relevant region.

County Offaly is located in the Midlands Regional Authority and Offaly County Council has, in conjunction with Laois, Longford and Westmeath County Councils, adopted the Midlands Regional Planning Guidelines 2004-2016 (MRPGs). The MRPGs are consistent with and give effect to the NSS at the regional level.

The MRPGs plan for an increase in population within the region from 225,000 in 2002 to 325,000 in 2020 and a considerable strengthening of the larger urban centres of Athlone, Tullamore and Mullingar, to attract economic development, services and to sustain this increased population which otherwise might gravitate towards the Greater Dublin Area (GDA), or indeed other regions. This figure has been revised upwards to 333,000 in the light of the results of Census 2006 and optimistic government forecasts for population growth nationally. Offaly's important location within the Midlands region, coupled with Tullamore as part of the Athlone, Tullamore, Mullingar (ATM) Midlands Linked Gateway means that the County has a pivotal role in the achievement of the development aspirations of the region.

Arising from this MRPGs target it is estimated that County Offaly could potentially develop from its 2006 population of 70,868 to approximately 93,000 by the year 2020, or approximately 85,000 by 2015 - an increase of approximately 14,000 over 2006 population figures.

The MRPGs prescribe that Tullamore, as part of the 'Central Development Area' of the region and part of the linked Gateway should account for a very significant proportion of this growth with the balance going to Birr, other towns, and the rural area in progressively lower proportions. This means that Tullamore is targeted to grow to a population of approximately 30,000 by 2020 from 13,000 in 2006. Offaly and Westmeath County Councils have commissioned a Strategic Development Framework for the Midlands Gateway - Developing a World Class Knowledge-Based Competitive Gateway. The strategy is designed to create an integrated, linked Gateway comprising Athlone, Tullamore and Mullingar together with the other towns in the region to realise its potential as an internationally competitive gateway. Offaly County Council will work with Westmeath County Council to implement the strategy.

Population growth over the past decade and ongoing pressure for development in Offaly is largely concentrated in the east of the County. The primary reason for this is this area's proximity to the GDA, and the rapid growth reflects a trend throughout Leinster for commuter driven development. To allow development over this plan period to follow the current trends and pressures would result in a

considerable imbalance of development in the County and would represent failure to implement the MRPGs.

Furthermore, the potential for a successful Midlands Linked Gateway, supported by a strong network of towns and the intervening rural areas would be diluted. For the Region it could mean a lost opportunity to develop as a sustainable and complimentary alternative to the GDA for economic development and high order services.

In recognition of the foregoing, Offaly County Council has looked towards the 2020 MRPG targets and worked back to 2015 in order to: try to secure the NSS/MRPG objectives; and try to ensure that growth is measurable against the MRPGs over this plan period.

## **5.2.4 National Development Plan 2007-2013**

The National Development Plan 2007-2013 (NDP) sets out a programme for National investment in areas including infrastructure and community development. The NDP aims at further increasing quality of life in Ireland and strengthening the Country's economic success within the overall planning framework as set out by the NSS.

Harnessing the investment which is directly beneficial to Offaly through a planning framework which allows the greatest potential for the sustainable development of Offaly is a challenge for the CDP.

## **5.3 Environmental Protection Objectives**

The CDP is subject to a number of high level national and international environmental protection policies and objectives, including those which have been identified and adopted as Strategic Environmental Objectives in Section 4. The CDP must be consistent with these objectives and implement them at the County level in Offaly.

## 5.4 Functional Area and Lower Tier Plans

The CDP relates to the functional area of Offaly County Council, which is County Offaly, excluding the Town Council areas of Tullamore and Birr, as these are separate Planning Authorities. The plan is however, relevant to those Authorities as it sets out an overall vision, strategies, policies and objectives for the County as a whole and its successful implementation will have a positive impact on all areas within the County, including the Town Council areas.

Statutory development plans are in place for Birr and Tullamore, and future reviews should have regard to and aim to be consistent with the CDP when adopted.

Local Area Plans are in place for Edenderry and Clara. These must be consistent with the objectives of the CDP. Settlement plans for all other towns, villages and sráids are contained within Volume II of the CDP.

## 5.5 Structure and Content

The CDP consists of:

- **Volume I - Written Statement**

The Written Statement is divided into twenty chapters and sets out the vision, aims, goals and strategy for the County over the plan period in addition to the Council's policies and objectives under various headings.

It also contains: development standards/guidelines; a summary of the County Housing Strategy; a summary of the County Retail Strategy; a Wind Energy Strategy for the County; and the written land use zoning categories which are read in conjunction with the land use zoning maps contained in Vol. II.

- **Volume II - Settlement Plans**

Volume II includes Town plans, Village plans, and Sraid plans.

The Tullamore Town and Environs Development Plan, Birr Town and Environs Development Plan, Clara Local Area Plan and Edenderry Local Area Plan are not included in the CDP as these plans are adopted by way of a separate statutory process. These plans are however consistent

with the overall context, policies and objectives of the CDP.

- **Appendices**

The appendices include: Offaly Local Authority's Housing Strategy which, inter alia, projects forward to 2015 the estimated housing needs of the County and examines the availability of zoned and other land to facilitate this identified need; Offaly Local Authority's Retail Strategy which; and Offaly County Council's Record of Protected Structures, which comprises a list of all such structures within the County.

## 5.6 Overall Vision of the CDP

The Overall Vision of the CDP is: *that all people in Offaly will enjoy equal opportunity and a good quality of life - that they will look forward to the future with confidence while cherishing the past.*

For the CDP, this means having regard to: how land use and planning decisions will impact on quality of life for the people of Offaly; how such decisions will impact on Offaly as a location to live and work of choice, not necessity, and; how such decisions will impact on the need to protect Offaly's natural and built assets.

It is intended that the vision acts as a 'prompt' for all strategies, policies and objectives of the plan.

## 5.7 Alternatives

Sections 6 and 7 of this report identify, describe and evaluate different alternatives of how to achieve the overall vision for a CDP for Offaly, taking into account the relevant land use strategic actions (see Section 5.2 above), the SEOs identified in Section 4 as well as the geographical scope of the CDP.

The evaluation of alternatives results in the identification of a preferred alternative from which the Plan was developed.



## **Section 6 Identification and Description of Alternative Plan Scenarios**

### **6.1 Introduction**

One of the critical roles of SEA is to facilitate an evaluation of the likely environmental consequences of a range of alternative strategies for accommodating the future development of the County within the constraints imposed by intrinsic environmental conditions. In this instance the consideration of conceptual alternatives arose during the early stages of plan inception at a workshop with the development plan team. The principal findings are presented in this section.

The following summarises a series of 'Scenarios' which provide alternative visions of how the future development of Co Offaly might occur. These are neither predictions nor preferences – instead they offer a range of plausible and internally consistent narratives of the outcome of different planning and development strategies. These provide the basis for the comparative evaluation of the likely environmental effects of each plan, which in turn serves the purpose of identifying which features of plans and policies are likely to be sensitive or robust over the widest range of circumstances. The following pages provide more comprehensive systematic descriptions of the main features of each scenario.

### **6.2 General Identification of Alternative Scenarios**

#### **6.2.1 Introduction**

The following identifies a range of potential scenarios for four different types of planning strategies that could be adopted for County Offaly. It should be noted that the title given to each scenario is notional and intended to give a general indication of the nature of the scenario.

#### **6.2.2 Scenario 1 - *Weak Planning***

In this scenario (see Figure 6.1), development is dominated by residential development, which in turn is developer and market-led with little

strategic focus or purpose. There is significant development along the eastern boundaries of the County, some at increased densities, which leads to the proliferation of one off houses in the countryside which in turn creates an urbanised corridor. Significant levels of suburbanisation develop along roads in the vicinity of the Gateway town and the large towns, as well as a continued proliferation of rural housing in the environs of Ferbane. Very extensive areas of rural housing continue to accumulate, centred on the major road corridors of the County, which undermine the strategic role of the road network in the County. There are weak measures to protect environmental resources with some of the consequences including the degrading of water quality, pollution of groundwater resources and loss of biodiversity.

#### **6.2.3 Scenario 2 - *Conventional Planning***

Scenario 2 (see Figure 6.2) envisages well controlled growth of urban centres with most emphasis on consolidating the County's settlements and on environmental protection. Growth is distributed across the County in line with the adopted Settlement Hierarchy, also having regard to the National Spatial Strategy (NSS) and the Midlands Regional Planning Guidelines (MRPGs). This scenario advocates and implements strong and robust environmental protection policies to be applied to various environmental zones within the County which would include extensive peatland, upland and wetland areas. In the West of the County the emphasis is on facilitating the strengthening of rural areas, having regard to strong environmental policies, while in the East it is on strict control of development.

#### **6.2.4 Scenario 3 - *Strategic Planning***

Scenario 3 (see Figure 6.3) strongly conforms to the provisions of the existing NSS for the development of the Midlands Gateway region of

Athlone, Tullamore and Mullingar and for the control of expansion in the East of the County. It envisages a hierarchy of settlements, in line with the County's adopted Settlement Hierarchy including a linked Gateway town, large town, medium sized towns, local service towns, villages and sraids. There is also provision for extensive areas of environmental protection. In the West of the County the emphasis is on facilitating the strengthening of rural areas while in the East it is on strict control of development.

### **6.2.5 Scenario 4 - *Enterprise Planning***

The key vision of Scenario 4 (see Figure 6.4) is to create and sustain centres of strong economic activity. It prioritises links with Mullingar and Portlaoise as part of the peri-Dublin service zone. It envisions 3 main zones: an Economic/Employment Potential Zone in the East; a Midlands Enterprise and Service Zone in the centre; and a Rural Urban Strengthening Zone in the West. It identifies zones for the restructuring of agriculture in weak areas and for the intensification of agriculture in stronger ones. Environmental protection is integrated into each.

## **6.3 Description of Alternative Scenarios**

### **6.3.1 Introduction**

The following describes in more detail the range of potential scenarios for the types of planning strategies that could be adopted for County Offaly:

### **6.3.2 Scenario 1 - *Weak Planning***

In this scenario (see Figure 6.1), development is dominated by housing, which in turn is developer and market-led with little strategic focus or purpose. There is significant development along the eastern boundaries of the County - some at elevated densities. An urbanised corridor - with significant levels of suburbanisation develops along roads in the vicinity of Tullamore while there is continued proliferation of rural housing in the environs of Birr and Ferbane. Very extensive areas of rural housing continue to accumulate centred on the major road corridors of the County. There are

weak measures to protect environmental resources.

**Eastern Areas** become a dense matrix of dispersed development - mostly dwellings - with a wide range of uncoordinated economic activities exploiting relatively cheap land with easy access to nearby transportation corridors and the markets for goods and services of the Greater Dublin Area.

**Central Corridor** develops between Mullingar and Portlaoise with expanding urbanized and suburbanized areas. Within a twenty minute drive of Tullamore and along the N80 and N52 there are elevated densities of rural housing and associated economic activity - mostly smaller scale services and retail activities.

**Western Areas** will experience a proliferation of rural housing and associated development in the environs of the N52 and N62 and in the environs of the Shannon and the Grand Canal and between Banagher and Ferbane. Further housing will develop in the environs of Birr and Roscrea - particularly along the N62.

### **6.3.3 Scenario 2 - *Conventional Planning***

This scenario (see Figure 6.2) envisages well controlled growth of urban centres with most emphasis on housing settlement and environmental protection. Growth is distributed between four major and many minor centres. The Scenario envisages environmental protection zones covering extensive peatland, upland and wetland areas of the County. In the West of the County the emphasis is on facilitating the strengthening of rural areas while in the East it is on strict control of development.

**The Major Settlement Centres** (Tullamore, Birr, and Edenderry) develop through the exploitation of retail, service, commercial, leisure and other economic activity associated with the expanding population base of the centre of the County and in adjoining areas of Westmeath. Arrangements are also made to anticipate and provide for controlled 'overspill' growth from Roscrea, and Portarlington.

**Rural Strengthening Zone** in the West of the County is an agricultural zone (restructuring in the North and intensifying in the South) which constitutes a rural matrix that supports a wide range of activities that depend on the quality of

the environment for their competitive advantage.

**Rural Control Zone** in the East of the County is a zone of relatively weak agriculture with large areas of natural vegetation and processes (mostly bogs and wetlands) where pressure for development is channelled into designated settlements.

**Environmental Protection Zones** throughout the County - contain significant areas of peatlands, wetlands and uplands which are strongly protected to provide scenic, recreational, and ecological resources for the County.

### 6.3.4 Scenario 3 - *Strategic Planning*

This Scenario (see Figure 6.3) strongly conforms to the provisions of the existing NSS for the development of the ATM region and for the control of expansion in the East of the County. It envisages a hierarchy of 4 types of settlements. There is also provision for extensive areas of environmental protection. In the West of the County the emphasis is on facilitating the strengthening of rural areas while in the East it is on strict control of development. This Scenario sees Tullamore as a committed and active participant in the ATM Gateway economic region.

**The ATM Economic Hinterland** is developed through the exploitation of retail, service, commercial, leisure and other economic activity associated with the expanding population base of the centre of the County and in adjoining areas of Westmeath.

**Rural Strengthening Zone** in the West of the County is an agricultural zone (restructuring in the North and intensifying in the South) which constitutes a rural matrix that supports a wide range of activities that depend on the quality of the environment for their competitive advantage.

**Rural Control Zone** in the East of the County is a zone of relatively weak agriculture with large areas of natural vegetation and processes (mostly bogs and wetlands) where pressure for development is channelled into designated settlements.

**Environmental Protection Zones** throughout the County contain significant areas of peatlands, wetlands and uplands which are strongly protected to provide scenic, recreational, and ecological resources for the County.

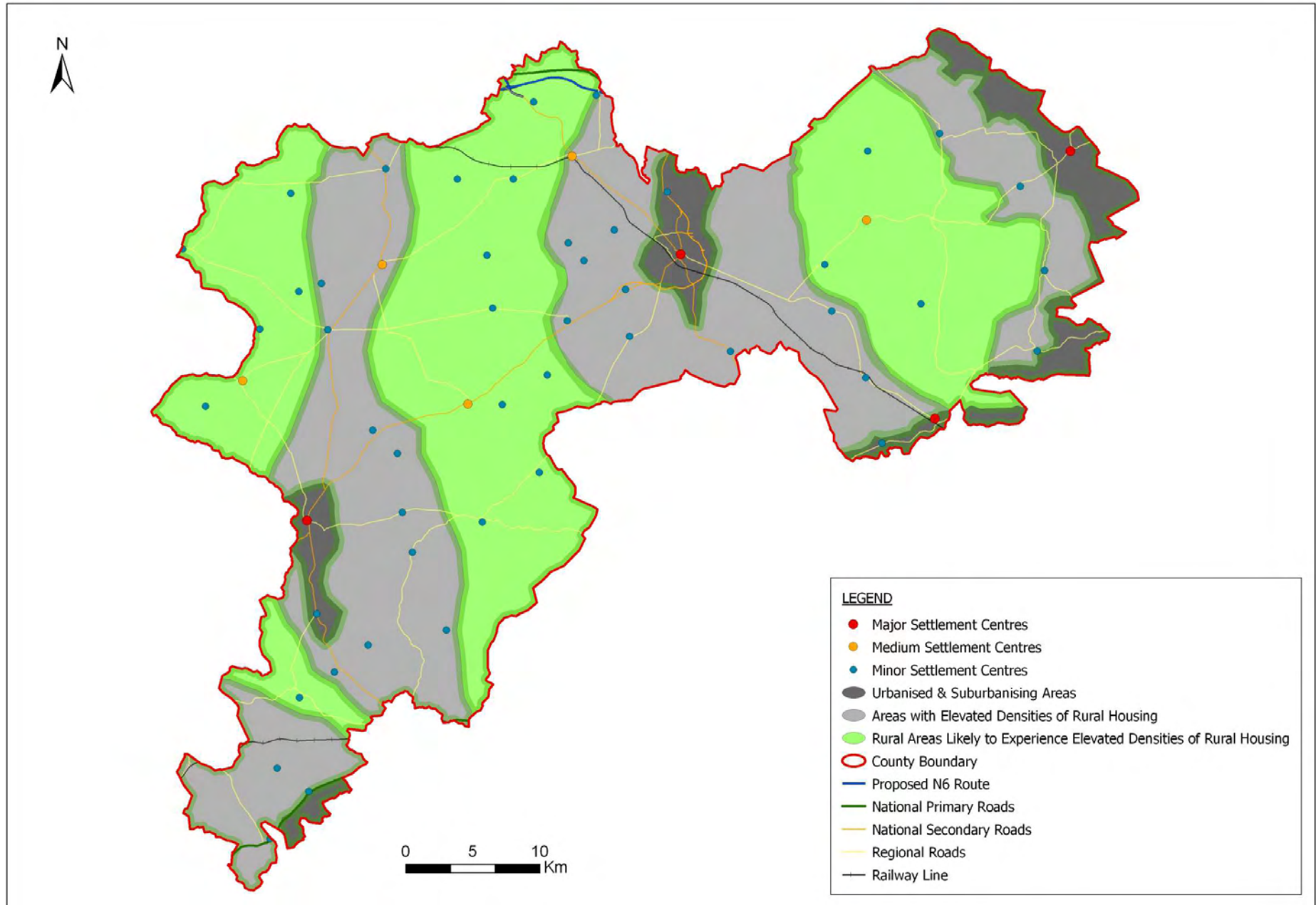
### 6.3.5 Scenario 4 - *Enterprise Planning*

Scenario 4 (see Figure 6.4) is a pragmatic vision-led scenario - to create and sustain centres of strong economic activity. It prioritises links with Mullingar and Portlaoise as part of the peri-Dublin service zone. It envisions 3 main zones; a Tourism, Leisure & Quality of Life Zone in the West; a Midlands Enterprise and Service Zone in the centre; and an Urban Service Zone in the East. It identifies zones for the restructuring of agriculture in weak areas and for the intensification of agriculture in stronger ones. Environmental protection is integrated into each. This Scenario sees Tullamore as a committed and active participant in the Greater Dublin economic region.

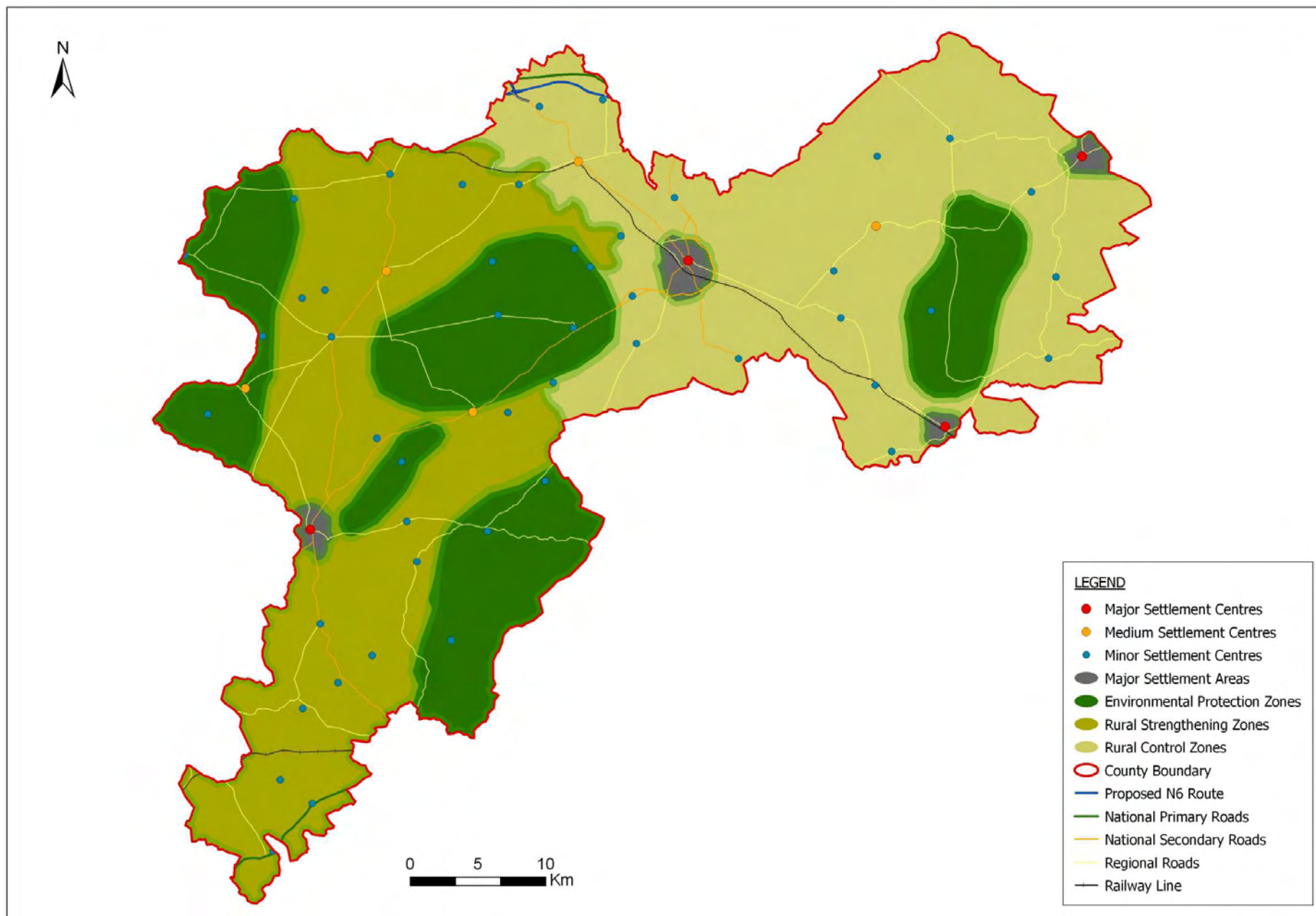
**The Urban Service Zone** in the East is developed through the exploitation of retail, service, commercial, leisure and other economic activity associated with the expanding population base of the East of the County and in adjoining areas of Kildare, Laois and Meath.

**The Midlands Enterprise and Service Zone** in the centre of the County is an area with an enriched concentration of 'hard and soft' support (engineering and personnel) for industry, commerce, retail and specialist service activities within a range of targeted sectors.

**The Tourism, Leisure & Quality of Life Zone** in the West of the County is an agricultural zone (restructuring in the North and intensifying in the South) which constitutes a rural matrix that supports a wide range of activities that depend on the quality of the environment for their competitive advantage. Tourism and leisure are targeted for income generation – particularly along the waterways of the Shannon and the Grand Canal as well as in the Slieve Blooms - while Quality of Life factors attract and sustain the renewal of the population of the countryside and small settlements.



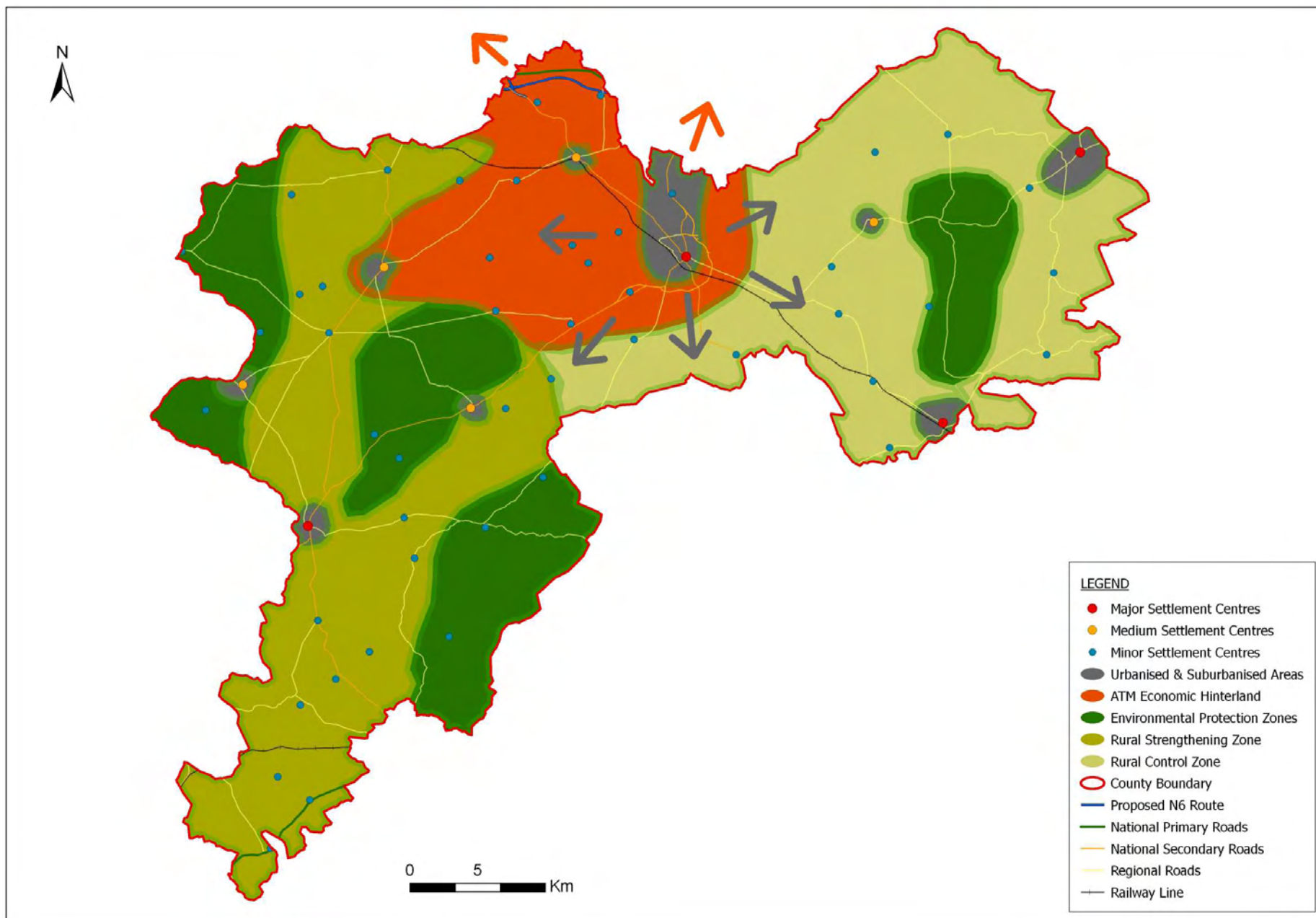
**Figure 6.1 Alternative Scenario 1 - Weak Planning**



**Figure 6.2 Alternative Scenario 2 - Conventional Planning**

CAAS for Offaly County Council

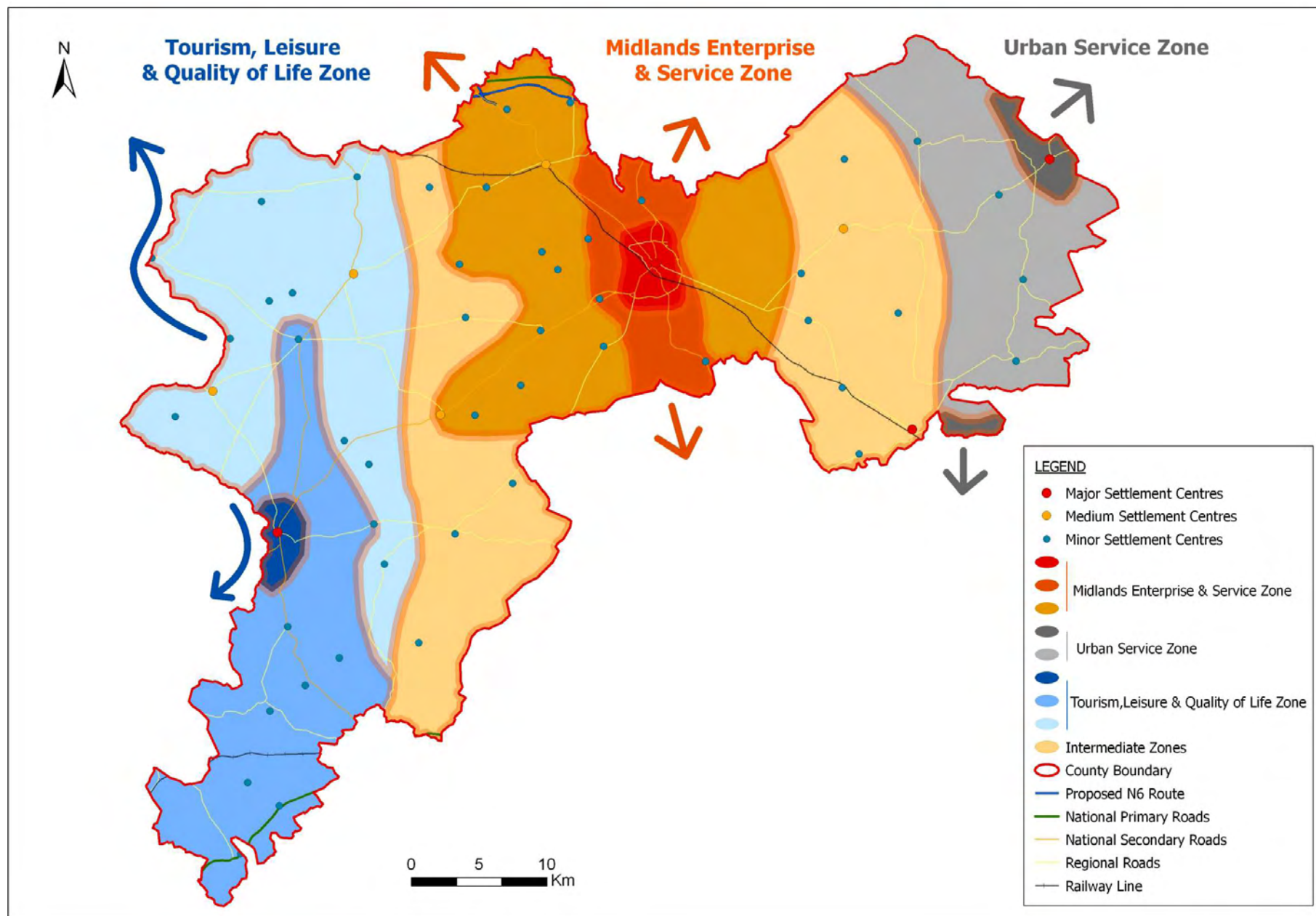




**Figure 6.3 Alternative Scenario 3 - Strategic Planning**

CAAS for Offaly County Council





**Figure 6.4 Alternative Scenario 4 - Enterprise Planning**

## Section 7 Evaluation of Alternative Plan Scenarios

### 7.1 Introduction

The objective of this section is to determine the relative merits of a range of alternative scenarios for the development of the County under a range of types of plan regimes. This determination sought to understand whether each alternative was likely to: improve; conflict, or; have a neutral interaction with the County's environment.

Scenarios are evaluated for both planning and environmental impacts against both the existing environment and Strategic Environmental Objectives (SEOs).

### 7.2 Methodology

#### 7.2.1 Overlay Mapping

In order to identify the extent to which environmental sensitivities are likely to be impacted upon by implementation of the Plan, overlay mapping (which weighs environmental sensitivities and maps them overlapping each other as shown under Section 3.10) was used. Figure 3.17 Overlay of Weighted Environmental Sensitivities (all selected factors given equal weighting) is used for this purpose.

#### 7.2.2 Existing Environment

Use has been made of the description of the environmental baseline, including the maps which spatially represent components of the environmental baseline (Sections 3.2 to 3.9) in order to identify how each alternative scenario

would impact upon the environment and planning.

#### 7.2.3 Strategic Environmental Objectives (SEOs)

Based on an understanding of the existing and emerging environmental conditions in the County a series of SEOs were developed in order to assess the likely environmental effects which would be caused by implementation of each of the four alternative scenarios described and mapped in Section 6. The alternatives are evaluated using compatibility criteria (see Table 7.1) in order to determine how they are likely to affect the status of these SEOs.

Table 7.2 brings together all the SEOs which have been developed from international and national policies which generally govern environmental protection objectives.

The SEOs and the alternative scenarios are arrayed against each other to identify which interactions - if any - would cause impacts on specific components of the environment.

Where the appraisal identifies a likely conflict with the status of an SEO the relevant SEO code is entered into the conflict column - e.g. B1 which stands for SEO likely to be affected - in this instance 'to avoid loss of relevant habitats, geological features, species or their sustaining resources in designated ecological sites'.

Likely to <b>Improve</b> status of SEOs	Probable <b>Conflict</b> with status of SEOs- unlikely to be mitigated	Potential <b>Conflict</b> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
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**Table 7.1 Criteria for appraising the effect of Plan provisions on Strategic Environmental Objectives**

SEO Code	SEO
<b>B1</b>	To avoid loss of relevant habitats, geological features, species or their sustaining resources in designated ecological sites
<b>B2</b>	To avoid significant adverse impacts, including direct, cumulative and indirect impacts, to relevant habitats, geological features, species or their sustaining resources in designated ecological sites by development within or adjacent to these sites
<b>B3</b>	To sustain, enhance or - where relevant - prevent the loss of ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity
<b>HH1</b>	To protect human health from hazards or nuisances arising from exposure to incompatible landuses
<b>S1</b>	Maximise the sustainable re-use of brownfield lands, and maximise the use of the existing built environment rather than developing greenfield lands <sup>36</sup>
<b>S2</b>	To permit sustainable: quarrying of non-renewable sand, gravel, rock deposits, and: harvesting of peatlands
<b>W1</b>	To maintain and improve, where possible, the quality of rivers
<b>W2</b>	To prevent pollution and contamination of ground water
<b>A1</b>	To minimise increases in travel related emissions to air
<b>M1</b>	To serve new development with appropriate waste water treatment
<b>CH1</b>	To protect the archaeological heritage of County Offaly with regard to entries to the Record of Monuments and Places - including Zones of Archaeological Potential - and the context of the above within the surrounding landscape where relevant.
<b>CH2</b>	To preserve and protect the special interest and character of County Offaly's architectural heritage with regard to entries to the Record of Protected Structures and their context within the surrounding landscape where relevant.
<b>L1</b>	To protect County Offaly's sensitive landscapes and designated scenic views

**Table 7.2 Strategic Environmental Objectives (SEOs)<sup>37</sup>**

<sup>36</sup> SEO S1 was identified as conflicting with SEOs CH1 and CH2

<sup>37</sup> Strategic Environmental Objectives (SEOs) are methodological measures which are developed from international and national policies which generally govern environmental protection objectives and against which the environmental effects of the Plan are tested. The SEOs are used as standards against which the development strategies, policies and objectives of the Draft Plan, including the zoning provisions and, can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated against.

### 7.3 Evaluation against Overlay Mapping

<b>Vulnerability Area</b>	<b>Area (km<sup>2</sup>)</b>	<b>% of <i>Urbanised &amp; Suburbanising Areas</i> covering each Vulnerability Area</b>	<b>% of County Vulnerability Class Total covered by <i>Urbanised &amp; Suburbanising Areas</i></b>
Low	165.27	93.84	10.17
Moderate	4.56	2.59	4.09
Elevated	5.66	3.21	3.02
High	0.62	0.35	1.96
Extreme	0.01	0.01	0.02
Acute	0.00	0.00	0.00
Total	175.82	100	Not applicable

**Table 7.3 Quantification of Environmentally Vulnerable Areas most likely to be affected by Scenario 1**

<b>Vulnerability Area</b>	<b>Area (km<sup>2</sup>)</b>	<b>% of <i>Urbanised &amp; Suburbanising Areas</i> covering each Vulnerability Area</b>	<b>% of County Vulnerability Class Total covered by <i>Urbanised &amp; Suburbanising Areas</i></b>
Low	33.98	92.62	2.09
Moderate	0.91	2.49	0.82
Elevated	1.56	4.27	0.83
High	0.22	0.60	0.69
Extreme	0.01	0.02	0.02
Acute	0.00	0.00	0.00
Total	36.68	100	Not applicable

**Table 7.4 Quantification of Environmentally Vulnerable Areas most likely to be affected by Scenario 2**

<b>Vulnerability Area</b>	<b>Area (km<sup>2</sup>)</b>	<b>% of <i>Urbanised &amp; Suburbanising Areas</i> covering each Vulnerability Area</b>	<b>% of County Vulnerability Class Total covered by <i>Urbanised &amp; Suburbanising Areas</i></b>
Low	76.06	86.46	4.68
Moderate	2.74	3.12	2.46
Elevated	7.24	8.24	3.86
High	0.76	0.86	2.37
Extreme	1.16	1.32	2.62
Acute	<0.01	0.00	0.99
Total	87.96	100	Not applicable

**Table 7.5 Quantification of Environmentally Vulnerable Areas most likely to be affected by Scenario 3**

<b>Vulnerability Area</b>	<b>Area (km<sup>2</sup>)</b>	<b>% of <i>Urbanised &amp; Suburbanising Areas</i> covering each Vulnerability Area</b>	<b>% of County Vulnerability Class Total covered by <i>Urbanised &amp; Suburbanising Areas</i></b>
Low	0.72	94.04	0.04
Moderate	<0.01	0.90	<0.01
Elevated	0.04	4.88	0.02
High	<0.01	0.14	<0.01
Extreme	<0.01	0.04	<0.01
Acute	0.00	0.00	0.00
Total	0.76	100	Not applicable

**Table 7.6 Quantification of Environmentally Vulnerable Areas most likely to be affected by Scenario 4**

Tables 7.3 to 7.6 quantify the vulnerability areas which are likely to be impacted upon by the areas of each Scenario which are most likely to come under urban pressure. These areas were mapped (see Figures 7.1 to 7.4) and calculated using GIS software.

The measurements indicate that:

- The scenarios which would be likely to impact upon the greatest extent of vulnerable areas would be Scenario 1 (175.82 km<sup>2</sup>), followed by Scenario 3 (87.96 km<sup>2</sup>) and Scenario 2 (36.68 km<sup>2</sup>) while Scenario 4 would be likely to impact upon the least extent (0.76 km<sup>2</sup>) of vulnerable areas.
- The scenarios which would be likely to impact upon the most sensitive vulnerability areas - the 'Moderate', 'Elevated', 'High', 'Extreme' and Acute classes - would be Scenario 1 (10.85 km<sup>2</sup>), followed by Scenario 3 (11.9 km<sup>2</sup>) and Scenario 2 (2.7 km<sup>2</sup>) while Scenario 4 would be likely to impact upon the least extent (0.04 km<sup>2</sup>) of the most sensitive vulnerability areas.
- Scenario 4 would be likely to result in significantly less adverse environmental impacts than each of the other Scenarios.

## 7.4 Evaluation against Environmental Baseline

### 7.4.1 Scenario 1 – *Weak Planning*

#### Surface Water

The bulk of development takes place within the catchments of rivers and streams that are classed as being at significant risk and developments are not connected with waste water treatment plants. This will cause significant deterioration in the quality of surface waters. There will be significant non-conformances with the requirements of the water Framework Directive

#### Groundwater

The levels of ad hoc dispersed rural housing will cause significant pollution to groundwater throughout the mid and south western, central

and eastern portions of the county shown on Figure 6.1. There will be significant non-conformances with the provisions of the water Framework Directive

#### Ecology

There will be increased pressures on habitats in the County. It is likely that there will be indirect impacts on the quantity, quality and continuity of habitats; peatlands in particular which could lead to breaches of the provisions of the Habitats Directive.

#### Cultural Heritage

Some development pressure areas will coincide with concentrations of archaeology and monuments - emphasising the richness of the County's heritage and the need to put in place systematic ways of anticipating and avoiding potential archaeological impacts during the development stage.

#### Landscape

There is likely to be significant deterioration of the character and integrity of the landscapes of the County – with associated impacts on tourism amenities. There is likely to be significant and numerous non-conformities with the provisions of the CDP Landscape Protection Policies.

### 7.4.2 Scenario 2 – *Conventional Planning*

#### Surface Water

Development is focussed at major settlement centres where, after the construction of presently approved improvements in waste water treatment infrastructure, waste water can be sufficiently treated so that discharges do not increase the likelihood of non conformance with the requirements of the WFD.

#### Groundwater

As for surface water (above).

#### Ecology

Extensive areas rich in designated habitats will be afforded additional protection by the creation of environmental protection zones. Designated sites, particularly in the environs of Birr and Tullamore will come under increased development pressure.

#### Cultural Heritage

Development pressure areas around Birr and Tullamore may coincide with concentrations of archaeology and monuments - requiring

systematic ways of anticipating and avoiding potential archaeological impacts during the development stage.

#### **Landscape**

Significant deterioration of the character and integrity of the landscapes of the County is unlikely. There is likely to be good conformity with the provisions of the CDP Landscape Protection Policies

### **7.4.3 Scenario 3 – Strategic Planning**

#### **Surface Water**

Development is largely focussed at major and medium sized settlement centres where, with approved improvements in waste water treatment infrastructure, waste water can be sufficiently treated so that discharges do not increase the likelihood of non conformance with the requirements of the WFD. However the ATM Economic Hinterland Area (see Figure 6.3) extends into areas that lack adequate existing or approved waste water treatment infrastructure and that lie in catchments that are classed as being at significant risk under the WFD. There will be a significant increase in the likelihood of non-conformance with the provisions of the WFD in this Area.

#### **Groundwater**

As for surface water (above).

#### **Ecology**

Extensive areas rich in designated habitats will be afforded additional protection by creation of environmental protection zones. Designated sites, particularly in the environs of Clara and south west of Tullamore will come under increased development pressure as a result of development in the ATM Economic Hinterland Area with potential breaches of the requirements of the Habitats Directive.

#### **Cultural Heritage**

Some development pressure areas will coincide with concentrations of archaeology and monuments - requiring systematic ways of anticipating and avoiding potential archaeological impacts during the development stage.

#### **Landscape**

Some deterioration of the character and integrity of the landscape in the ATM Economic

Hinterland Area is possible with consequent poor conformity with the provisions of the CDP Landscape Protection Policies in this area.

### **7.4.4 Scenario 4 – Enterprise Planning**

#### **Surface Water**

Development is spread through three distinct zones while concentrated around the major settlement centres. Any dispersed development outside these centres lacking access to adequate waste water treatment infrastructure will increase in the likelihood of non-conformance with the provisions of the WFD.

#### **Groundwater**

As for surface water (above). Additionally; the areas around Birr and Tullamore and some parts of the eastern Urban Service Zone are underlain by groundwaters that are classed as being probably at significant risk so increasing the possibility of non-conformances with the provisions of the WFD.

#### **Ecology**

Designated sites could come under increased development pressure with likely breaches of the requirements of the Habitats Directive. This will emphasise the need for appropriate ecological assessment policies.

#### **Cultural Heritage**

Some development pressure areas will coincide with concentrations of archaeology and monuments - requiring systematic ways of anticipating and avoiding potential archaeological impacts during the development stage.

#### **Landscape**

Development in sensitive areas, particularly in the west of the County, will require careful design and consideration to ensure that it does not have significant adverse effects on the character and integrity of the landscape and compromise conformity with the provisions of the CDP Landscape Protection Policies in this area.



## 7.5 Evaluation against SEOs

	Likely to <b>Improve</b> status of SEOs	Probable <b>Conflict</b> with status of SEOs - unlikely to be mitigated	Potential <b>Conflict</b> with status of SEOs - likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
<b>Alternative Scenario 1</b> <i>Weak Planning</i>		S1 S2 W1 W2 A1 M1 L1	B1 B2 B3 HH1 CH1 CH2			
<b>Alternative Scenario 2</b> <i>Conventional Planning</i>	B1 B2 B3 S1 S2 A1 M1 L1		HH1 W1 W2 CH1 CH2			
<b>Alternative Scenario 3</b> <i>Strategic Planning</i>	S1 S2 A1		B1 B2 B3 HH1 W1 W2 M1 CH1 CH2 L1			
<b>Alternative Scenario 4</b> <i>Enterprise Planning</i>			B1 B2 B3 HH1 S1 S2 W1 W2 M1 CH1 CH2 L1	A1		

**Table 7.7 Evaluation of Alternative Scenarios against SEOs**

Table 7.7 summarises the evaluation of Alternative Scenarios 1, 2, 3 and 4 against the Strategic Environmental Objectives (SEOs).

between environmental protection and economic and social development. Potential conflicts with environmental objectives can largely be offset by appropriate mitigation measures, as indicated.

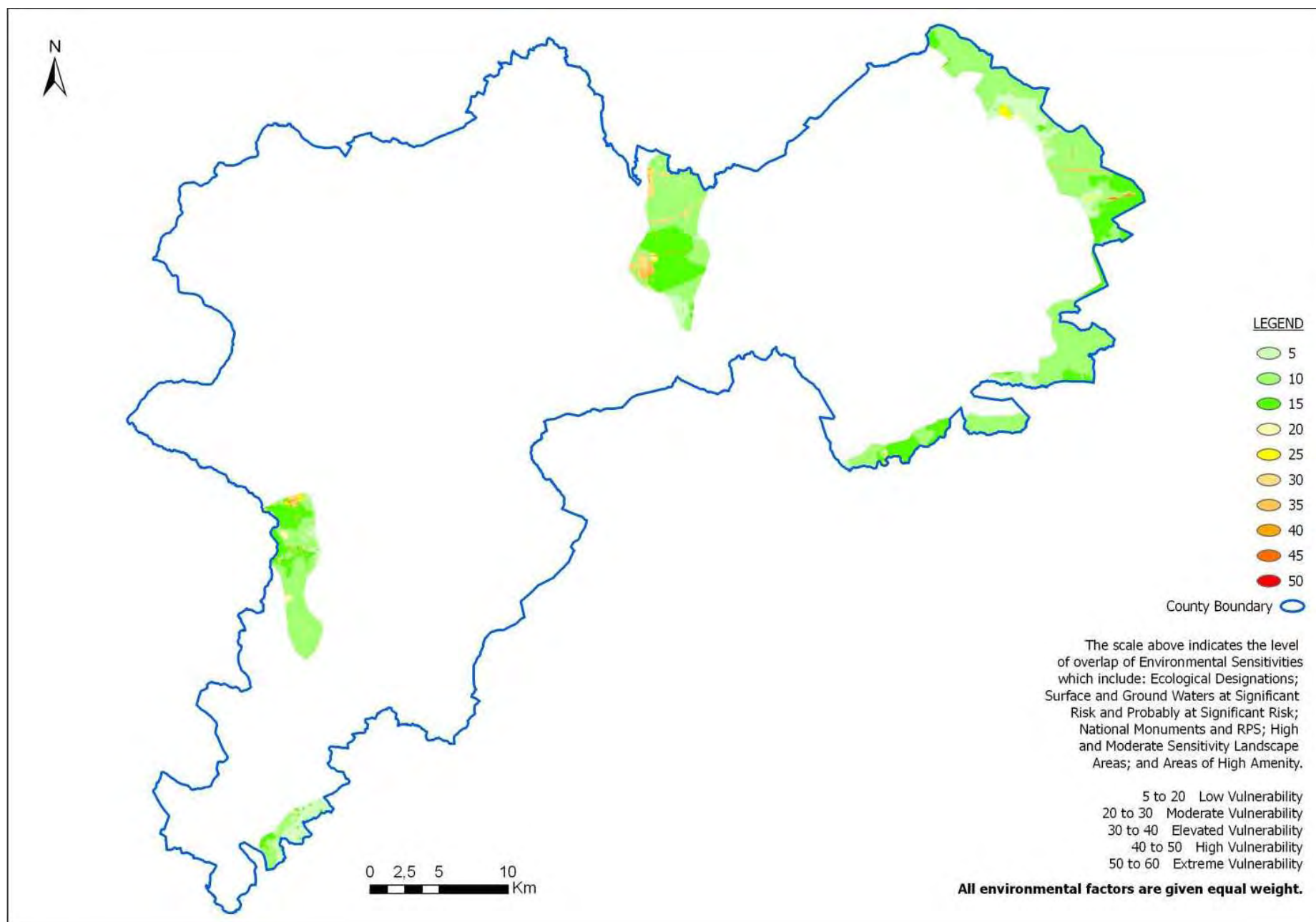
## 7.6 Conclusions - The Preferred Alternative

### 7.6.1 Summary of Analysis

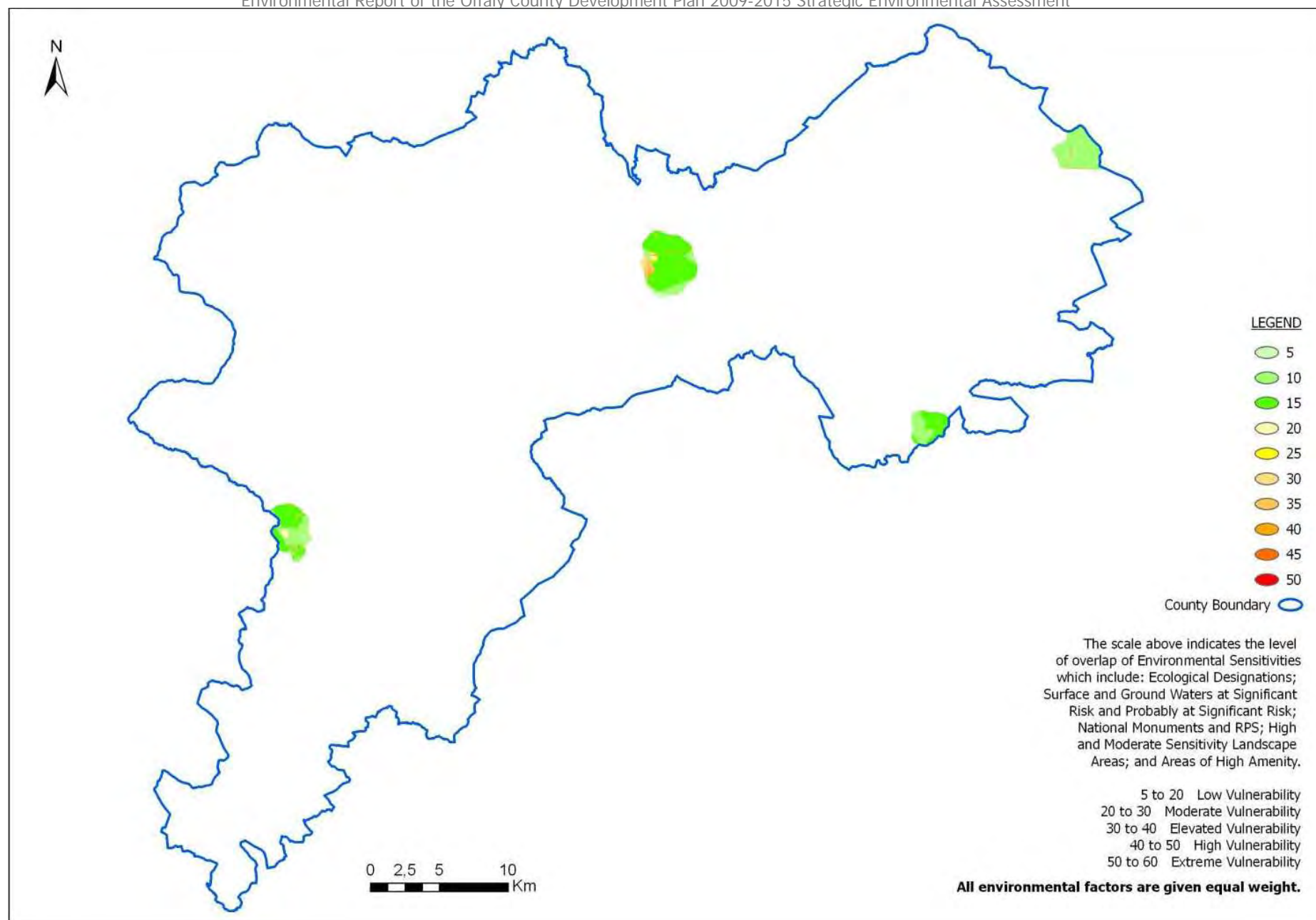
On the basis of the above analysis Scenario 1 gives rise to significant adverse environmental impacts. Scenario 2 emerges as the most environmentally sustainable option. However, having regard to Planning considerations, Scenarios 3 and 4 provide a better balance

### 7.6.2 The CDP

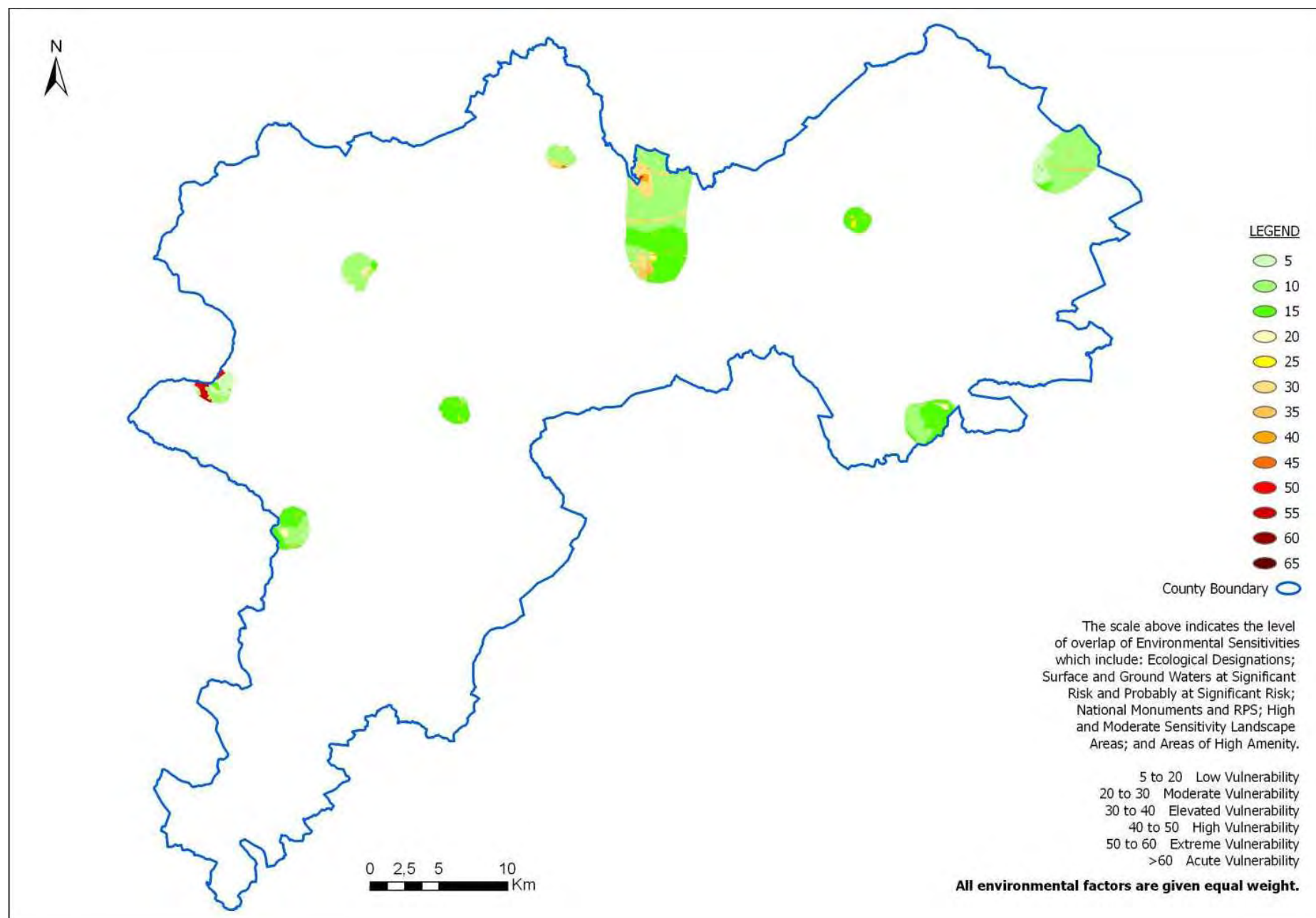
The Draft CDP that emerged from the Plan preparation process and that was adopted has a close correlation to Scenario 3.



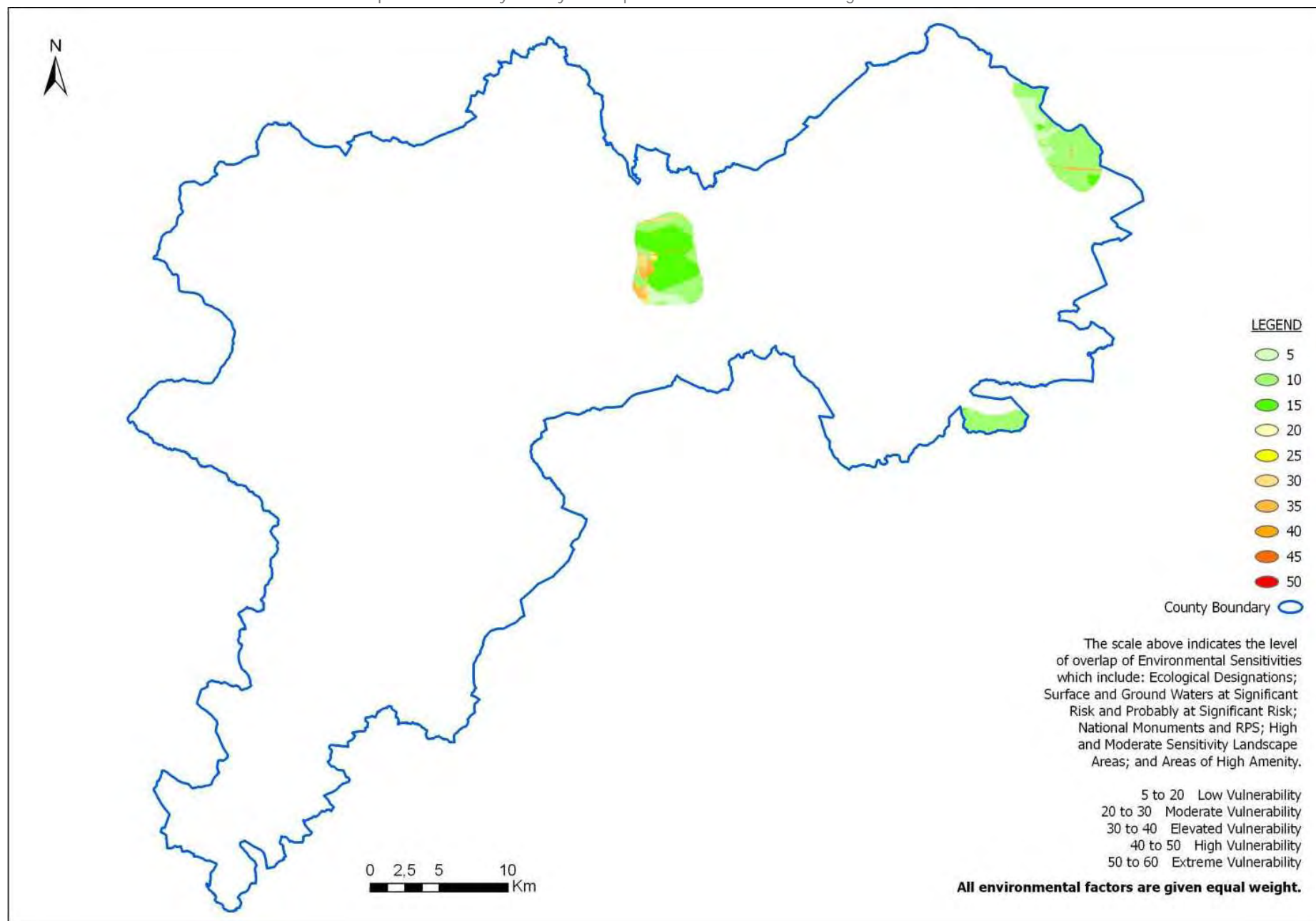
**Figure 7.1 Overlay of Environmental Sensitivities and Urbanised and Suburbanising Areas of Scenario 1**



**Figure 7.2 Overlay of Environmental Sensitivities and Major Settlement Areas of Scenario 2**



**Figure 7.3 Overlay of Environmental Sensitivities and Urbanised and Suburbanised Areas of Scenario 3**



**Figure 7.4 Overlay of Environmental Sensitivities and Midlands Enterprise and Service Zone and Urban Service Zones of Scenario 4**



## Section 8 Evaluation of Plan Policies and Objectives

### 8.1 Methodology

This section evaluates the Plan's policies and objectives. Strategic Environmental Objectives (SEOs) are used in order to evaluate each of the Plan measures as outlined under Section 7. Use has been made of the environmental baseline descriptions and the maps of the individual components provided in Section 3 for this purpose.

The interactions between the SEOs and the policies and objectives of the Plan determine the effects of implementing the Plan. These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

Table 8.1 brings together all the SEOs which have been developed from international, national and regional policies which generally govern environmental protection objectives.

SEO Code	SEO
<b>B1</b>	To avoid loss of relevant habitats, geological features, species or their sustaining resources in designated ecological sites
<b>B2</b>	To avoid significant adverse impacts, including direct, cumulative and indirect impacts, to relevant habitats, geological features, species or their sustaining resources in designated ecological sites by development within or adjacent to these sites
<b>B3</b>	To sustain, enhance or - where relevant - prevent the loss of ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity
<b>HH1</b>	To protect human health from hazards or nuisances arising from exposure to incompatible landuses
<b>S1</b>	Maximise the sustainable re-use of brownfield lands, and maximise the use of the existing built environment rather than developing greenfield lands <sup>38</sup>
<b>S2</b>	To permit sustainable: quarrying of non-renewable sand, gravel, rock deposits, and: harvesting of peatlands
<b>W1</b>	To maintain and improve, where possible, the quality of rivers
<b>W2</b>	To prevent pollution and contamination of ground water
<b>A1</b>	To minimise increases in travel related emissions to air
<b>M1</b>	To serve new development with appropriate waste water treatment
<b>CH1</b>	To protect the archaeological heritage of County Offaly with regard to entries to the Record of Monuments and Places - including Zones of Archaeological Potential - and the context of the above within the surrounding landscape where relevant.
<b>CH2</b>	To preserve and protect the special interest and character of County Offaly's architectural heritage with regard to entries to the Record of Protected Structures and their context within the surrounding landscape where relevant.
<b>L1</b>	To protect County Offaly's sensitive landscapes and designated scenic views

**Table 8.1 Strategic Environmental Objectives (SEOs)<sup>39</sup>**

<sup>38</sup> SEO S1 was identified as conflicting with SEOs CH1 and CH2

<sup>39</sup> Strategic Environmental Objectives (SEOs) are methodological measures which are developed from international and national policies which generally govern environmental protection objectives and against which the environmental effects of the Plan are tested. The SEOs are used as standards against which the development strategies, policies and objectives of the Draft Plan, including the zoning provisions and, can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated against.

**Note: Uncertainty of Plan Measures**

With regard to policies and objectives evaluated as having an uncertain interaction with the status of SEOs, the interaction, and environmental impacts, if any, which the implementation of these Plan measures would have would be determined by: the nature and extent of development arising from these Plan measures, and; site specific environmental factors. These impacts may be assessed as part of a lower tier SEA, as part of an EIA of a particular project and/or by the development management process.

Avoidance of conflict is dependent upon the development management process only granting permission for individual projects arising from these measures which do not conflict with the status of SEOs. Providing other Plan measures, including the measures recommended by this report, and measures arising out of lower tier assessments are complied with, conflicts with SEOs would be likely to be avoided.



## 8.2 Chapter 4 Settlement Strategy

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
<b>Overall Settlement Strategy Policy</b>						
P4-01 It is Council Policy that future development in Offaly be directed as per its settlement hierarchy, having regard to each individual area's: a) Identified role within the Region (NSS/MRPGs); b) Existing Size; c) Existing Function, and; d) Capacity for Sustainable growth (i.e. growth without detriment to its surroundings, its built or natural assets and/or its character. Further, it is Council policy to monitor growth patterns <u>and</u> the pace of growth within individual settlements and apply appropriate management measures in ensuring compliance with the above. It is Council policy to strategically prioritise the development of Tullamore as part of the Midlands Linked Gateway. The Council will monitor the growth of the gateway in nominal terms towards the 2020 target of 30,000 persons and also relative to the growth of the remainder of the County and in particular the share of county population attributed to the gateway and the other tiers after the 2010 Census of Population. It is Council policy to implement the 'sequential approach' (i.e. develop from the centre first, then outwards) in assessing proposed housing developments throughout the settlement hierarchy. This relates in particular to Tiers 2 to 5 where management of growth levels is of paramount importance in securing a development pattern and levels in line with the MRPGs. Within this context, the sequential approach is vital to avoid isolated development of outer zoned areas.					✓	
P4-02 It is Council policy to ensure that housing developments are reflective in size/scale of the relevant settlement/ area's position within the County's Settlement Hierarchy. In this regard, and without prejudice to other development plan policies or development management best practices, there will be positive presumption for housing developments of the following sizes <u>or smaller</u> within each tier, as appropriate: Gateway: 150 houses; Large Town: 80 - 100 houses; Medium Town: 50 - 80 houses; Local Service Town: 20 - 40 houses; Villages: 10 - 20 houses, and; Sraids: 2 - 4 houses. This policy is not intended to preclude developers/landowners who have large blocks of zoned and serviced land for development from developing same. In such cases, land blocks should be put forward for development by means of planning applications in a sequential manner. While it is general council policy to require that developments be linked to each other and to the existing fabric of the settlement by means of roads, footpaths, linked open spaces etc., it is also general Council policy to require that developments <u>differ in design and layout</u> while maintaining the overall character of the area in order to achieve interest and variety in the built form and to provide choice to the prospective new or second hand house purchaser. It is policy that County Council directly provided housing or housing delivered in co-operation with the Council will adhere to the above principles also. Further, it is Council policy to require a <u>mix</u> of dwelling types in housing developments across the settlement hierarchy, in particular to encourage as <u>part of</u> housing developments the provision of: Small numbers of single storey houses to give choice to persons with enhanced accessibility needs, i.e. the elderly and persons with a disability; Detached dwellings on large sites subject to adherence with general principles regarding the efficient use of building land (i.e. such dwellings may form part of a mixed density development); Individually serviced sites, particularly in Local Services Towns and villages, subject to submission, with the planning application, of a detailed template(s) for the general design, scale, position, materials, boundary treatment etc. of the dwellings so as to avoid uncoordinated development of settlements, and; All new development shall have such a mix of house types such as not to closely overlook the curtilage of existing dwellings.  Planning applications comprising multiple units (i.e. 5 or more in a village, 30 or more in a Local Service Town, 40 or more in a Medium Town, 50 or more in a Large Town) will be required to submit a social infrastructure assessment, which				✓		

demonstrates the facilities available to adequately service their proposed development. This should include details regarding the following facilities as applicable to the subject settlement's identified tier within the County's settlement hierarchy i.e. education, childcare, health and other services such as shops, post offices, recreational facilities etc.						
P4-03 It is Council Policy to <u>ensure balanced growth and development</u> across the county in accordance with the settlement hierarchy e.g. ensuring that settlements within the West and South of the County can act as a counterpoint to the development pressure in the East of the County.				✓		
<b>Midlands Linked Gateway</b>						
P4-04 It is Council Policy to ensure that Tullamore can support the level of growth (socially and economically) to underpin its role as part of the 'Midland's linked Gateway' and as a 'driver' of development in sustaining strong levels of economic growth and prosperity in the county and region as a whole.				✓		
<b>Large Towns</b>						
P4-05 It is Council policy to ensure that growth of Large Towns is <u>appropriate in scale</u> within their identified role in the settlement hierarchy and apply appropriate management measures in ensuring that such growth and/or pace of growth is appropriate and in compliance with the above.				✓		
P4-06 It is Council Policy to appropriately <u>manage</u> through the development management process, the growth of the Large Towns (i.e. Edenderry and Portarlinton) situated in the <u>east</u> of the county.				✓		
<b>Medium Towns</b>						
P4-07 It is Council policy to ensure that growth of Clara is <u>appropriate in pace, scale and diversity of uses and services</u> within its identified role in the settlement hierarchy. The Council will apply appropriate management measures in ensuring that such growth and/or pace of growth is appropriate and in compliance with the above. In particular, that such growth and/or pace of growth is without compromise to the growth of the 'Linked Gateway'.				✓		
<b>Local Service Towns</b>						
P4-08 It is Council policy to <u>conserve, enhance and strengthen</u> the Local Service Town structure within the County ensuring that the appropriate scale of growth is supported. It is general policy in favour of increased population growth however the Council will apply appropriate management measures in ensuring that such growth and/or pace of growth is appropriate and in compliance with the envisaged role of Local Service Towns.				✓		
P4-09 It is Council Policy to have regard to the particular role of Ferbane, identified in the MRPGs as a 'Key Service Town' within the County.				✓		
<b>Villages</b>						
P4-10 It is Council Policy to conserve, enhance and strengthen villages within the County, in accordance with their existing size and character.				✓		
P4-11(A) It is Council policy to promote the consolidation of the village structure throughout the County.				✓		
P4-11(B) It is Council policy that expansion of villages will be in a planned manner and in line with existing infrastructural capacity. Development may also be permitted where it will facilitate the provision of the necessary infrastructure provided that it is in accordance with policy, in particular concerning scale, design and in accordance with the established character of the village.	M1 HH1 W1 W2 CH2					
P4-11(C) It is Council policy to restrict single and/or multiple large scale developments which would lead to rapid completion of the village within the development boundary, and in excess of the village's capacity to absorb development in terms of physical (i.e. water, wastewater, surface water, lighting, footpaths, access etc.) <u>and social infrastructure</u> (i.e. schools, community facilities etc.).	M1 HH1 W1 W2 CH2					
P4-11(D) It is Council policy that in appropriate locations within villages, particularly within the 'other settlement land' zoning, proposals for houses on large sites will normally be accommodated. This is to create a viable alternative to "one-off" houses in the open countryside, and may be achieved by the provision of single houses, groups of fully serviced sites as stand alone developments or as constituent parts of other developments.	A1 L1 M1		CH2			
P4-11(E) It is Council policy to ensure that development in villages will both reinforce existing village commercial centres, and facilitate the expansion of or provision of new mixed-use and employment-generating development. Lands zoned as 'other settlement lands' and in particular within the 'core' areas as indicated on the zoning plans will be considered favourably for such developments, subject to site suitability and normal planning requirements. This will bring variety and vitality to the settlements, providing a wider choice of services and will help to create a 'centre' with a greater sense of place.	A1 M1		CH2			

P4-11(F) It is Council policy to ensure that villages are developed in a phased manner and <u>within</u> the boundary indicated on their respective plans.	S1 M1 L1					
P4-11(G) It is Council policy that there will be a presumption in favour of small developments of differing scale and character rather than larger, more homogenous urban scaled housing 'estates'. (For example 3 separately designed 10- house developments would generally be preferable to a single homogenous suburban style 30-house development). This approach would be more likely to create a sense of individualism and differing aspirations to each development. However, these smaller developments must not be solely "stand alone" developments. They must demonstrate how <u>they fit in with and contribute to the overall development of the village</u> (roadlines, services etc.) as indicated on the relevant plan. Where an individual landowner or a number of interests propose to combine and provide the necessary framework and infrastructure as an integral part of their proposals, and it is demonstrated that this is in line with the greater good of the area, the Council would be prepared to examine such a proposal and consider it on its merit. Such a proposal may necessitate a 'master plan' for the landholding(s), clearly indicating potential development areas, obvious distinct character areas and vehicular, pedestrian, open space and services linkages to / through the remainder of the landholding or adjacent landholdings / developments.	L1 CH2					
P4-11(H) It is Council policy to ensure that developments have regard to and help to maintain and reinforce the form and character of the village concerned in terms of design, layout, finishing details, boundary make-up, landscaping etc. The resulting development shall be high in quality, appropriate in scale and designed in a style suitable for its location and context. In particular, roads which open up significant tracts of land relative to the existing size of the settlement should be designed by suitably qualified professionals with strong Landscape Architecture and design input. Boundary treatments, footpaths and lighting should reflect the village's rural character.	CH2					
P4-11(I) It is Council policy to require that applications for developments in Villages of 8 houses or more, will be accompanied by a design statement, prepared by a suitably qualified professional. Such statements should indicate the reasons for choosing the design(s), the design cues from which ideas were taken and how it is considered that the design(s) chosen are compatible with their immediate environs. Regard should be had to the context and cues provided by the existing development and to the Council's policy to maintain attractive, appropriately scaled and well designed rural settlements.	CH2					
P4-11(J) It is Council policy to ensure that developments, where possible, retain valuable man-made and natural heritage features within their boundaries or environs, and are designed in a manner which is sympathetic to the natural or heritage aspect concerned, (for example; attractive stands of trees, mature hedgerows, stone walls, protected structures, archaeological sites, street furniture, recorded monuments etc.).	B3 CH1 CH2					
P4-11(K) It is Council policy to promote the formation/consolidation of a central meeting place or similar open space within the Villages where practicable. It is also policy to facilitate by land identification, reservation or other means, the development of / extension of community facilities within the Villages.				✓		
P4-11(L) It is Council policy to monitor development activity within each village boundary to ensure that growth is completed in an orderly and sustainable manner.	HH1 W1 W2 M1 CH2					
<b>Sraids</b>						
P4-12 It is Council Policy <u>to conserve and enhance the open countryside</u> , providing a <u>balance</u> in accommodating rural generated housing needs and protection of the open countryside.				✓		
P4-13(A) It is Council Policy to promote the development of Sraids to assist in satisfying rural generated housing needs within a structured but low density settlement, as a viable <u>alternative</u> to the development of "one-off" houses in the open countryside, remote from services etc. It is also policy to promote Sraids as <u>limited</u> opportunities for housing for urban dwellers who would not satisfy "local need" criteria but who aspire to live in a rural environment.	B1 B2 B3 HH1 S1 W1 W2 M1 L1					
P4-13(B) It is Council policy not to permit developments which would lead to rapid completion of the Sraid development envelope, i.e. in a period considerably short of the medium to long term time period envisaged, and in excess of the settlement's capacity to absorb development in terms of physical (i.e. water, sewerage (if applicable), lighting, footpaths, access etc.) <u>and social infrastructure</u> (i.e. schools, community facilities etc.).	B1 B2 B3 HH1 S1 W1 W2 M1 L1					
P4-13(C) It is Council policy to facilitate the provision of appropriately scaled commercial development within the Sraids. This may include limited new mixed-use development, including employment generating development, childcare and other appropriate commercial development. This will bring variety and vitality to the settlement, providing a wider choice of services and assist in creating a 'centre' with a greater sense of place.	A1 B1 B2 B3 HH1 S1 W1 W2 M1 L1					

P4-13(D) It is Council policy to encourage the development of the sraids in an incremental and plan-led manner, with the emphasis on small scale developments over a medium to long term period.				✓		
P4-13(E) It is Council policy to provide an estimate of the possible/potential population capacity that each sraid envelope may achieve in the medium to longer term.						✓
P4-13(F) It is Council policy to monitor development activity within each sraid envelope to ensure that growth is completed in an orderly and sustainable manner and in keeping with the medium to long term timeframe envisaged. In particular, it is policy to ensure that the levels of housing development envisaged by the individual sraid plans (which will be primarily single house development but with <u>limited</u> scope for small-scale multi-house developments) takes place in a balanced pattern throughout the sraid over the plan period.				✓		
P4-13(G) It is Council policy that there will be a general presumption against proposals of more than 4 units in any one application as such multi-house estate type developments would lead to "completion" of the Sraids at a faster rate than suggested, leading to premature overdevelopment. Larger scale development (i.e. >4 units) <u>may</u> be considered in exceptional circumstances but only if it can be demonstrated that: (a) it would add significantly to the area's sustainable development; (b) it is reflective of the sraid's character and envisaged growth rate; (c) it will be strictly phased by the developer. These sraid plans contain a <u>presumption in favour</u> of the small scale and incremental development of sraids and a <u>presumption against</u> urban scale and style housing schemes within these designated settlements.				✓		
P4-13(H) It is Council policy that: a) most opportunities for residential development in sraids will take the form of frontage /linear development and that sites will be a minimum of half an acre in size; b) It shall further be the policy of the Council where in the limited cases that in-depth development is appropriate in a sraid, that houses shall be detached only and that densities shall not exceed a maximum of 3 to the acre. This maximum density shall be determined having regard to the area's character, density and to the residential amenity of proposed and existing development; c) In circumstances where a street already exists or is appropriate and in the interests of protecting and enhancing the character of the sraid, it may be appropriate to allow a street form.	L1 CH2					
P4-13(I) It is Council policy to ensure that developments have regard to and help to maintain the form and character of the sraid concerned. The resulting development shall be high in quality, appropriate in scale and designed in a style suitable for its location and context. In particular: a) Proposed new access roads through previously undeveloped lands should be designed to create a 'rural' rather than an 'urban' impression. Roads which open up significant tracts of land relative to the existing size of the settlement should be designed by a suitably qualified professional with strong Landscape Architecture and design input; b) Boundary treatments, footpaths and lighting should reflect the sraid's rural character; c) Where a sraid (or part of) is characterised by interesting building layouts, plans and designs, these should be retained and complimented, rather than replacement with more 'standardised' development styles to ensure a varied character is maintained and to avoid typically suburban standardised developments.	L1 CH2					
P4-13(J) It is Council policy to require that applications for developments of 2 houses or more within Sraids, will be accompanied by a Design Statement, prepared by a suitably qualified professional. Such statements should indicate the reasons for choosing the design(s), the design cues from which ideas were taken and how it is considered that the design(s) chosen is/are compatible with their immediate environs. Regard should be had to the context and cues provided by the existing development, and to the Council's policy to create attractive, appropriately scaled and well designed rural settlements.	L1 CH2					
P4-13(K) It is Council policy to ensure that developments within sraids, where possible, retain valuable man-made and natural heritage features within their boundaries or environs, and are designed in a manner which is sympathetic to the natural or heritage aspect concerned, (for example; attractive stands of trees, mature hedgerows, stone walls, protected structures, recorded monuments etc.).	L1 B3 CH1 CH2					
P4-13(L) It is Council policy to promote the formation/consolidation of a central meeting place or similar open space within each sraid settlement, where practicable. It is also policy to facilitate by land identification, reservation or other means, the development/extension of community facilities within the sraids and to protect and enhance existing community and recreational facilities within sraid envelopes.				✓		
P4-14 It is Council Policy in the case of village and sraid settlements located within pressure areas in particular, as defined under Policy P4-16 to closely monitor growth and pressure for growth and to implement appropriate management measures in controlling development in accordance with existing policies at both national, regional and local level.				✓		

<b>Individual Housing in the Open Countryside</b>						
<p>P4-15 Housing Policy - Open Countryside</p> <p>It is Council Policy that notwithstanding compliance with policies set out hereunder, quality, design, siting and other environmental considerations will be of paramount importance in the assessment of each individual application for a dwelling in the open countryside. In considering of applications for single houses in the open countryside, regard shall also be had to all provisions contained in this plan under the separate chapter headings.</p>		B1 B2 B3 HH1 S1 S2 W1 W2 A1 M1 CH1 L1				
<p>P4-16 Single Rural House Policy for Areas of Special Control within the Open Countryside</p> <p>It is Council Policy that within the areas of the open countryside identified as being: Under development pressure/urban influence outlined on Map 4.4; Other areas of special control<sup>4</sup> outlined on Map 4.4; Outside the areas pertaining to policies P4-17 (Aquifer Protection Zones) and P4-18 (Ribbon Development).</p> <p>A positive presumption will be given towards a new single house for the permanent occupation of an applicant who falls within either of the 3 categories below and meets the necessary criteria.</p> <p>Category 1: Local Rural Persons. The following <u>3 criteria</u> arise in assessing applicants under this category: the applicant must come within the definition of a 'Local Rural Person', <u>and</u>; the proposed site must be situated within their 'Local Rural Area', <u>and</u>; the applicant must have a 'Local Rural Housing Need'.</p> <p>a.) A 'Local Rural Person' (applicant) is a person who was born within the local rural area, <u>or</u> who is living or has lived in the local rural area for a minimum of 5 years at any stage prior to making the planning application. It includes returning emigrants seeking a permanent home in their local rural area.</p> <p>b.) The 'Local Rural Area' for the purpose of this policy is defined as the area generally within a <u>8km</u> radius of where the applicant was born, living or has lived. The rural area excludes those settlements listed within tiers 1-2 of the County Settlement Hierarchy inclusive, which are urban settlements i.e. Gateway, Large Towns, Medium Towns, Local Service Towns.</p> <p>c.) An applicant who satisfies a 'Local Rural Housing Need' is defined as a person who does not or has not ever owned a house in the surrounding rural area and has the need for a permanent dwelling for their own use.</p> <p>Category 2: Persons working Fulltime or Part-time in Rural Areas. Such persons shall be defined as persons who by the nature of their work, have a functional need to reside permanently in the rural area generally immediately adjacent to their place of work. Such circumstances will normally encompass persons involved in full-time farming, horticulture or forestry as well as similar part-time occupations where it can be demonstrated that it is the predominant occupation. Other cases will be dealt with on their own individual merits having regard to the intended spirit of the policy. In each case the applicant must not already own or have owned a house in the surrounding rural area.</p> <p>Category 3: Exceptional Health Circumstances</p> <p>Having regard to the DoEHLG's 'Sustainable Rural Housing Guidelines' (2005), special consideration shall be given in limited cases of exceptional health circumstances - supported by relevant documentation from a registered medical practitioner and a disability organisation proving that a person requires to live in a particular environment or close to family support, or requires a close family member to live in close proximity to that person.</p>					✓	
<p>P4-17 Single Rural House Policy within Aquifer Protection Zones</p> <p>Having regard to the need to protect the county's valuable groundwater supplies from contamination, it is Council policy to only consider for established residents and their sons/daughters within these zones, a permanent single dwelling where it can be demonstrated that: 1. There is no reasonable alternative within the remainder of any of the family landholding outside the protection zone. 2. The applicant does not already own or have owned a house in the surrounding rural area, except in exceptional circumstances.</p>				HH1 W2 M1		
<p>P4-19 Single House Policy for areas outside Areas of Special Control within the Open Countryside</p> <p>It is Council policy that within the areas of the open countryside identified as being: NOT under Development Pressure/ Urban Influence outlined on map no. 4.4; NOT other Areas of Special Control outlined on map no. 4.4; Outside the Areas concerned by policies P4-17 (aquifer protection zones) and P4-18 (ribbon development).</p>				S1 W1 W2 A1 M1 L1		

There will be a presumption in favour of applications for single houses by persons from within or outside these rural areas who seek a permanent dwelling and will therefore contribute to the social and economic well being of the area. It is the policy of the planning authority to prohibit speculative development in these areas. Any application for a single permanent dwelling must be made in the name of the person for whom it is intended and a condition will be attached to any permission granted requiring them to occupy it in the first instance.						
P4-20 Replacement of Habitable Houses in the Open Countryside In the case of the proposed demolition of a substandard dwelling and its replacement with a new single dwelling, it is Council policy to favourably consider proposals subject to normal environmental, siting, design, and layout considerations. In such circumstances, the provisions of policy P4-16 (i.e. 'Local Need' requirement will not apply). Notwithstanding the above, it is Council policy to protect the County's vernacular building stock from demolition where restoration is a feasible option.	CH2 L1					
P4-21 Reuse of Existing Structures as Dwellings in the Open Countryside It is Council policy to favourably consider all applications (i.e. 'Local Need' requirement will not apply) for the refurbishment and/or reuse of older building stock subject to the following criteria. <ul style="list-style-type: none"> <li>• The external walls and roof are substantially intact.</li> <li>• The design of the proposal does not erode the siting and design qualities of the building which makes it attractive in the first instance.</li> <li>• The size of any extension takes account of the siting and size of the existing dwelling.</li> <li>• The design, scale and materials used in the refurbishment and/or extension are in keeping and sympathetic with the existing structure.</li> <li>• Mature landscape features are retained and enhanced, as appropriate.</li> <li>• That normal planning considerations i.e. road safety, amenities, public health, design etc. shall take precedence over the 'principle' of encouraging such development.</li> </ul>	CH2 L1					
P4-22 Refurbishment of Derelict Dwellings in the Open Countryside It is Council policy to encourage the sensitive refurbishment of existing dwelling houses which have fallen derelict subject to the following criteria: <ul style="list-style-type: none"> <li>• That normal planning considerations i.e. road safety, amenities, public health, design etc. shall take precedence to the 'principle' of encouraging such development, and in particular that for such developments alongside or directly accessed from National Roads, that the provisions of Policy P13-04 shall apply. [Refer Chapter 13 Transport].</li> </ul>	CH2					

## 8.3 Chapter 5 Housing

	Likely to <b>Improve</b> status of SEOs	Probable <b>Conflict</b> with status of SEOs- unlikely to be mitigated	Potential <b>Conflict</b> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
<b>Policies</b>						
05-01 Reservation of Lands for the Provision of Social and Affordable Housing It is Council policy, as required under Section 95 of the Planning and Development Acts 2000-2006, that <u>20% of all land</u> zoned for residential use and/or for a mixture of residential and other uses, shall be reserved for the provision of housing for the purposes of either or both: 1) Housing for persons referred to in Section 9(2) of the Housing Act, 1988; 2) Affordable housing (as defined in Section 93 of the Planning and Development Acts, 2000-2006)						✓

P05-02 It is Council policy to promote social inclusion by ensuring that social and affordable housing is suitably distributed throughout all residential developments and locations.						✓
P05-03 It is Council policy to allow for revisions should the Housing Strategy be reviewed or Planning Legislation (notably 'Part V') be amended during the lifetime of plan.						✓
P05-04 It is Council policy to ensure the delivery of the policies and objectives of the Housing Strategy by ensuring sufficient lands within the County are zoned in accordance with its settlement hierarchy.				✓		
P05-05 It is Council policy that where considering development and/or acquisition of social and affordable housing the Council will have full regard to (a) The policies contained in the County Development Plan and any other relevant action plans (b) The County's Settlement Strategy (c) The policies contained in the Councils' Social Housing Multi-Annual Programme (d) The need for social integration. (e) The need to ensure the overall coherence of the development.						✓
P05-06 Social Housing It is Council policy to provide social houses through a combination of mechanisms including direct build, 'Part V', turnkey and the acquisition of second-hand housing in accordance within the County's settlement hierarchy to meet identified needs. Social housing units will be allocated on the basis of the Council's adopted scheme of letting priorities.						✓
P05-07 Affordable Housing It is Council policy to appropriately manage the provision of affordable housing provided by the Council within the county.						✓
P05-08 House Types and Sizes It is Council policy to ensure that an appropriate mix of house types and sizes are provided in each residential development. House designs and layout should reflect the requirements of different categories of households within the County – particularly those needs and requirements of elderly persons and persons with disabilities coupled with continuing trends in changing demographics (i.e. decreasing household size). This to considered in relation to each settlement tier within the county's settlement hierarchy.						✓
P05-09 Serviced Sites It is Council policy to encourage the provision of private serviced building sites, for example as part of housing developments within the County's settlements in order to strengthen the fabric of these settlements and to offer an element of choice. It is also Council policy to ensure that the size of such sites is adequate for appropriate levels of privacy and choice of house type and style.	M1 HH1					
P05-10 Policy on Homeless People It is Council policy to actively promote integrated solutions to address the issue of homelessness within the County. The Council will continue to work in partnership with the statutory and voluntary agencies on the Offaly Homeless Forum to address the accommodation needs of homeless persons in a targeted and focussed manner using an inter-agency approach.						✓
P05-11 Travellers It is Council policy to respect the distinctive culture of the Travelling Community and assist in the process of integration with the settled community.						✓
P05-12 It is Council policy to provide a good and well-managed living environment for the Travelling Community including recommended standards of accommodation, sanitary facilities, and pre-school education facilities, where feasible.	M1 HH1					
<b>Objectives</b>						
O5-01 It is an objective of the Council to secure the implementation of the <u>Housing Strategy 2008-2015</u> including the proper implementation of its policies, objectives and goals, in particular, through the reservation of 20% of all and zoned solely for residential use, or for a mixture of residential or other uses, to be made available for the provision of social and affordable housing referred to in Section 94(4)(a) of the Planning and Development Acts 2000-2006. Further, it is a Council objective, that the allocation between social and affordable housing will be determined on a case-by-case basis depending on the identified social and affordable needs of the area within which the development is taking place and the specific features of the development.						✓
O5-02 Ratio of Social to Affordable Housing It is an objective of the Council to seek the development of social and affordable units on a case-by-case basis, in accordance with the existing local needs and special needs requirements of the population of an area.						✓



O5-03 House Types and Sizes It is an objective of the Council to ensure that an appropriate mix of house types and sizes are provided in each residential development as part of 'Part V' proposals, where feasible.						✓
O5-04 Proposed Accommodation for the Travelling Community It is an objective of the Council to provide adequate accommodation for Travellers in accordance with the Councils Multi Annual Programme for Members of the Travelling Community. Further it is an objective of the Council to take a flexible approach to the location of this accommodation for Travellers						✓
O5-05 Purpose built dwellings It is an objective of the Council to <u>provide purpose built dwellings</u> for those with special needs, including provisions for the needs of the elderly, persons with physical disabilities and persons with learning disabilities where feasible and in conjunction with other voluntary bodies and the private sector.						✓

## 8.4 Chapter 6 Employment, Economy and Enterprise

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
<b>Policies</b>						
P06-01 It is Council policy to seek to <u>promote and diversify</u> the local economy as prescribed under the National Spatial Strategy and Midlands Regional Planning Guidelines and in accordance with the County's agreed settlement hierarchy which provides for balanced development.				✓		
P06-02 It is Council policy (in accordance with Policy P04-01, that future development in Offaly be largely distributed throughout the County's <u>settlement hierarchy</u> , having regard to each individual areas; (a) identified Role within the region, (b) existing size, (c) existing function, (d) capacity for sustainable growth (i.e. growth without detriment to its surroundings, its built or natural assets and/or its character. However, there is a positive presumption in terms of employment creation and therefore it is Council policy to examine such proposals within other locations on a case-by-case basis.			B1 B2 B3 HH1 S1 W1 W2 A1 M1 CH1 CH2 L1			
P6-03 It is Council policy to <u>cooperate with local, regional and national enterprise authorities</u> , most notably IDA, Enterprise Ireland, Offaly County Enterprise Board, Shannon Development and Fáil in the in the attraction of investment into the county, including both overseas investment and local investment and the provision of employment/ enterprise within Offaly.						✓
P6-04 It is Council policy to strengthen and channel development into <u>Tullamore</u> the primary driver for economic development within the county, a role identified as part of the <u>Midlands Linked Gateway</u> as set out in the NSS and MRPG's.	A1 S1 L1		B1 B2 B3 HH1 W1 W2 M1 CH1 CH2			
P6-05 It is Council policy to support <u>employment creation</u> particularly where it can mitigate against long distance commuting	A1					
P6-06 It is Council Policy to encourage and facilitate existing and/or future <u>decentralisation</u> to Offaly.	A1		B1 B2 B3 HH1 W1 W2 M1 L1			
P6-07 It is Council policy to actively encourage, facilitate and provide for the location and development of <u>knowledge-intensive and technology based specialisation</u> companies within the County, as appropriate and as is in accordance with development/environmental standards.				✓		

P6-08 It is Council policy to <u>facilitate</u> and work pro-actively with other interest groups (both public and private sector) in the <u>location of industry, business and enterprise</u> in particular by:- Zoning of lands within an adequate range of locations for both industry and business/employment uses which can facilitate the provision of large-scale and small-scale development, as appropriate. This includes the identification and possible reservation of lands at suitable locations which will accommodate, where appropriate; - business/commercial activity, industry, enterprise, retail etc. having regard to proper planning and sustainable development. The Council will protect zoned lands from inappropriate development that would undermine future economic activity or the unsustainable development of such areas.			B1 B2 B3 HH1 W1 W2 A1 S1 M1 CH1 CH2 L1			
P6-09 It is Council policy to favourably consider proposals for the <u>expansion of existing industrial or new business enterprise in the countryside</u> where the proposal is; a) an appropriate size and scale, b) does not negatively impact on the character and amenity of the surrounding area, and c) has regard to other guidelines/standards.					✓	
P6-10 It is Council policy to <u>actively encourage the redevelopment of brownfield sites</u> for enterprise and employment creation throughout the County. In particular, disused sites which were formerly ESB Plants and Bord na Mona works.	S1 S2					
P6-11 It is Council policy to co-operate with and facilitate Government agencies, and other bodies where feasible, in <u>encouraging home-based employment</u> . This is in accordance with the National Spatial Strategy's policy of "Bringing people and jobs together" and includes the provision of small-scale individual enterprises and the facilitation of the 'E-town' concept as put forward by Shannon Development. Proposals which involve the <u>change of use and/or new development for purposes of home-based employment will be generally considered favourably</u> where it can be clearly demonstrated that, a) the proposal is of an appropriate scale for its location; b) no adverse environmental, health and safety impacts and c) proposal is without prejudice to residential amenity.	A1					
P06-12 It is Council Policy to encourage the provision of <u>incubator units</u> at a scale appropriate to their location, in accordance with the County's settlement hierarchy.				✓		
P06-13 It is Council policy that the development of <u>small rural enterprises and craft industries</u> in rural areas will, in general be encouraged, subject to compliance with normal planning requirements.				✓		
P06-14 It is Council policy to <u>encourage and establish links</u> between County Offaly and National University of Maynooth (NUIM) and Athlone Institute of Technology (AIT) and other higher level colleges as appropriate, which will improve the skills base/education of inhabitants within County Offaly						✓
P06-15 It is an objective of the Council to <u>continue to liaise and work alongside the enterprise agencies, ESB and Bord na Mona and the private sector, to develop enterprise space at various locations throughout the County, where feasible.</u>				✓		
<b>Objectives</b>						
O06-01 It is an objective of the Council to <u>facilitate</u> the development of the <u>Midlands Linked Gateway</u> , in accordance with national/regional policy. This will include measures to seek to <u>reserve lands within Tullamore</u> (part of the Midlands linked Gateway) which will make provisions for potential national and regional significant activities and to attract specialist large-scale enterprise development within the County. The Planning Authority will therefore enhance, promote and protect Tullamore in the interests of providing for and facilitating the potential development of the gateway in accordance with national and regional policy.	A1 S1		B1 B2 B3 HH1 W1 W2 M1 CH1 CH2 L1			
O06-02 It is an objective of the Council to <u>co-operate and seek to facilitate local community based development groups in developing industrial clusters</u> as appropriate.				✓		
O06-03 It is an objective of the Council to <u>identify a range of optimum locations</u> which can present opportunities for the location of <u>specific/specialised enterprise and employment</u> within the County.				✓		
O06-04 It is an objective of the Council to <u>encourage</u> , in co-operation with the Offaly County Enterprise Board, Leader+ and Shannon Development in the development of further <u>small to medium scale indigenous industries</u> and services. Further, promote the establishment of a number of small incubator units within designated areas to <u>accommodate new business start-ups</u> .				✓		
O06-05 It is an objective of the Council to identify, facilitate and promote the development of the County's peatlands where appropriate, in accordance with proper planning practice. Further, to seek the formulation of a coherent integrated land use plan for the after-use of cutaway bogs.	S2					

## 8.5 Chapter 7 Water Services

	Likely to <b>Improve</b> status of SEOs	Probable <b>Conflict</b> with status of SEOs- unlikely to be mitigated	Potential <b>Conflict</b> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
<b>Policies</b>						
Water Services General Policies						
P07-01 It is Council Policy to ensure that the provision of water and wastewater treatment facilities are undertaken in accordance with EU policies and directives and any national legislation and national/regional policies.	M1 HH1 B1 B2 W1 W2					
P07-02 It is Council Policy to <u>enable infrastructure and service delivery in the context of the NDP</u> , subject to available finance.				✓		
P07-03 It is Council Policy to provide and maintain adequate water supply, drainage and wastewater services in settlements as resources permit, giving priority to those centres where serious deficiencies are in evidence or where further development is anticipated. Further, it is Council policy that this be undertaken in a manner, which protects and enhances the natural environment, whilst providing for economic, urban and rural development purposes.	M1 HH1 B1 B2 W1 W2					
P07-04 It is Council Policy to ensure that the capacity of water supplies and wastewater facilities must be appropriate prior to the acceptance of a development proposal. The Council may where it is deemed appropriate, require developers to provide water services mains of capacities in excess of those required by the development being served if such is required in the interests of long term development of the area.	M1 HH1 B1 B2 W1 W2					
Water Supply Policies						
P07-05 It is Council Policy to provide public water supply to towns, villages and rural areas in accordance with the Council's Assessment of Needs 2007-2014 and the Rural Water Plan where feasible and where approved by the DoEHLG. All such supplies shall comply with Drinking Water Regulations 2007.	HH1					
P07-06 It is Council Policy that the <u>scale of provision of public water supply</u> relates to scale of envisaged settlement size, in accordance with the County's settlement hierarchy. Therefore, large-scale availability and/or possibility of services available must not to be a pre-cursor to large-scale growth in inappropriate locations.	B1 B2 B3 HH1 S1 S2 W1 W2 A1 M1 CH1 CH2 L1					
P07-07 It is Council Policy to require <u>developments to connect</u> to public water supplies where adequate, or where proposals for upgrading works are put forward, as appropriate.	HH1					
P07-08 It is Council Policy to endeavour to facilitate developments, which may have exceptionally large requirements for water by allowing the potential <u>water resources of the River Shannon</u> to be utilised, where possible, subject to appropriate safeguards.	HH1		B1 B2 W1			
P07-09 It is Council policy to monitor and regulate <u>Group Water schemes</u> in accordance with national policy and regulations.	HH1					
Water Conservation P07-10 It is Council policy to continue to facilitate, encourage and comply with <u>best practice methods</u> in water conservation throughout the County.	B1 B2 W1 W2					
Wastewater Treatment Policies						
P07-11 It is Council policy to make provision for <u>improved and additional wastewater services on a planned basis</u> , related to present and future needs of housing, industry and commerce, in accordance with the County's settlement hierarchy and the <u>Council's Assessment of Needs 2007-2014</u> where feasible and where approved by the DoEHLG.	M1 HH1 B1 B2 W1 W2					

P07-12 It is Council Policy that the <u>scale of effluent treatment plants</u> relates to scale of envisaged settlement size, in accordance with the County's settlement hierarchy. Therefore, large-scale availability and/or possibility of services available must not be a pre-cursor to large-scale growth in inappropriate locations.	B1 B2 B3 HH1 S1 S2 W1 W2 A1 CH1 CH2 L1					
P07-13 It is Council Policy to control impacts of wastewater produced in the most environmental sustainable and cost effective manner.	M1 HH1 B1 B2 W1 W2					
P07-14 It is Council Policy to require/implement <u>appropriate buffer zones</u> surrounding all effluent treatment plants.	HH1 B1 B2 W1 W2					
P07-15 It is Council Policy to have regard to and conform with policies and objectives contained in the Councils <u>Sludge Management Plan 2001</u> .	HH1 B1 B2 W1 W2					
Surface Water Disposal Policies P07-16 It is Council Policy to limit and manage the permitted stormwater run-off from all new developments. The maximum permitted surface water outflow from any new development is to be restricted to that of a Greenfield site before any development took place unless otherwise agreed by the Water Services Section of Offaly County Council. It is therefore Council Policy to require all proposed new developments within settlements as per the County's settlement hierarchy to provide ' <u>Sustainable Urban Drainage Systems</u> ' (SuDs) as part their development proposals.	HH1 B1 B2 W1 W2					
<b>Flooding</b>						
P07-17 It is Council Policy to ensure that new development proposed is not itself subject to an inappropriate risk of flooding, and that it does not increase flood risk or flood damage at other locations.	HH1					
P07-18 It is Council policy to ensure that development, (including raising ground levels) in <u>areas liable to flood</u> should only be carried out where it can be demonstrated that it does not measurably reduce the floodplain or compromise on safety standards	HH1					
P07-19 It is Council Policy to consider flood risk and the related impacts of, or on, development throughout a catchment, rather than on a location-by-location basis. This will facilitate proper planning and sustainable development through the reduction of future flood damage, and hence reduce the potential resultant economic and social costs.	HH1					
P07-20 It is Council policy to have regard to any mapping of flood pattern, in particular those carried out by the Office of Public Works and www.floodmaps.ie	HH1					
<b>Objectives</b>						
It is an objective of the Council to co-operate with and facilitate PPP's throughout the County, where appropriate.				✓		
Water Supplies Objectives O7-01 It is an objective of the Council to provide and/or facilitate the provision and/or upgrading of water supplies in accordance with the WSIP and Assessment of Needs, where appropriate, subject to adequate resources being available and the approval from the DoEHLG.	HH1		B1 B2 W1			
Wastewater Services Objectives O7-02 It is an objective of the Council to provide and/or facilitate the refurbishment and or upgrading of wastewater treatment schemes, in accordance with the WSIP and Assessment of Needs, where appropriate and any other measures where an immediate need arises, subject to adequate resources being available and the approval of DoEHLG.	M1 HH1 B1 B2 W1 W2					
Surface Water Disposal Objectives O7-03 It is an objective of the Council to make provisions for the extension and improvement of surface water disposal infrastructure, in particular to facilitate identified settlements as per the County's settlement hierarchy.	HH1 B1 B2 W1 W2					

## 8.6 Chapter 8 Energy and Communications

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
<b>Policies</b>	B1 B2 B3 HH1 S1 S2 W1 W2 A1 M1 CH1 CH2 L1					
P08-01 It is Council policy to support national and international initiatives for limiting emissions of greenhouse gases and encouraging the development of renewable energy sources.	A1					
P08-02 It is Council policy to facilitate the continual development of renewable energy sources having regard to proper planning and sustainable development of the area concerned, having particular regard to amenities, landscape sensitivities and the protection of habitats and heritage, where such proposals comply with policy contained in the County Development Plan, in the interests of proper planning and sustainable development.	B1 B2 B3 A1 CH1 CH2 L1					
P08-03 It is Council policy to encourage the development of wind energy in suitable locations in an environmentally sustainable manner and in accordance with Government policy, having particular regard to the Wind Energy Strategy for the County.			L1			
P08-04 It is Council policy to promote energy conservation and efficiency measures and facilitate innovative building design that promotes energy efficiency and use of renewable energy sources in accordance with national policy and guidelines.						✓
P08-05 It is Council policy to promote, encourage and facilitate the provision of micro-renewable energy.				✓		
P08-06 Having regard to the County's long tradition in power generation, it is Council policy to facilitate the continuance of power generation stations within the County, as appropriate including the consideration of co-fuelling.			B1 B2 B3 S2 L1			
P08-07 The Council recognises the national and local importance of a high quality telecommunications service. It is Council policy to achieve a balance between facilitating the provision of telecommunications services in the interests of social and economic progress, sustaining residential amenities and environmental quality. The Local Authority will have regard to the Department of the Environment Guidelines on Telecommunications Antennae and Support Structures in assessing development proposals.			L1 CH1 CH2			
P08-08 It is Council policy to avoid an unnecessary proliferation of masts. It is Council policy to encourage owners and operators to facilitate the co-location of antennae on existing support structures and masts. In particular, It is Council policy to avoid a proliferation of communication masts, aerials etc. in upland areas of the Slieve Bloom Areas in order to protect the amenity value and unspoilt character of such areas. The Local Authority acknowledges that there is a need to facilitate land based communications masts, however such masts will not be permitted in areas above the 150-metre contour, unless it can be clearly demonstrated that it is not possible to locate antennae on the existing mast clusters at Wolftrap Mountain or Coolcreen.	L1 CH1 CH2					
P08-09 The Council acknowledges the importance of telecommunications within rural areas of the county, however design, siting and visual impact are of paramount importance. It is Council policy to restrict the provision of overground masts and antennae within the following areas in particular; Designated Areas of High Amenity; Areas adjoining or within the curtilage of protected structures; On or within the setting of archaeological sites, structures and zones	L1 CH1 CH2					

Objectives						
O08-01 It is an objective of the Council to assist in the development of a regional energy agency over the period of the plan.						✓
O08-02 It is an objective of the Council to achieve a reasonable balance between responding to government policy on renewable energy and in enabling the wind energy resources of the County to be harnessed in an environmentally sustainable manner. This will be implemented having regard to the Council's Wind Energy Strategy.			L1			
O08-03 It is an objective of the Council to facilitate the promotion and construction of energy efficient developments throughout the County.						✓
O08-04 It is an objective of the Council to support the further extension of the gas grid into County Offaly to serve existing and envisaged future residential development and commercial and industrial activity.			B1 B2 B3 HH1 L1 CH1			
O08-05 It is an objective of the Council to support and facilitate the generation of electrical power within the County and the provision of high-voltage electricity infrastructure to cater for natural growth, new and existing large customers and to ensure insofar as is possible that the necessary infrastructure is in place to support the existing and future economy in Offaly to support economic development and attracting investment.			B1 B2 B3 CH1 L1			
O08-06 It is an objective of the Council to provide metro-loop broadband telecommunications in Edenderry, where feasible and subject to funding by the Department of Communications and the Council.			CH2			

## 8.7 Chapter 9 Retail/Retail Strategy

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
Policies						
P9.01 It is Council policy to implement the retail hierarchy, as set out in the Offaly Retail Strategy, 2007. The Council will seek to locate retail in the designated settlements where the scale and size of retail proposed matches the scale and size of the settlement.	A1			✓		
P9. 02 It is Council policy to ensure that higher order retail services and developments are located in higher order settlements, as set out in Offaly's Settlement Strategy. The Council will consider the scale, type and location of retail developments within the County when determining their suitability.	A1			✓		
P9.03 It is Council Policy to promote Tullamore, as part of the Midlands Gateway, as the main retail centre in the County and to ensure that the retail quality and range is of a standard that contributes to the strengthening of the retail economy in the county and n the Midlands Gateway and Region.	A1			✓		
P9. 04 It is Council Policy to direct retail development to existing settlements and that retailing in rural areas should be commensurate with the needs of the local population.	A1 S1 B3		CH1 CH2			
P9. 05 It is Council policy to address leakage of retail expenditure from the County by providing the means to strengthen the range and quality availability of its retail offer.	A1					
P9. 06 It is Council policy to resist the loss of retail units to non-retail use, at pedestrian level, particularly in the primary shopping frontages of towns.	A1 CH2					
P9. 07 It is Council policy to encourage and facilitate the re-use and regeneration of derelict land and buildings for retail uses with due cognisance to the Sequential Approach.	A1 S1 B3		CH1 CH2			

P9. 08 It is Council policy to encourage retail development, including new forms of shopping which relates to the regeneration of existing Town Centres. Proposals, which would undermine the vitality and viability of retail core areas or Town Centres, as a whole will not be permitted.	A1 S1 B3		CH1 CH2			
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## 8.8 Chapter 10 Rural Development

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
<b>Policies</b>						
P10.01 It is Council policy to support the development of agriculture where it is compatible with the sustainable development of the County and commensurate with maintaining the farming community.	B1 B2 B3 HH1 W1 W2 M1 L1					
P10.02 It is Council policy to encourage the development of alternative rural based small-scale enterprises. The Planning Authority will consider the use, nature and scale of developments when assessing such applications. In addition, the Planning Authority will also consider the requirement to locate such developments in rural areas.				✓		
P10-03 It is Council policy to encourage the development of environmentally sustainable agricultural practices, particularly agriculture, to ensure that development does not impinge on the visual amenity of the countryside and that watercourses, wildlife habitats and areas of ecological importance are protected from the threat of pollution.	B1 B2 B3 HH1 W1 W2 M1 L1					
P10. 04 It is Council policy to consider favourably proposals for on-farm based diversification, which is complementary to the agricultural operation on the farm and is operated as part of the farm holding.				✓		
P10. 05 It is Council policy to support those who live and work in rural areas and who wish to remain on the land and accordingly the Council will favourably consider rural diversification intended to supplement farm income such as: 1. Specialist farming practices e.g. flower growing, equine facilities, poultry, mushroom growing, and specialised animal breeding. 2. Farm enterprises such as processing, co-ops, farm supply stores and agri-business in accordance with the policies of the Built Form & Urban and Rural Development Standards Chapter. 3. The production of organic and specialty foods to meet the increase in demand for such products. 4. The conversion of redundant farm buildings of vernacular importance for appropriate owner-run enterprises, as a way of supporting a viable rural community subject to the proper planning and sustainable development of the area.	CH2 L1			✓		
P10.06 It is Council policy to support the development of renewable energy in rural areas, where it is considered appropriate. Such development will be assessed on a case-by-case basis.	A1		L1			
P10.07 It is Council policy to encourage and facilitate the development of local and community based renewable energy projects in the County, notwithstanding their suitability and additional considerations such as location, nature of use, compliance with relevant guidelines and scale, where it can be demonstrated that such proposals are feasible.	A1		L1			
P10.08 It is Council policy to encourage state and private afforestation, both native broadleaf and coniferous species, in appropriate locations, in co-operation with Coillte and the Forest Service and in line with national policy.	S2		B1 B2 B3 W1 W2 L1			
P10.09 It is Council Policy to encourage expansion and employment in industries such as agriculture, horticulture, forestry, peatlands, food, crafts, tourism and energy.	S2		B1 B2 B3 W1 W2 L1			
P10. 10 It is Council policy to facilitate and encourage the reuse of redundant farm buildings of vernacular importance for appropriate agri-tourism enterprises subject to the proper planning and sustainable development of the area.	CH2 L1					



P10.11 It is Council policy to liaise and co-operate with statutory, local development, sectoral and community/voluntary agencies and groups to develop economic, social and cultural benefits for the rural community and its service base.				✓		
P10.12 It is Council policy to ensure those extractions (quarries/sand and gravel pits) which would result in a reduction of the visual amenity of areas of high amenity, as illustrated in Map 15.2 or to areas of scientific importance or of geological, botanical, zoological and other natural significance (refer to Map 15.1) shall not be permitted. It is Council policy that all such workings should be subjected to landscaping requirements and that worked out quarries should be rehabilitated. The uses of these sites shall be limited to wastes such as soil, stone and subsoils and sites shall be authorised under the appropriate waste regulations. Where the Council considers and accepts that in cases where inert material (i.e. soil, stones and subsoil etc.) cannot be recycled or otherwise sold, such materials may be considered for the phased restoration and landscaping of the site in line with standard planning conditions imposed.	L1 S1 S2 B1 B2 B3 HH1 W1 W2					
P10.13 It is Council policy to ensure that agricultural developments are designed and constructed in a manner that will ensure that watercourses and sources of potable water are protected from the threat of pollution.	B1 B2 B3 HH1 M1 W1 W2					
P10.14 It is Council policy to continue to protect existing resource based industry from encroachment by residential development, for example mining, quarrying, gravel pits, peat extraction and intensive agriculture.	B3 S2 L1					
P10.15 It is Council policy to support the development of the peatlands in the county for appropriate alternative uses subject to environmental considerations and nature designations.	S1 S2 B1 B2 W1 W2 L1					
P10-16 It is Council policy to support the integrated development of County Offaly's rural areas.				✓		
P10-17 It is Council policy to support the implementation of the National Rural Development Plan 2007-2013.					✓	
<b>Objectives</b>						
O10. 01 To support agricultural development and encourage the continuation of agriculture as a contributory means of maintaining population in the rural area and sustaining the rural economy.			B1 B2 B3 HH1 W1 W2 M1 L1			
O10.03 To identify and support, where feasible, Commercial Rural Enterprise Centres throughout the County.				✓		
O10. 04 To support rural employment initiatives across the County.				✓		✓
O10.04 To ensure that all agricultural activities adhere to any legislation on water quality, such as the Phosphorus Regulations, Water Framework Directive and Nitrate Directive.	B1 B2 B3 HH1 W1 W2					
O10.05 To investigate the possibility of and support the preparation of an Aggregate Potential Mapping exercise for Offaly in association with the Geological Survey of Ireland.	S2					

## 8.9 Chapter 11 Community, Social and Community Development

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
<b>Policies</b>						
<b>Community – General</b>						
P11-01 It is Council policy to assist, where feasible, in <u>social, community and cultural development</u> within the County. It is Council policy to encourage and facilitate the provision and extension of community facilities to serve individual communities throughout the County.	A1					
P11-02 It is Council policy to support and facilitate the <u>County Development Board</u> in its key objectives of strengthening the community sector throughout the County and developing a long-term strategy of social investment at community level.	A1					
P11-03 It is Council policy to <u>identify suitable sites</u> for community facilities within the county, particularly in newly developing areas.	A1					
P11-04 It is Council policy that proposals for new developments will be encouraged to provide new facilities (including play facilities) for community use. Proposals should be in suitable locations and be compatible with adjoining developments. Such proposals will be subject to other policies of the Development Plan, in particular those concerning open space provision. Further, it is Council policy to encourage the provision of multi-functional buildings, which are adaptable to accommodating a range of community facilities, where appropriate. (This is particularly apparent in the case of new housing estates, whereby a crèche facility can be designed to be re-developed in subsequent years, if required, for an alternative community facility). Further, it is Council policy that the multi-use of public spaces will be encouraged.	A1					
<b>Childcare</b>						
P11-05 It is Council policy to encourage the provision of childcare facilities in residential areas, employment areas, retail centres and other areas as appropriate, when development proposals are put forward for consideration.	A1					
P11-06 It is Council policy to assist the County Childcare Committee in identifying priority areas within the County for the provision of <u>childcare</u> facilities.						✓
Elderly P11-07 It is Council policy that residential homes are located within defined settlement boundaries and are appropriate in scale to the size and scale of the settlement. The provision of new residential homes within the rural countryside is considered only in such cases where it is clearly demonstrated that due to the nature of the services to be provided, a rural location is necessary and that no suitable, alternative sites are available within a nearby settlement.	A1					
<b>Open Space/Amenity Facilities</b>						
P11-08 It is Council policy to <u>preserve the landuse of existing public and private recreation areas</u> , including sports clubs, built leisure facilities and open space areas. In exceptional circumstances, a change of use may be sought, but must demonstrate that alternative recreational provisions are provided in a suitable location. Further, it is Council policy to identify, where possible, sites for possible future extension adjacent, if appropriate, within settlement plans.	S1					✓
P11-9 It is Council policy to encourage and facilitate the provision of <u>community and recreational infrastructure</u> as an integral component of proposed new residential schemes, in particular the provision of playgrounds for children.	A1					✓
Education Facilities P11-10 It is Council policy to liaise with and facilitate the Department of Education and Science in the provision of education facilities, as appropriate. This includes the identification and reservation of <u>sufficient land</u> to meet the need for <u>expansion</u> of existing schools and/or provision of new schools in accordance with the County's settlement hierarchy, requirements of individual settlements, their catchment area and the requirements of the relevant education authority.						✓

Libraries P11-11 It is Council policy to ensure that the County library service is strongly positioned to support:-The knowledge society, social inclusion, e-Government, life long learning initiatives, local studies, archives services, children services, services to rural communities, the housebound and homes for the elderly.						✓
<b>Arts and Culture</b>						
P11-12 It is Council policy, having particular regard to Tullamore's Gateway status and projected population growth, to facilitate the development of a dedicated multi purpose arts centre in the town, as resources permit.	A1					
P11-13 It is Council policy to implement the Council's Arts Plan 2007-2011 and the development of successive county arts plans.						✓
P11-14 It is council policy to maximise the <u>per cent for art scheme for Offaly</u> in relation to its major capital projects which provides opportunities for artists of all disciplines to create work to exist in the public realm. <u>Every public capital project</u> , for example; housing developments, roads, water and waste water treatment schemes, as well as hospitals, schools and libraries has a percentage of the total capital costs allocated for the creation of a work of art. It is Council policy to reflect a commitment to and recognition of the diversities of the scheme in line with national guidelines.						✓
<b>Community Healthcare</b>						
P11-15 It is Council policy to promote the improvement of health services throughout the County, in particular to encourage the integration of health services and facilities with new and existing community facilities, where feasible.	A1					
P11-16 It is Council policy to look favourably upon <u>primary care centres</u> which comprise/provide access to a range of healthcare services including General Practitioners, nurses/midwives, health care assistants, home help assistants, occupational therapists, physiotherapists, social workers and administrative personnel, as appropriate. However, the provision of <u>individual healthcare facilities</u> will also be considered, as appropriate.	A1					
Burial Grounds P11-17 It is Council policy to protect the cultural heritage of historical burial grounds within the County and to encourage their management and maintenance in accordance with conservation principles.	CH1					
<b>Objectives</b>						
Education O11-01 It is an objective of the Planning Authority that the provision of new education facilities are located within existing settlements and thereby out-of-town locations are considered only in exceptional circumstances.	A1					
Open Spaces/Amenity O11-02 It is an objective of the Planning Authority to develop open spaces throughout the County which will encourage a range of recreational and amenity activities that will cater for both active and passive needs.				✓		
Sports and Recreation O11-03 It is an objective of the Planning Authority to support and facilitate local community groups/sporting organisations in the development of sport and recreational facilities, in particular through land-use zoning, where appropriate.				✓		
Burial Grounds O11-04 It is an objective of the Council to provide or assist in the provision of burial grounds and extensions to existing burial grounds, by 1) reservation of land at suitable locations, 2) provision of local authority burial grounds, where feasible. Regard will be afforded to the heritage value of cemeteries and access to and information on the history, ecology, archaeology and genealogy of the sites will be promoted.	CH2 B3		CH2		CH2	
Library Facilities O11-05 It is an objective of the Council to improve current library provisions where feasible in particular, 1. The development of the Tullamore Central Library Project, which includes a modern Library HQ, local studies department and branch library with meeting rooms and multi-functional spaces at O' Connor Square, Tullamore. 2. Those settlements in which population and/or demands have increased.	A1					
Play Facilities P11-06 It is an objective of the Council to develop a partnership approach in funding and developing children's play opportunities throughout the County, in accordance with the Councils adopted Play Policy 2008.						✓

## 8.10 Chapter 12 Environment

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
<b>Policies</b>						
P12.01 It is Council Policy to comply with the provisions of the EU Water Framework Directive in order to fulfil obligations relating to water quality in the County and to implement the provisions of the River Basin Management Plans i.e. Eastern River Basin District, Shannon River Basin District and South East River Basin District. To this end, the Council will continue to co-operate with other statutory authorities/agencies and stakeholders in the preparation and implementation of existing water quality monitoring and management plans and also implementation of River Basin District Management Plans.	B1 B2 B3 HH1 W1 W2 M1					
P12.02 It is Council policy to protect groundwater sources in the form of Aquifer Protection Zones. Development will not normally be permitted within these zones, unless the applicant can demonstrate compliance with Policy 4.17 (Refer to Chapter 4).	HH1 W2					
P12.03 The Council is committed to minimising emissions to the air of greenhouse gases in order to contribute to a reduction and avoidance of human induced climate change in accordance with the Kyoto agreement. The Council supports and is committed to the National Climate Change Strategy and, in general to facilitate measures which seek to reduce emissions of greenhouse gases. In this regard, the Council will support any initiatives taken to provide for more sustainable forms of energy use. Refer to Chapter 8 for further relevant Policies on Energy.	A1					
P12.04 Planning permission will not normally be granted for new developments or extensions of existing industrial, commercial, leisure, or other uses that produce significant and unacceptable levels of noise and/or vibration at site boundaries or within adjacent sensitive areas, especially residential areas.	HH1					
P12.05 It is Council policy to maintain good air quality in the County.	HH1 A1					
P12.06 It is Council policy to ensure the provision of quality cost effective waste infrastructure and services, which reflect and meet the needs of the community and to ensure that the 'polluter pays' principle is adhered to in all waste management activities.	HH1 A1					
P12.07 It is Council policy to ensure that all waste disposals shall be undertaken in compliance with the requirements of the EPA and relevant Waste Management Legislation.	HH1 W1 W2					
P12.08 It is Council policy to implement relevant EU and Irish Legislation pertaining to the environment.	B1 B2 B3 HH1 S1 S2 W1 W2 A1 M1 CH1 CH2 L1					
P12.09 It is Council policy to co-operate with the Environmental Protection Agency in regard to licensing arrangements for Scheduled Industries in County Offaly in accordance with the provisions of the Environmental Protection Agency Act 1992.	B1 B2 B3 HH1 S2 W1 W2 M1 CH1 CH2 L1					

P12.10 It is Council Policy to require Waste Management Plans to be prepared for Construction and Demolition Projects of a particular scale in accordance with Best Practice Guidelines issued by the Department of Environment, Heritage and Local Government in July 2006. It is Council policy to require developers of projects with significant potential for the generation of construction and demolition waste to prepare a Project Construction and Demolition Waste Management Plan where the project exceeds any of the following thresholds: 1. New residential developments of 10 houses or more. 2. New residential developments other than (1) above, including institutional, educational, health and other public facilities, with an aggregate floor area in excess of 1,250m <sup>2</sup> . 3. Demolition/renovation/refurbishment projects generating in excess of 100m <sup>3</sup> in volume of construction and demolition waste. 4. Civil engineering projects in excess of 500m <sup>3</sup> of waste, excluding waste materials used for development works on the site.	S1					
P12.11 Where proposals are being considered for the following: 1. New establishments at risk of causing major accidents, 2. The expansion and/or modification of existing establishments designated under the directive; and 3. Other developments proposed near to existing establishments. the Council will require that applicants must demonstrate that the following considerations are taken into account: (a) Prevention of major accidents involving dangerous substances, (b) Public health and safeguarding of public health; (c) and the protection of the environment.	B1 B2 B3 HH1 W1 W2 M1					
P12.12 It is Council policy to have regard to the National Climate Change Strategy 2007 – 2012. Particular regard to be afforded to future rainwater patterns and impacts.	A1 HH1 W1 W2					
P12.13 It is Council Policy to have regard to the mitigation measures, as outlined in the accompanying Environmental Report, and implement such measures, where appropriate.	B1 B2 B3 HH1 S1 S2 W1 W2 A1 M1 CH1 CH2 L1					
P12.14 It is Council policy that all proposed residential developments applications of 100 units or greater will be assessed and if necessary required to provide a set of bring banks for recyclable material to the specifications and design required by Offaly County Council. A similar policy will also apply to commercial developments such as shopping centres where large volumes of people congregate. Such developments shall, where considered necessary, be required to provide a set of bring banks as part of their car park layout.						✓
<b>Objectives</b>						
O12.01 To protect and preserve the quality of surface water, ground water and drinking water in the County through the relevant legislative provisions.	B1 B2 B3 HH1 W1 W2 M1					
O12.02 It is an objective of the Council to continue to work with the EPA, and the relevant River Basin District Authorities in relation to implementing the various Water Quality Management Plans for the 3 River Basin District Authorities pertaining to Offaly.	B1 B2 B3 HH1 W1 W2 M1					
O12.03 The Council in conjunction with the EPA will continue its programme of monitoring water quality in the County's waterbodies to ensure that the objectives under the Water Framework Directive 2000 are met.	B1 B2 B3 HH1 W1 W2 M1					
O12.04 To implement the relevant provisions of Water Pollution Legislation	B1 B2 B3 HH1 W1 W2 M1					
O12.05 It is an objective of the Council to protect our waters from pollution, particularly by over-enrichment by nutrients, especially nitrates and phosphorous.	B1 B2 B3 HH1 W1 W2 M1					

O12.06 To issue and monitor, where appropriate, effluent licences for discharges to sewers and waterbodies.	B1 HH1 W2	B2 W1 M1					
O12.07 To continue to expand environmental awareness initiatives designed to create increased public awareness of waste prevention, minimisation and reuse. Particular emphasis should be placed on the commercial and industrial sector.							✓
O12.08 To implement the provisions of the Waste Management Hierarchy and the current Waste Management Plan for the Midlands Region. As a result, developments in the county will be expected to take account of the provisions of the Waste Management Plan for the Midlands Region and adhere to those elements of it that relate to waste prevention and minimisation, waste recycling facilities, and the capacity for source segregation.				✓			
O12.09 To implement the legislative provisions in relation to historic landfill sites in the County and to undertake risk assessments where required and any subsequent remedial measures where necessary.	B1 W1 HH1	B2 W2 L1					
O12.10 To use statutory powers to prohibit the illegal deposit and disposal of waste materials, refuse and litter, and to authorise and regulate, waste disposal within the county in an environmentally sustainable manner.	B1 W1	B2 W2 L1					
O12.11 It is an objective of the Council to ensure that an efficient and adequate level of fire and rescue cover is available at all times. The Council will continue with its programme for the development and improvement of the Fire Service. The programme will include the following: (a) Continue to implement plans to provide adequate Fire Brigade responses to fire and other emergencies. (b) Review the procedures for mobilisation and communications in the fire brigade and examine the benefits of participation in the National Programme for Regional Mobilisation and Communications Network (through the Eastern Regional Control Centre). (c) Continue with the programme for station development and improvement, and in particular, to prioritise the provision of new upgraded fire stations at Ferbane, Clara, Banagher, Daingean and Kilcormac. (d) To investigate the possibility of providing new or upgraded fire stations at other locations in the county.	HH1						

## 8.11 Chapter 13 Transport and Accessibility

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
<b>Policies</b>						
P13.01 It is Council policy to encourage and facilitate transport investment within the County and the Midlands region in, in particular the Gateway towns, in order to create effective links and to reduce travel times between the main towns to maximise the cohesion and critical mass of the region and improve intra and inter-regional connectivity. In this regard, it is also Council policy to co-operate with the adjoining local authorities to achieve these effective and improved links.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
P13.02 It is Council policy to facilitate development of the primary road network in Offaly and the Midlands Region in accordance with " Ireland, National Development Plan 2007 – 2013 ", Transport 21 and with Government Policy. The Council will also support the relevant agencies and bodies involved in achieving such development including the National Roads Authority and the Department of Transport.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		

P13.03 It is Council policy to strictly control development, outside of identified settlements, which could generate significant additional traffic, thereby potentially compromising the capacity and efficiency of the national roads/restricted regional roads and associated interchanges and possibly leading to the premature and unacceptable reduction in the level of service available to road users. This policy will also apply to National roads which are due to be downgraded but which will still comprise high quality Regionally important links, for example the N52 from the Tullamore bypass to the County Boundary to the north, the N52 between Tullamore and Mucklagh, the N6 from Horseleap to Ballynahinch, the N7 from Clashnagad to Greenhills and any other National Roads which may be downgraded during the life of this plan.	A1					
P13.04 It is Council policy that permissible development requiring direct access (i.e. other than via a public road) to a National Primary or National Secondary road, will be restricted to the residential requirements of established landowners (e.g. farmers) and their sons/daughters only, where the requirement to live on their land is essential for the management of the land. It must be clearly demonstrated in the case of permissible development that a 'need' for the dwelling is established and that no reasonable alternative site with access off a minor road is available.			HH1			
P13.05 In relation to restricted regional routes, dwellings which are required by established residents of an area will generally be permitted providing no suitable alternative site is available with access off a minor road and subject to an undertaking regarding further non-essential development on the holding. Regional Routes affected by this provision are listed in Table 13.2 (Refer to Map 13.3).			HH1			
P13.06 It is Council policy to improve the road links between the national roads network and identified settlements within Offaly's Settlement Hierarchy in order to cater for anticipated additional traffic flows and to facilitate the economic development of these settlements. The co-operation of the Town Councils will be sought in the implementation of same where necessary.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
P13.07 It is Council policy to maximise the use of fully accessible public transport that links the Midland Gateway towns internally and externally by coordinating built form, land use and transport planning. This will include facilitating high-quality bus and rail services that meet user needs.	A1					
P13.08 It is Council policy to support the further improvement of public transport services within County Offaly (rail and bus) and in particular facilitating the provision and promotion of privately run transportation systems in rural areas such as the Rural Transport Programmes in North and West Offaly.	A1			✓		
P13.09 It is Council policy to co-operate with and encourage Iarnród Éireann to secure the upgrading of the existing rail linkages between the Midlands Gateway Towns, in particular between Athlone, Tullamore and Portarlinton.	A1			✓		
P13.10 The Council recognises that the development of the rail network in the Midlands could play a very positive role in the social and economic development of the area and could contribute positively to balanced regional development. It is Council policy to promote and facilitate the following where feasible and to cooperate with the Department of Transport, Irish Rail and adjoining local authorities in this regard: (a) The provision of a second line between Portarlinton and Galway which will facilitate the development of midland towns such as Portarlinton, Tullamore, Clara, Athlone and Ballinasloe. In conjunction with this, there is an opportunity for Tullamore station and adjoining lands to be developed as a transport (bus/rail) node. This would allow for the integration of local bus services including a possible future town bus service with the rail network. Clara station should be developed similarly increase service provision in the town. Portarlinton Land Use and Transportation Study has identified the railway station as a key asset in the development of the town. (b) The provision of a rail link from Mullingar directly to Clara which would have the effect of creating an integrated rail network linking Longford, Mullingar, Ballinasloe, Athlone with Tullamore, Portarlinton, Kildare and Portlaoise. (c) The final link in the network could involve the provision of a new line from Enfield to Edenderry with a continuation to Portarlinton (possible junction at Garryhinch). This line will be of great strategic importance in the context of the Midlands. Bord Na Mona already own many of the wayleaves between Portarlinton and Enfield.				✓		
P13.11 The Council will ensure that developments which have the potential to generate significant traffic movement as a result of the use proposed are subject to a Traffic Impact Assessment. The Council may also require the provision of Road Safety Audits in the case of road works.	HH1					
P13.12 It is Council policy, where feasible, to require the provision of cycleways and walkways as part of new development.	HH1 A1					



P13.13 It is Council policy to support and facilitate the operation of existing bus services and to facilitate the provision of improved facilities for bus users in towns and villages including the provision of set down areas for coaches and bus shelters at all bus stops where feasible for passengers.	A1					
P13.14 It shall be Council policy to improve deficiencies in pavement surface, riding quality and general alignment to protect the heavy investment in existing facilities.						✓
P13-15 It is Council policy when designing or inputting into road schemes to recognise the importance of hedgerows and roadside boundaries for wildlife and biodiversity. (Refer also to policy P15-13 and P15-14).	B3					
P13-16 In considering applications for quarries, the Council will seek to ensure access to the highest possible category of the road network hierarchy.				✓		
<b>Objectives</b>						
O13.01 To facilitate the provision of transport infrastructure in County Offaly in line with national policy as outlined in Transport 21 and the National Development Plan 2007-2013 and also in line with the Councils own programme of works.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.02 It is an objective of the Council to facilitate the development of the national secondary road network in Offaly through the continued upgrading and improvement of the national secondary roads in the County, the N62, the N52 and the N80.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.03 The Council recognises the importance of providing a safe and efficient road system in the County in order to facilitate the development of the local and national economy, to protect the safety of users of public roads and to safeguard public investment in their provision. In this regard, the Council will endeavour to construct, upgrade and improve, where necessary, the national roads in the County. The Council will have regard to national and regional transport plans and the Councils programme of works. The undertaking of any works will be subject to the availability of finance and resources.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.04 To construct, upgrade and improve, where necessary, the national roads in the County as outlined in Table 13.3. The Council will have regard to national and regional transport plans and the Councils programme of works. The undertaking of any works will be subject to the availability of finance and resources.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.05 to O13.14 To construct the Tullamore By-Pass (Eastern) to the east of the town; To construct a new road between Tullamore and Kilbeggan (Link Road); To secure the provision of a Western Bypass/Relief Road to the west of Tullamore Town linking the N80 to the north west of the town the N52 to the south west of the town; To co-operate with the NRA in providing a bypass for the following towns and villages, should the decision be made to do so and to protect from development any reservation bands/corridors so as to avoid compromising the construction of the road: Kilcormac and Killeigh; Upgrade, widen and reconstruction of N62 from Kennedy's Cross to the County boundary at Ballynahown; Construction of Birr Relief Road and construction of Birr By-pass and Distributor Road Network (Birr LUTS) Birr-Riverstown-local widening and resurfacing; Construct Clara Relief Road; Kinnegad to Athlone Phase 2 (Kilbeggan - Athlone); Construction of a high quality dual carriageway; Castletown – Nenagh; Construction of a high quality dual carriageway.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.15 To construct, upgrade and improve, where necessary, the regional roads in the County as outlined in Table 13.4. The Council will have regard to national and regional transport plans and the Councils programme of works. The undertaking of any works will be subject to the availability of finance and resources.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.16 to O13.38 Construction of Edenderry By-Pass and Relief Roads; Construction of Portarlinton By-Pass and Relief Roads; To secure the provision and undertake upgrades of regional roads in the county as listed in the following objectives: Blueball to Cloghan and Cloghan to Shannonbridge; Rochfortbridge to Portarlinton; Portarlinton to Edenderry.; Ballinagar to Daingean to Edenderry; Tullamore to Daingean; Cloneygowan to Portarlinton; Tullamore to Roscrea via Kinnitty; Ferbane to Ballycumber, Ballycumber to Clara and Clara to Kilbeggan; Kilcormac to Ferbane; Birr to Banagher; Birr to Kinnitty; Clonmacnoise to Shannonbridge; Clonmacnoise to Doon to County Boundary; Cadamstown to Birr; Moneygall to Cloughjordan; Shinrone to Roscrea and Shinrone to Cloughjordan; To provide a bypass for Cloneygowan and to protect from development any reservation bands/corridors so as to avoid compromising the construction of the road; To secure the			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		

provision of providing a bypass for Geashill and, should the decision be made to do so, protect from development any reservation bands/corridors so as to avoid compromising the construction of the Road; To cooperate with Laois County Council to provide the following: (1) Relief Road from the Tullamore Road to Botley Lane. (2) Portarlinton LUTS Inner Relief Road (3) Long Term bypass to the south; Upgrade/Widen Spollanstown Bridge						
O13.39 To provide effective linkages between the County and national roads.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.40 It is an objective of the Council, in co-operation with the NRA and other relevant stakeholders, to ensure that an interchange strategy is in place in order to assess the implications of development on the operation and performance of relevant interchanges.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.41 To improve and maintain county roads.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.42 To cooperate with the NRA in relation to the location of development adjacent to interchanges in order to assess the impacts and implications on the operation and performance of the relevant interchanges.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.43 To safeguard all existing rail infrastructure and encourage the reopening of rail stations, and to preserve disused stations/halts and track appropriate to future strategic County public transport needs.	A1					
O13.44 To improve bad bends and junctions with a high accident rating as the opportunity presents itself or as development need requires. In general, the decision regarding which road section to improve first will be guided by the following considerations: (a) The need to provide strategic links to National Road Access (b) The elimination of traffic hazards (c) The development of industry, agriculture, forestry, housing and commercial development wherever such development will be of substantial social or economic benefit to the county. (d) The need to provide for essential communications at an acceptable social and economic cost.	HH1		B1 B2 B3 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.45 To improve and upgrade bridges in the county including the following: (a) R419 (Cushina) (b) R400 (Rhode) (c) R420 (Derrykillane, Cloneygowan) (d) R420 (Cloneygowan Bridge) (e) Pullough Bridge (f) N80 (Charlestown Bridge Clara) (g) R421 (Clonfossa, Kinnitty) (h) R401 (Kilcumber Edenderry) (i) R439 (Anglers Rest, Clonrah Banagher) (j) Rahan Bridge			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.46 To cooperate with Kildare County Council regarding improvement, upgrading and maintenance of the Edenderry/Enfield Road.			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.47 To reserve land for future relief roads adjacent to the following towns and villages: (a) Tullamore (b) Birr (c) Clara (d) Ferbane (e) Portarlinton (f) Moneygall (g) Cloghan (h) Killeigh (i) Geashill (j) Cloneygowan (k) Ballinagar (l) Edenderry (m) Kilcormac			B1 B2 B3 HH1 S1 S2 W1 W2 CH1 CH2 L1	A1		
O13.48 To support the location of an airport in the County and/or in the Midlands Region.				✓		
O13.49 The Council will examine sections of the R420 Tullamore to Portarlinton Road for possible increase in speed limits (to 100kph) subject to safety and planning considerations and accident records.						✓

## 8.12 Chapter 14 Built Heritage

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
<b>Policies</b>						
<b>Architectural Heritage</b>						
P14.01 It is Council policy to ensure that the alteration or extensions to protected buildings and structures will only be permitted if the proposals are in keeping with the character of the building and preserve the architectural and historic features of the building or structure.	CH2		S1			
P14. 02 It is Council policy to encourage the rehabilitation, renovation and re-use of existing older buildings where appropriate.	S1 CH2		CH2			
<b>Archaeological Heritage</b>						
P14. 03 It is Council policy to apply the following principles to the archaeological heritage: 1. To facilitate appropriate guidance in relation to the protection of the County's archaeological heritage. 2. To promote public awareness of the rich archaeological heritage in this area. 3. To protect and enhance archaeological monuments and their settings and zones of archaeological potential.	CH1		S1			
P14. 04 It is Council policy that the area comprising the National Monument at Clonmacnoise, enclosing Eskers, Mongans Bog, Clonmacnoise Callows, Fin Lough and the limestone pavement at Clorhane shall retain its nominated status as the "Clonmacnoise Heritage Zone", in accordance with the recommendations of the study of the area carried out by the Environmental Sciences Unit of Trinity College, Dublin and as indicated on Map 14.2 In the primary control zone around the National Monument, development will be strictly curtailed, so as to preserve and protect the unique character and distinctive quality of this area. The boundaries of the secondary control area correspond with that of the Shannon Area of High Amenity. Within this secondary area the controls applicable to areas of special control will apply together with a further requirement that the Planning Authority must be satisfied that the particular purpose of the proposal justifies the location proposed	CH1 L1					
P14. 05 It is Council policy to ensure that full consideration is given to the protection of archaeological heritage when undertaking, approving or authorising development in order to avoid unnecessary conflict between development and the protection of the archaeological heritage.	CH1		S1			
P14. 06 It is Council policy to ensure that all development proposals affecting sites specified in the Record of Monuments and Places or Zones of Archaeological Potential are referred to the Prescribed Bodies (as set out in the Planning and Development Act 2000) and to have regard to the advice and recommendations of the Prescribed Bodies in relation to undertaking, approving or authorising development.	CH1		S1			
P14. 07 It is Council policy to ensure that when an unrecorded archaeological object or site is discovered, any works that threaten the object or site are immediately suspended and that the appropriate Government agency is informed.	CH1		S1			
P14. 08 It is Council policy to protect historical burial grounds within Offaly and encourage their maintenance in accordance with conservation principles.	CH1		S1			
P14. 09 It is Council policy to facilitate appropriate guidance in relation to the protection of the archaeological heritage in the area covered in the Plan.	CH1					

P14.10 It is the Council's policy that developments, which require vehicular access from public roads that were formerly towpaths or from existing towpaths along the Grand Canal, is very strictly controlled along the Grand Canal. This is in addition to restrictions relevant to the Canal's designation as a Natural Heritage Area and consequently as an Area of Special Control. It is policy to consider housing applications for established families* only along roads that were formerly towpaths along the Grand Canal and that such developments will be strictly controlled. * Families for the purpose of this policy (P14-10) are defined as husband, wife and their children, siblings of the husband and wife and their sons and daughters.	B3		S1			
<b>Objectives</b>						
O14.01 It is an objective of the Council to examine the feasibility of designating Architectural Conservation Areas in the County over the plan period.	CH2		S1			
O14. 02 It is an objective of the Council to protect all structures listed in the Record of Protected Structures, that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest throughout the County.	CH2		S1			
O14. 03 It is an objective of the Council to protect the Slí Mór and Slí Dála routes and sign post them where appropriate.	L1 B3					
O14. 04 It is an objective of the Council to secure the protection (i.e. preservation in situ or at a minimum protection by record) of all archaeological monuments included in the Record of Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act 1994, and their setting.	CH1		S1			
O14. 05 It is an objective of the Council to protect and preserve archaeological sites and their settings discovered since the publication of the Record of Monuments and Places and the publication of the Urban Archaeology Survey.	CH1		S1			
O14. 06 To seek the preservation in situ (or at a minimum, preservation by record) of all archaeological sites or objects and their settings.	CH1		S1			
O14. 07 It is an objective of the Council to protect the Zones of Archaeological Potential identified in the Record of Monuments and Places.	CH1		S1			

## 8.13 Chapter 15 Natural Heritage

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
<b>Policies</b>						
P15. 01 It is Council policy to prohibit any development that would be harmful to or that would result in a significant deterioration of habitats and/or disturbance of species in a cSAC, SAC, SPA, pNHA or NHA.	B1 B2 B3 W1 W2 L1					
P15. 02 It is Council policy to require any planning application that proposes development within or adjacent to an area designated as illustrated on Map 15.1 to be accompanied by an ecological impact assessment, assessing the impact of the proposal on these areas with conservation designations. The Ecological Impact Assessment will be forwarded to the National Parks & Wildlife Section of the Department of the Environment, Heritage and Local Government for their comments prior to the making of a decision by the Planning Authority. Development, which may have a significant adverse effect on the special features of a designated or proposed site, will not be permitted, unless any adverse effects are clearly demonstrated to be of a social or economic benefit of national importance. Where development is permitted, the Planning Authority will use conditions to ensure that harm to natural heritage interests is minimised and appropriate compensatory measures are provided.	B1 B2 B3 W1 W2 L1					
P15. 03 It is Council policy to support and co-operate with statutory authorities and others in support of measures taken to manage proposed or designated sites in order to achieve their conservation objectives.	B1 B2 B3 W1 W2 L1					

P15. 04 It is Council policy to have regard to the views and guidance of the National Parks and Wildlife Service of the DoEHLG in respect of proposed development where there is a possibility that such development may have an impact on sites with nature/conservation designations.	B1 B2 B3 W1 W2 L1					
P15-05 It is Council policy to protect and preserve the County's primary areas of high amenity namely the Slieve Bloom Mountains, Clonmacnoise Heritage Zone, Durrow High Cross, Abbey & surrounding area, the River Shannon, Lough Boora Parklands, Grand Canal, Croghan Hill, Raheenmore Bog, Pallas Lake and Clara Bog and Eskers, Eiscir Riada and other eskers. These areas are indicated on Map 15.2.  Notwithstanding the location of certain settlements, or parts of, for which there are settlement plans (towns, villages, 'sraids'), within the Areas of High Amenity, it is not the intention of this policy to hinder appropriate levels of development (as set out in the plans). Further, it is policy to facilitate the extension and expansion of existing visitor, tourist related or other rural enterprises (including quarries), within the Areas of High Amenity, where such development is appropriate and where it can be demonstrated that it gives 'added value' to the extending activity and to the immediate area which is the subject of the Area of High Amenity designation. It is Council policy, in both cases above, to ensure that issues of scale, siting, design and overall compatibility (including particular regard to environmental sensitivities) with the site's location within an Area of High Amenity are of paramount importance when assessing any application for planning permission. The merits of each proposal will be examined on a case-by-case basis.	B1 B2 B3 W1 W2 L1					
P15. 06 It is Council policy to continue to designate and seek to protect long distance walking routes within the County and participate in their development.	L1 B3					
P15. 07 It is Council policy to protect the landscape, associated with the River Shannon, including the Callows and views of special interest, and also to encourage the development of Shannonbridge, Banagher and Shannon harbour as focal points. It will also be Council policy to investigate the possibility of providing a Linear Park based on the River Shannon from Banagher to Meelick, which takes account of the sensitive ecological nature of the Callows area.	W1 W2 L1		B1 B2 B3			
P15. 08 It is Council policy to protect, conserve and enhance the County's biodiversity and natural heritage including wildlife (flora and fauna), habitats, landscapes and/or landscape features of importance to wildlife or which play a key role in the conservation and management of natural resources such as water.	B1 B2 B3 W1 W2 L1					
P15. 09 It is Council policy to continue to promote education, knowledge and pride in the natural heritage of the County. It is also policy to facilitate the provision of an Interpretive Centre for Clara Bog within Clara Town.						✓
P15.10 It is Council policy to promote areas for appropriate development, primarily for recreational or educational purposes, that would not conflict with the preservation of these sites in their natural state.					✓	
P15.11 It is Council policy to conserve, protect and enhance where possible wildlife habitats such as rivers, streams, canals, lakes, and associated wetlands including reed-beds and swamps, ponds, springs, bogs, fens, trees, woodlands and scrub, hedgerows and other boundary types such as stone walls and ditches which occur outside of designated areas providing a network of habitats and corridors essential for wildlife to flourish.	B1 B2 B3 W1 W2					
P15.12 It is Council policy to ensure that peatland areas, which are designated for protection under international and national legislation, are conserved and managed appropriately to conserve their ecological, archaeological, cultural and educational significance.	B1 B2 B3 W1 W2 L1					
P15-13 It is Council policy to promote the protection and preservation of existing hedgerows and to encourage planting of native hedgerow species. It is also Council policy to encourage the replanting and extension of the treescape within the County (in particular mixed forests and broadleaf forests) in order to ensure the preservation and enhancement of this attractive element of County Offaly's landscape.	B3 L1					
P15.14 It is Council policy to encourage the retention, where possible, of hedgerows and other distinctive boundary treatments in rural areas. Where removal of a hedgerow, stone wall or other distinctive boundary treatment is unavoidable, provision of the same type of boundary will be required of similar length set back within the site. This shall also relate to Road Improvements and Realignments carried out by the Local Authorities or other agents on their behalf.	B3 L1					
P15.15 It is Council policy to promote the preservation and enhancement of native and semi-natural woodlands, groups of trees and individual trees.	B3 L1					
P15.16 It is Council policy to use native species wherever possible in the County including Offaly County Council's own landscaping work and on Council property.	L1					

P15.17 It is Council policy to discourage the felling of mature trees to facilitate development and to encourage tree surgery rather than felling where necessary.	B3 L1					
P15.18 It is Council policy to protect riparian corridors by reserving land along their banks for ecological corridors and maintain them free from inappropriate development, where appropriate, and discourage culverting or realignment.	B3 W1					
P15.19 It is Council policy to protect and enhance the built, natural heritage and the recreational potential of the Grand Canal Corridor and to encourage and promote access to and understanding of the Grand Canal.	B1 B2 B3 W1 CH2					
P15.20 It is Council policy to protect the identified Mushroom Stones in Table 15.10.	B1 B2 L1					
<b>Objectives</b>						
O15. 01 Offaly County Council will ensure that any development proposal in the vicinity of, or affecting a designated site, provides sufficient information to show how its proposals will impact on the habitat of the site, and appropriate amelioration, and the Council will consult with the Department of Environment, Heritage and Local Government.	B1 B2 B3 W1 W2 L1					
O15.02 It is an objective of the Council to conserve and protect the natural heritage of the County and to conserve and protect European and National designated sites within the County including Special Protection Areas, Special Areas of Conservation and candidate Special Areas of Conservation, Natural Heritage Areas and Proposed Natural Heritage Areas, Ramsar Sites, Statutory Nature Reserves, Biogenetic Reserves and Wildfowl Sanctuaries.	B1 B2 B3 W1 W2 L1					
O15. 03 It is an objective of the Council to protect, conserve and enhance the county's biodiversity and natural heritage and the principle of enhancement will be taken into account in the Development Control Process. It is a particular objective of the Council to protect, conserve and enhance the county's biodiversity and natural heritage and the principle of enhancement will be taken into account in the Development Control Process. It is a particular objective to protect plants, animal species and habitats, which have been identified by the Habitats Directive, Birds Directive, Wildlife Act and the Flora Protection Order.	B1 B2 B3 W1 W2 L1	B1 B2 B3 W1 W2 L1				
O15. 04 Co-operate with Bord na Mona and other relevant authorities to prepare a biodiversity management strategy for Offaly's peatlands.	B1 B2 B3 S2 W1 W2 L1					
O15. 05 To undertake a comprehensive tree survey of the County and, where appropriate, propose measures for their protection.	B3					
O15. 06 To prepare a Local Biodiversity Plan (Bio Action Plan).	B1 B2 B3 W1 W2					
O15. 07 To carry out ecological studies in order to have improved baseline data and decision-making capacity	B1 B2 B3					
O15. 08 To seek the preservation of important features of geological interest within the county.	B1 B2 L1					

## 8.14 Chapter 16 Landscape and Amenities

	Likely to <b>Improve</b> status of SEOs	Probable <b>Conflict</b> with status of SEOs- unlikely to be mitigated	Potential <b>Conflict</b> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
<b>Policies</b>						
P16-01 It is Council policy that <u>landscape considerations</u> will be an important factor in all land use policy and decision making for the County, ensuring that a pro-active view of development is undertaken whilst maintaining respect for the environment and heritage, as per the general principles of sustainable development. Further it is policy to conserve, protect and enhance the landscape of Offaly at a number of levels; 1. The value of the landscape itself, as open countryside and the associated form and character of settlements. 2. The value of the landscape as a resource for economic growth in accordance with its physical and visual attributes. 3. The value of the landscape and its role with habitats and species whose diversity enriches the environment.	L1 S1					
P16-02 It is Council policy to control development as per the County's landscape classification listed in tables 16.1 - 16.4.	L1 S1					
P16-03 It is Council policy to protect and preserve the County's Areas of High Amenity, including the Slieve Bloom Mountains, Clonmacnoise Heritage Zone, River Shannon, Lough Boora Parklands, Grand Canal, Croghan Hill, Raheenmore Bog, Pallas Lake, Clara Bog and eskers, Eiscir Riada, other eskers and Durrow High Cross, Abbey & surrounding area from development(s) which would be visually obtrusive or which would detract from the intrinsic character and environmental quality of the landscape.	B1 B2 B3 S1 W1 W2 L1					
P16-04 It is Council policy to protect the County's attractive scenic amenity routes from insensitive levels of roadside development and excessive levels of development. For development directly accessing onto restricted regional routes (key amenity routes) as shown on map 13.3 (and map 16.8), restrictions as per P13.05 will apply. [Refer Chapter 13].	L1					
P16-05 It is Council policy that existing local landscape features, including hedgerows, shelter belts and stone walls are retained, protected and enhanced where appropriate, so as to preserve the local landscape and character of an area, whilst providing for future development.	L1 B3					
P16-06 It is Council policy to protect the landscape comprising the <u>River Shannon</u> and flood plain including the callows and views of special interest from inappropriate development. However appropriate development within settlements adjacent to the Shannon and its callows and which act as focal points for both residential and commercial/business, industry and recreation will be positively considered.	L1					
P16-07 It is Council policy that new development should ensure the protection of <u>mature trees</u> , <u>hedgerows</u> and the conservation of <u>existing stonewalls</u> , and their integration into new development. Where the provision of new boundaries is required, these should comprise native hedgerow planting, or stone walls which consist of stone found in the locality. Where comprehensive new development occurs, it should take into account the pattern of existing hedgerows and incorporate same into layouts or plant connecting hedgerows where hedgerow removal to facilitate development works is necessary. The Council will require that all new development will respect the existing character of the settlement, in particular through the provision of sensitive landscaping schemes. In the event that the removal of tree(s) is deemed to be necessary, it will be generally conditional on replacement with appropriate species.	L1 B3					
P16-08 It is council policy to protect formal and informal open spaces which contribute to the landscape and scenic amenity of the county and/or act as a 'green buffer' within settlements in particular.	L1 B3 S1					
P16-09 It is Council policy to make provisions for the reservation of land which will allow for the development of public open space, where appropriate.					✓	



Objectives						
O16-01 It is an objective of the Council to preserve and enhance the character of the county's landscape where, and to the extent that in the opinion of Offaly County Council, the proper planning and sustainable of the area requires it.	L1					
O16-02 It is an objective of the Council to preserve scenic views and prospects throughout the County which will be accessed on a case-by-case basis, as part of the development management process.	L1					
O16-03 It is an objective to the Council, to make provisions for cyclists including where appropriate, dedicated cycleways subject to availability of finance.	HH1					
O16-04 It is an objective of the Council to evaluate the need for Landscape Character Analysis in the County.	L1					
O16-05 It is an objective of the Council to investigate the feasibility of preparing a Landscape Conservation Area Assessment within the County.	L1					

## 8.15 Chapter 17 Tourism

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
Policies						
P17.01 It is Council policy to promote and foster a growing sense of innovation and entrepreneurship in the tourism sector throughout County Offaly.						✓
P17.02 It is Council policy to continue to support and encourage increased coordination, cohesion and linkages between agencies involved in tourism development, such as Fáilte Ireland (East and Midlands Region), Shannon Development, Waterways Ireland and Offaly County Council.						✓
P17.03 It is Council policy to encourage clustering of products to increase linkages within and reduce leakage from the local economy e.g. linkages between providers of accommodation and local farmers/niche food producers, across County Offaly and the wider region.	A1					
P17.04 It is Council policy to protect natural resources on which tourism is based through the enforcement of policies in relation to resource protection; architectural conservation areas; bogs; water quality; biodiversity, rural housing and holiday home development.	B1 B2 B3 HH1 S2 W1 W2 M1 CH2 L1					
P17.05 It is Council policy to further investigate the potential of and opportunities for the development of trails in County Offaly to include a mixture of walking, cycling and driving trails, for the provision of appropriate services along these trails; and for the development of linkages between these trails in Offaly and adjoining counties.	L1 B3					
P17.06 It is Council policy to liaise with strategic partners such as Bord na Mona, The National Parks and Wildlife Service, Coillte on the identification of land use strategies for appropriate areas of peatland within the County focussing on the tourism, environmental and heritage value of these areas.	B1 B2 B3 W1 W2 S1 L1					
P17.07 It is Council policy to favourably consider tourism infrastructure development related to sport, recreation and information including boating, angling, walking and pony trekking routes, golf courses, adventure centres, theme parks and interpretive centres etc subject to proper planning and sustainable development and policies of this plan.				✓		
P17.08 It is Council policy to promote and facilitate conferencing facilities in the County and to support future tourism opportunities which may offer the opportunity to build on this existing attraction to the County, based on the County's location.				✓		

P17.09 Where tourism related developments involve the interaction of a number of the above listed activities with accommodation facilities, such proposals should be facilitated where integration and linkage between tourism facilities is promoted.	A1					
P17.10 It is Council policy to encourage tourism related developments inside existing settlements where the scale and size of the proposed development is appropriate and in keeping with the character of the settlement.	A1 CH2		CH2			
P17.11 Tourism related developments outside of settlements will be considered where there is proven sustainable need. The need to locate in a particular area must be balanced against the environmental impact of the development and the impact of the development and benefits to the local community.				✓		
<b>Objectives</b>						
O17.01 To implement the Tourism Strategy for Offaly published in 2006.					✓	
O17.02 Establish a signage policy committee to design and investigate funding opportunities for integrated directional and interpretive signage with a timeframe for implementation in the county and guidance for the appearance and location of these.	CH1					
O17.03 To prepare a Tourism Development and Management Plans in association with Shannon Development, the Midlands East Tourism Authority and adjoining local authorities for key tourist sites in the County. This plan should include the built and natural features which have an established tourist draw and will set out requirements in relation to tourism facilities and accommodation of visitors.	B1 B2 B3 W1 W2 CH1 CH2 L1					
O17.04 To cooperate with Fáilte Ireland, Shannon Development, Waterways Ireland and other relevant in promoting the waterways and lakelands of the County in light of an overall tourism development and marketing strategy.	B1 B2 B3 CH1 CH2 L1					
O17.05 To facilitate the development of a quality of life tourism resource using cutaway peatlands in conjunction with Bord na Mona and Fáilte Ireland.	S2					
O17.06 Investigate and support best-practice environmental management including energy efficiency, waste management, and procurement and recycling in accommodation providers and tourism enterprises in the County.					✓	
O17.07 It is an objective of the Council to work with relevant and interested parties to implement specific projects to develop tourism in line with the masterplan produced for the West Offaly Tourism Initiative.				✓		

## 8.16 Chapter 18 Land Use and Zoning

	Likely to <b>Improve</b> status of SEOs	Probable <b>Conflict</b> with status of SEOs- unlikely to be mitigated	Potential <b>Conflict</b> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
<b>Policies</b>		✓				
P18-01 It is Council policy, generally that a sequential approach is adopted in the development of the County's settlements (i.e. development from the centre most point of a settlement outwards), where feasible.	B1 B2 B3 HH1 S1 W1 W2 A1 M1 L1		CH1 CH2			
P18-02 It is Council policy to facilitate the development of the County's settlements and ensure that any development proposed is in the interests of proper planning and sustainable development. In particular, it is Council policy in the case of town centre zoning, to prohibit a proliferation of any individual use which in the opinion of the Planning Authority, does not contribute to the vitality and viability of town centres.	B1 B2 B3 HH1 S1 W1 W2 A1 M1 CH1 CH2 L1					

P18-03 It is Council policy to encourage the natural growth of the County's towns and villages. In the case of the development of zoned greenfield sites, a mix of uses may be required as opposed to excessive homogenous developments. This will ensure the proper planning and sustainable development of these areas, providing necessary services and adding vitality and viability to their future use.	A1 CH2					
<b>Objectives</b>						
O18-01 It is an objective of the Council that sufficient zoned lands be provided at appropriate locations throughout the County to accommodate the expected land use requirements within the lifetime of the County Development Plan i.e. 2009-2015.				✓		
O18-02 It is an objective of the Council to ensure that development progresses in accordance with the landuse zoning objectives set out within this chapter [Chapter 18].				✓		

## 8.17 Chapter 20 Regeneration and Renewal

	Likely to <u>Improve</u> status of SEOs	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	Potential <u>Conflict</u> with status of SEOs- likely to be mitigated	<u>Uncertain</u> interaction with status of SEOs	<u>Neutral</u> Interaction with status of SEOs	<u>No Likely</u> interaction with status of SEOs
<b>Policies</b>		✓				
P20-01 It is Council policy to encourage and facilitate the physical renewal and revitalisation of areas and the enhancement of amenities and promotion of sustainable development throughout the County.	S1		CH1 CH2			
P20-02 It is Council policy to encourage and assist active participation by government bodies, heritage groups, community associations, and local people, where appropriate, in the conservation and restoration of landmark buildings and structures (both of local and or regional/national importance). This may include the aiding and funding of conservation and restoration works.	CH2					
P20-03 It is Council policy to promote and encourage the re-utilisation of suitable redundant or obsolete structures, ensuring that the improvement and screening of neglected sites and the renewal, repair and/or maintenance of structures, is in line with the Council's powers under the Derelict Sites Act 1990.	CH2					
P20-04 It is the Council policy to actively encourage the implementation of the Mid-Shannon River Basin Tax Incentive Scheme.				✓		
P20-05 It is Council policy to require the retention, refurbishment and improvement of an original structure which is of local importance insofar as it is possible to provide sufficient internal and external space and is sympathetic in scale mass, design and materials to the landscape character and character of existing structures in the locality. In the case where it can be appropriately demonstrated that this is not possible, the Planning Authority may require that the original building is removed in the interests of amenity.	CH2		CH2			
P20-06 It is Council policy to seek to encourage the redevelopment of derelict or vacant buildings as an alternative to new build on new undeveloped sites.	S1		CH2			
<b>Objectives</b>						
O20-01 It is an objective of the Council to encourage and facilitate, where appropriate in the development and renewal of areas throughout the County which are in need of regeneration and in particular to implement any government funded renewal schemes/incentives.	S1		CH1 CH2			
O20-02 It is an objective of the Council to identify areas of dereliction, which are suitable for redevelopment, in accordance with the Council's Derelict Sites Register.	S1		CH1 CH2			

O20-03 It is an objective of the Council to undertake a programme of environmental improvements within towns and villages of the County, where feasible and as resources permit which will assist in conserving the character of these settlements and to enhance their overall appearance and attractiveness.	CH2					
O20-04 It is an objective of the Council to continue to maintain its register of derelict sites and encourage and facilitate the redevelopment of identified derelict sites under the Derelict Sites Act 1990 where appropriate to require owners of derelict property to carry out suitable improvements and to implement the provisions of the Act to prevent or remove injury to amenity arising from derelict sites.	S1		CH1 CH2			
O20-05 It is an objective of the Council to identify renewal projects and seek funding to assist in such projects as per the NDP 2007-2013	S1		CH1 CH2			

## Section 9 Mitigation Measures

### 9.1 Introduction

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the County Development Plan (CDP).

Mitigation involves ameliorating significant negative effects. Where there are significant negative effects, consideration is given in the first instance to preventing such effects or, where this is not possible for stated reasons, to lessening or offsetting those effects. Mitigation measures can be roughly divided into those that: *avoid* effects; *reduce* the magnitude or extent, probability and/or severity of effects; *repair* effects after they have occurred, and; *compensate* for effects, balancing out negative impacts with other positive ones.

The mitigation measures may be incorporated into the briefing of design teams as well as the subsequent design, specification and development management of the landuses to be accommodated within the County.

Additional, more detailed mitigation measures to those detailed below and those integrated into the CDP would be likely to be required by the development management and EIA processes of individual projects.

### 9.2 SEA Recommendation

It is recommended that the mitigation measures detailed under Section 9.3 be integrated into and adopted as part of the County Development Plan.

**Note:** The wordings of measures contained hereafter constitute an undertaking - as per the most relevant equivalent Irish Guidelines on the best practice<sup>40</sup>.

<sup>40</sup> The most commonly encountered and significant problem in Environmental Impact Statements is the complete or partial omission of any clear, legally enforceable commitment to undertake the mitigation measures proposed in response to a predicted impact. EPA (2003) *Advice notes on Current Practice (In the Preparation in of Environmental Impact Statements)* Wexford: EPA

Accordingly Mitigation measures contained hereafter should be incorporated in their entirety - or should be omitted. The degree of undertaking should remain as that the measure 'shall' or 'will' be implemented. The substitution of these words with the words 'should', 'ought' or 'may' is not in accordance with best practice and should be avoided.

### 9.3 Mitigation Measures

#### 9.3.1 Designated Ecological Sites I

No projects giving rise to significant adverse direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans or projects)<sup>41</sup>.

#### 9.3.2 Designated Ecological Sites II

All subsequent plan-making and adoption of plans arising from this plan will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. Offaly County Council and associated Town Councils, as Plan makers and Planning authorities, have procedures to ensure compliance with the requirement of Article 6 of the Habitats Directive for all Land Use Plans and Projects.

#### 9.3.3 Water Protection I

Offaly County Council shall address the significant water management issues identified

<sup>41</sup> Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- (a) no alternative solution available,
- (b) imperative reasons of overriding public interest for the plan to proceed; and
- (c) adequate compensatory measures in place.

in the Water Matters Consultation publications for the relevant RBDs.

### 9.3.4 Water Protection II

When published, the relevant policies and objectives of the Shannon, South Eastern and Eastern River Basin Management Plans and associated Programmes of Measures shall be integrated into the Plan, if necessary.

### 9.3.5 Water Protection III

Offaly County Council shall ensure that the ongoing development of Towns and their Environs are undertaken in such a way so as not to compromise the quality of surface water (and associated habitats and species) and groundwater within the zone of influence of the Development Plan area.

### 9.3.6 Water Protection IV

Landuses shall not give rise to the pollution of ground or surface waters during the construction or operation of developments. This shall be achieved through the adherence to best practice in the design, installation and management of systems for the interception, collection and appropriate disposal or treatment of all surface waters and effluents.

### 9.3.7 Waste Water I

Development under the Plan shall be preceded by sufficient capacity in the public waste water treatment plant and appropriate extensions in the existing public waste water treatment catchment.

### 9.3.8 Waste Water II

Offaly County Council shall implement the relevant recommendations set out in *Urban Waste Water Discharges in Ireland for Population Equivalents Greater than 500 Persons – A Report for the Years 2004 and 2005 Office of Environment Enforcement- EPA, 2007*.

### 9.3.9 Waste Water III

Offaly County Council shall examine the feasibility of connecting of unsewered, areas including individual properties/ premises, serviced by septic tanks to existing and planned sewer networks.

### 9.3.10 Drinking Water I

Offaly County Council shall ensure conformance with the relevant recommendations set out in *The Provision and Quality of Drinking Water in Ireland – A Report for the Years 2006-2007, (Office of Environment Enforcement- EPA, 2007)*.

### 9.3.11 Drinking Water II

Existing and new populations under the CDP shall be served with clean and wholesome drinking water. Offaly County Council will achieve compliance as a minimum with the 48 parameters set out under the European Communities (Drinking Water) Regulations (No. 2) 2007 and will resolve any outstanding issues in order to achieve the removal of public water supplies from the EPA remedial action list of public water supplies. Offaly County Council shall address the specific issues arising in relation to Public Water Supplies on this list.

### 9.3.12 Drinking Water III

Offaly County Council shall ensure the adequacy of the existing water supply in terms of both quality and quantity and the potential risk to human health.

### 9.3.13 Flooding I

Landuses shall not give rise to increases in the run-off characteristics above those that currently exist.

Offaly County Council shall provide for appropriate flood risk assessments to be undertaken, where proposed development(s) and proposed zoning in areas within the floodplain of rivers is being considered.

In order to avoid increased risk of flooding, Offaly County Council shall adopt appropriate zoning of lands and restrictions to use shall apply in areas liable to flooding.

### 9.3.14 Flooding II

It is the policy of Offaly County Council to have regard to the Government planning guidelines entitled "The Planning System and Flood Risk Management" in the preparation of plans (both statutory and non statutory) and assessment of planning applications when adopted.

### **9.3.15 Flooding III**

Offaly County Council shall include relevant policies and objectives for the provision and promotion of adequate and appropriate Sustainable Urban Drainage Systems (SUDS).

### **9.3.16 Cultural Heritage I**

Landuses shall not give rise to significant losses of the integrity, quality or context of archaeological material - except as may be conditioned or directed by the appropriate heritage agencies. This shall be achieved by the application of appropriate design standards and criteria.

### **9.3.17 Cultural Heritage II**

It shall be ensured that pre-development archaeological testing, surveying, monitoring and recording are carried out where appropriate.

### **9.3.18 Cultural Heritage III**

In order to protect, strengthen and improve the presentation and the general character of County Offaly and its settlements, alterations and interventions to Protected Structures shall be executed to the highest conservation standards, and shall not detract from their significance or value.

### **9.3.19 Cultural Heritage IV**

The Record of Protected Structures shall be reviewed on a phased basis in order to incorporate recommendations from the National Inventory of Architectural Heritage.

### **9.3.20 Landscape I**

It is an objective of Offaly County Council to protect and enhance the County's landscape and to ensure that development respects and, where necessary enhances, the appearance and character of the existing local landscape.

### **9.3.21 Landscape II**

Planning Applications that have the potential to impinge upon the integrity of significant landscape resources may be required to be accompanied by an assessment of the potential

landscape and visual impacts of the proposed development - demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape.

### **9.3.22 Landscape III**

Offaly County Council shall promote linkages between established landmarks and landscape features and views, including recognition of these elements when zoning land and when considering individual development proposals.

### **9.3.23 Landscape IV**

Offaly County Council, having regard to any future adopted national guidance on landscape characterisation, shall examine the issue of detailed Landscape Character Assessment and/or Landscape Management Plan for County Offaly within the lifespan of the Plan. This shall be prepared as appropriate in accordance with relevant Guidance from the Department of the Environment, Heritage and Local Government and the Heritage Council.

### **9.3.24 Air and Climatic Factors**

Offaly County Council shall endeavour to conserve protect and improve air quality in the County, particularly in areas zoned for increased urban development and transport related development.

## **9.4 Subsidiary Plans**

### **9.4.1 Introduction**

The measures proposed below will, along with the other measures detailed in this section, contribute to the mitigation of development arising under settlement plans which are prepared for the towns of Birr, Tullamore, Clara and Edenderry. It is noted that any issues arising from settlement which is guided by the overall settlement policies under Chapter 4 and by Volume II of the CDP are recommended to be mitigated by the other measures detailed in this section.

### **9.4.2 Subsidiary Plans I**

Settlement plans for the County should contain adequate policy and guidance in order to



highlight the importance of retaining the unique character and diversity of town and village centres, and provide for their protection.

### **9.4.3 Subsidiary Plans II**

Consideration should be given in the drafting of residential policies to targeting the use of brownfield sites as a priority.

Residential objectives which promote the identification of opportunities for infill development and consolidation of existing towns and villages to reduce the need to zone additional greenfield lands should be included within settlement plans subject to stringent design guidance and environmental protection.

## Section 10 Monitoring Measures

### 10.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This environmental report puts forward proposals for monitoring the County Development Plan (CDP) which are adopted alongside the CDP.

Monitoring enables, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action. In addition to this, monitoring can also play an important role in assessing whether the CDP is achieving its environmental objectives and targets - measures which the CDP can help work towards - whether these need to be reexamined and whether the proposed mitigation measures are being implemented.

### 10.2 Indicators and Targets

Monitoring is based around the indicators which were chosen earlier in the process. These indicators allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives used in the evaluation. Focus will be given to indicators which are relevant to the likely significant environmental effects of implementing the CDP and existing monitoring arrangements will be used in order to monitor the selected indicators. Each indicator to be monitored will be accompanied by the relevant target(s) which were identified with regard to the relevant legislation (see Section 4).

Table 10.1 below shows the indicators and targets which have been selected with regard to the monitoring of the plan.

### 10.3 Sources

Measurements for indicators should come from existing monitoring sources and no new monitoring should be required to take place. Existing monitoring sources exist for each of the indicators and include those maintained by Offaly County Council and the relevant authorities e.g. the Environmental Protection Agency, the National Parks and Wildlife Service,

the Shannon and Eastern Regional Fisheries Boards and the Central Statistics Office.

The *Development Management Process* in Offaly County Council will provide passive monitoring of various indicators and targets on an application by application basis. Where significant adverse effects - including positive, negative, cumulative and indirect - are likely to occur upon, for example, entries to the RMP, entries to the RPS or ecological networks as a result of the undertaking of individual projects or multiple individual projects such instances should be identified and recorded and should feed into the monitoring evaluation.

### 10.4 Excluded Indicators and Targets

As noted on Table 10.1 below, monitoring data on Indicator W2 (Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC) may not be available for the preliminary monitoring evaluation as the groundwater threshold values to which this indicator relates have not yet been identified by the EPA.

In addition, future monitoring data for Indicators A1i (Percentage of population within the plan area travelling to work or school by public transport or non-mechanical means) and A1ii (Average distance travelled to work or school by the population of the County) will not be available until the results of the next CSO Census are made available. It is recommended that data for these indicators be sourced for the SEA of the next review of the Plan.

### 10.5 Reporting

A preliminary monitoring evaluation report on the effects of implementing the CDP will be prepared to coincide with the Manager's report to the elected members on the progress achieved in securing CDP objectives within two years of the making of the plan (this Manager's report is required under section 15 of the 2000 Planning Act).

## **10.6 Responsibility**

Offaly County Council are responsible for collating existing relevant monitored data, the preparation of a monitoring report, the publication of this report and, if necessary, the carrying out of corrective action.

It is recommended that a Steering Committee be established to oversee the monitoring process.

## **10.7 Thresholds**

Thresholds at which corrective action will be considered are as follows:

- boil notices on drinking water;
- fish kills;
- complaints received from statutory consultees regarding avoidable impacts resulting from development which is granted permission under the Plan; and,
- court cases taken by the DEHLG regarding impacts upon archaeological heritage including entries to the Record of Monuments and Places.

**Table 10.1 Selected Indicators and Targets for Monitoring**

<b>Environmental Component</b>	<b>Selected Indicator(s)</b>	<b>Selected Target(s)</b>	<b>Source</b>
<b>Biodiversity, Flora and Fauna</b>	B1: Percentage of relevant habitats and designated ecological sites lost as a result of implementation of the CDP	B1: No losses of relevant habitats, species or their sustaining resources in designated ecological sites as a result of implementation of the CDP	CORINE Mapping, DEHLG Records & Development Management Process in Offaly County Council
	B2: Number of significant adverse impacts, including direct, cumulative and indirect impacts, to relevant habitats, geological features, species or their sustaining resources in designated ecological sites by development within or adjacent to these sites as a result of implementation of the CDP	B2: No significant adverse impacts, including direct, cumulative and indirect impacts, to relevant habitats, geological features, species or their sustaining resources in designated ecological sites by development within or adjacent to these sites as a result of implementation of the CDP	Development Management Process in Offaly County Council & Consultation with the National Parks and Wildlife Service
	B3: Percentage loss of connectivity between areas of local biodiversity as a result of implementation of the CDP – as evidenced from a resurvey of CORINE mapping	B3: No ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity to be lost without remediation as a result of implementation of the CDP	CORINE mapping and possibly new habitat mapping for the County
<b>Population and Human Health</b>	HH1: Occurrence (any) of a spatially concentrated deterioration in human health	HH1: No spatial concentrations of health problems arising from environmental factors	Offaly County Council, EPA, Health and Safety Authority

Environmental Component	Selected Indicator(s)	Selected Target(s)	Sources
<b>Soil</b>	S1: Area of brownfield land developed during plan period.	S1: Reduced availability of brownfield land (subject to availability on the open market, the demand for such land and the ability for such lands to be sustainably re-used within the provisions of the CDP) at the end of the CDP lifespan	Development Management Process in Offaly County Council
<b>Water</b>	<p>W1: Biotic Quality Rating (Q Value)</p> <p>W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</p>	<p>W1i: To maintain a biotic quality rating of Q4, in line with the requirement to achieve good water status under the Water Framework Directive, by 2015</p> <p>W1ii: To improve biotic quality ratings, where possible, to Q5</p> <p>W2: Compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</p>	<p>EPA</p> <p>As noted under Section 10.4, monitoring data may not be available for this indicator when the monitoring evaluation is being prepared.</p>
<b>Air and Climatic Factors</b>	<p>A1i: Percentage of population within the plan area travelling to work or school by public transport or non-mechanical means</p> <p>A1ii: Average distance travelled to work or school by the population of the County</p>	<p>A1i: An increase in the percentage of the population travelling to work or school by public transport or non-mechanical means</p> <p>A1ii: A decrease in the average distance travelled to work or school by the population of the County</p>	<p>Central Statistics Office:</p> <p>As noted under Section 10.4, future monitoring data may not be available for these indicators until results from the next Census are made available.</p>

<b>Environmental Component</b>	<b>Selected Indicator(s)</b>	<b>Selected Target(s)</b>	<b>Sources</b>
<b>Material Assets</b>	M1: Number of new developments granted permission which cannot be adequately served by a public waste water treatment plant over the lifetime of the CDP	M1: No new developments granted permission which cannot be adequately served by a public waste water treatment plant over the lifetime of the CDP	Development Management Process in Offaly County Council
<b>Cultural Heritage</b>	<p>CH1: Number of unauthorised developments occurring which result in full or partial loss to entries to the Record of Monuments and Places - including Zones of Archaeological Potential - and the context of the above within the surrounding landscape where relevant.</p> <p>CH2i: Number of unauthorised developments occurring which result in physical loss or loss entries to the Record of Protected Structures and/or their context within the surrounding landscape where relevant.</p> <p>CH2ii: Number of additions to the Record of Protected Structures and the number of additional ACAs, where appropriate.</p>	<p>CH1: No unauthorised developments occurring which result in full or partial loss to entries to the Record of Monuments and Places - including Zones of Archaeological Potential - and the context of the above within the surrounding landscape where relevant.</p> <p>CH2i: No unauthorised developments occurring which result in physical loss or loss entries to the Record of Protected Structures and/or their context within the surrounding landscape where relevant.</p> <p>CH2ii: Make Additions to the Record of Protected Structures and make additional ACAs, where appropriate.</p>	<p>Development Management Process in Offaly County Council</p> <p>Development Management Process in Offaly County Council</p>
<b>Landscape</b>	L1: Number of complaints from statutory consultees regarding avoidable impacts resulting from development which is granted permission under the CDP.	L1: No developments permitted which result in avoidable impacts on the County's sensitive landscapes.	Development Management Process in Offaly County Council

# Appendix I Site Synopses

## Special Protection Areas

### Mongan Bog (Site Code: 004017)

Mongan Bog is a midland raised bog of medium size situated immediately east of the monastic site of Clonmacnoise, Co. Offaly, and 12 km south of Athlone. It is situated in a basin, surrounded on part of its perimeter by high ground on mineral soil. The bog has a well-developed microtopography of hummocks, pools and lawns. Species such as Ling Heather (*Calluna vulgaris*), Cross-leaved Heath (*Erica tetralix*), cottongrasses (*Eriophorum angustifolium*, *E. vaginatum*), Carnation Sedge (*Carex panicea*) and White Beak-sedge (*Rhynchospora alba*) are common. A good variety of bog mosses (*Sphagnum* spp.) and other bryophytes are found. Strips of cut-away bog, part of which is colonised by willows (*Salix* spp.) and birch (*Betula* sp.) scrub, occur along the margins of the peat dome. A study of the birds of Mongan Bog has shown that Mallard, Snipe (up to 5 pairs), Curlew (probably 1-2 pairs), Skylark and Meadow Pipit breed on the peat dome. Red Grouse may still occur in small numbers. Mongan Bog is one of the raised bogs traditionally used as a feeding/roosting site by part of the River Suck population of Greenland White-fronted Geese. These birds, which form a fairly distinct sub-flock, utilise the callows near the mouth of the Suck to Shannonbridge and as far as Clonmacnoise. The number of birds using this part of the range is small (and may be declining) and would normally be between 20 and 40. It is considered that usage of Mongan Bog is nowadays very occasional. The cutaway area of bog provides habitat for a range of bird species, including birds of prey, thrushes, warblers and finches. Several rare invertebrate species occur on the bog, including *Chrysops sepulchralis*, *Dixella serotina*, *Coenonympha tullia*, *Tachina grossa* and *Saturnia pavonia*. One species of spider, *Gongylidiellum latebricola*, and two species of moth, *Biselachista serricornis* and *Aristotelia ericinella*, were first recorded from Ireland from the bog. The Irish Hare and the Common Frog, both listed in the Irish Red Data Book, occur. Mongan Bog is owned by An Taisce (the National Trust) and is a Statutory Nature Reserve. While the site appears to have lost its importance as a wintering site for Greenland White-fronted Geese, it does support a typical assemblage of bird species associated with midland raised bogs.

11.2.2004

### River Little Brosna Callows (Site Code: 004086)

The River Little Brosna Callows SPA follows the River Brosna from its confluence with the River Shannon for approximately 9 km south-eastwards to just beyond New Bridge on the R438 road. The site extends along both sides of the river. The main habitat is the extensive area of low-lying callow grassland in the floodplain of the river. These grasslands are subject to prolonged flooding in winter, early spring and occasionally in summer. A wide range of callow grassland is present, with the vegetation influenced by the exact flooding regime, the peat content of the soil and the intensity of agricultural improvement. The grasslands which floods regularly are often species-rich, dominated by such wetland grasses as Floating Sweet-grass (*Glyceria fluitans*), Creeping Bent (*Agrostis stolonifera*) and Marsh Foxtail (*Alopecurus geniculatus*). Sedge-rich grasslands occur on peaty soils, with small sedges such as Yellow Sedge (*Carex demissa*), Flea Sedge (*Carex pulicaris*) and Carnation Sedge (*Carex panicea*) present. In areas, the grassland merges with freshwater marsh, with herbs such as Water Mint (*Mentha aquatica*) and Water Forget-me-not (*Myosotis scorpioides*) occurring frequently. Bog Pimpernel (*Anagallis*

tenella) and Meadow Thistle (*Cirsium dissectum*) are found in unimproved areas. Similar areas that have received more fertiliser are dominated by Soft Rush (*Juncus effusus*). The more improved grassland is typified by a less species-rich sward. The river channel is often fringed by swamp vegetation, including such species as Common Reed (*Phragmites australis*) and Common Club-rush (*Scirpus lacustris*). The River Little Brosna Callows is an internationally important site for wintering waterfowl, being notable both for numbers and diversity of species. In the five year period 1995/96 to 1999/00, the mean peak waterfowl count (excluding gulls) was 30,223 birds (qualifying threshold for international importance is 20,000). Of particular note is the internationally important Greenland White-fronted Goose flock that is based along the Brosna (though the birds also have a range of other feeding and roosting sites on grasslands and bogs in the vicinity). The average peak count for this flock over the five winters 1995/96 to 1999/00 was 454 birds. The population of Black-tailed Godwit is also of international importance, with an average maximum of 2,900 birds for the same five-year period. This flock, which is the largest in the country, has exceeded 4,000 and there is also an important spring passage. A further seven species have populations of national importance, i.e. Whooper Swan (122), Wigeon (9,608), Teal (2,756), Pintail (130), Shoveler (164), Golden Plover (11,408) and Lapwing (6,114). The populations of Wigeon, Teal and Golden Plover are consistently among the largest in the country. Other species which have regionally important populations include Mute Swan (82), Mallard (334) and Dunlin (434); the population of Dunlin is of particular note as it comprises the largest inland population in the country. The site also supports populations of Pochard (38), Curlew (194) and Black-headed Gull (1,578). The callows are also of importance for breeding waders. In 2002, 22 pairs of Redshank and 23 pairs of Snipe were recorded. These numbers, however, are considerably lower than in 1987 when 65 pairs of Redshank and 35 pairs of Snipe were present, along with 41 pairs of Lapwing (no Lapwing were present in 2002). The globally endangered Corncrake formerly bred on the Brosna callows (2 calling birds recorded in 1993), and may still breed occasionally. The grassland in the site is used mainly for pasture, but some is also used for silage or occasionally hay-making. The intensification of agriculture in recent years, with earlier mowing and the replacement of hay with silage, is likely to have caused the decline and eventual absence of breeding Corncrake, and may be affecting numbers of breeding waders, especially Lapwing which formerly bred here. Any attempts at further drainage to reduce the extent of winter flooding could be damaging for the birds. Some shooting occurs on the site. Part of the site is a Wildfowl Sanctuary. The River Little Brosna Callows SPA is one of the top sites in the country for wintering waterfowl. It is of international importance on account of the total numbers of birds that use it, as well as for its Greenland White-fronted Goose and Black-tailed Godwit populations. In addition, there are a further seven species with nationally important populations, several of which are the largest in the country. Also of note is that three of the species which occur regularly, i.e. Whooper Swan, Greenland Whitefronted Goose and Golden Plover, are listed on Annex I of the E.U. Birds Directive.

6.10.2004



**Middle Shannon Callows (Site Code: 004096)**

The Middle Shannon Callows SPA is a long and diverse site which extends for approximately 50 km from the town of Athlone (at southern point of Lough Ree) to the town of Portumna (northern point of Lough Derg). The site averages about 0.75 km in width though in places is up to 1.5 km wide. Water levels on the site are greatly influenced by the very small fall between Athlone and Portumna and by the weir at Meelick. The Shannon Callows has a common boundary with two other sites of similar habitats, the River Suck Callows and the Little Brosna Callows, both of which are also Special Protection Areas. The site has extensive areas of callow, or seasonally flooded, semi-natural, lowland wet grassland, along both sides of the river. The callows are mainly too soft for intensive farming but are used for hay or silage or for summer grazing. Other habitats of smaller area which occur alongside the river include lowland dry grassland, freshwater marshes, reedbeds and wet woodland. Along most of its length the site is bordered by raised bogs, now mostly exploited for peat, esker ridges and limestonebedrock hills. The diversity of semi-natural habitats and the sheer size of the site attracts an excellent diversity of bird species and significant populations of several species. The composition of the lowland wet grassland varies, depending on elevation and flooding patterns. Two habitats listed on Annex I of the EU Habitats Directive are well represented within the site – *Molinia* meadows and lowland hay meadows. The former is characterised by the presence of the Meadow Thistle (*Cirsium dissectum*) and Purple Moor-grass (*Molinia caerulea*), while typical species in the latter include Meadow Fescue (*Festuca pratensis*), Rough Meadow-grass (*Poa trivialis*), Downy Oat-grass (*Avenula pubescens*) and Common Sorrel (*Rumex acetosa*). In places these two habitats grade into one another. Low-lying areas of the callows with more prolonged flooding are characterised by Floating Sweet-grass (*Glyceria fluitans*), Marsh Foxtail (*Alopecurus geniculatus*) and wetland herbs such as Yellow Cress (*Rorippa* spp.), Water Forget-me-not (*Myosotis scorpioides*) and Common Spike-rush (*Eleocharis palustris*). Most of the callows, however, consist of a plant community characterised by Creeping Bent (*Agrostis stolonifera*), Brown Sedge (*Carex disticha*), Common Sedge (*Carex nigra*), and herbs such as Marsh Marigold (*Caltha palustris*) and Marsh Bedstraw (*Galium palustre*). Scarce plant species associated with the grassland include Meadow-rue (*Thalictrum flavum*), Summer Snowflake (*Leucojum aestivum*) and Marsh Stitchwort (*Stellaria palustris*). The dry grassland areas, especially where they exist within hay meadows, are species-rich, and can contain many orchid species and such species as Cowslip (*Primula veris*), Adder's-tongue Fern (*Ophioglossum vulgatum*) and Spring-sedge (*Carex caryophyllaea*), as well as an unusually wide variety of grasses. In places along the edge of the callows there occurs wet broad-leaved woodland dominated by both Birch (*Betula pubescens*) and Alder (*Alnus glutinosa*) and dry broad-leaved woodland dominated by Hazel (*Corylus avellana*). There are also areas of raised bog and fen on old cut-away bog with species such as Black Bog-rush (*Schoenus nigricans*). Two legally-protected plant species (*Flora* (Protection) Order 1999) occur in the site: Opposite-leaved Pondweed (*Groenlandia densa*) in drainage ditches, and Meadow Barley (*Hordeum secalinum*) on dry alluvial grassland. The Red Data Book plant Green-winged Orchid (*Orchis morio*) is known from dry calcareous grasslands within the site, while the site also supports a healthy population of Marsh Pea (*Lathyrus palustris*). The Middle Shannon Callows qualifies as a site of International Importance for wintering waterfowl both on the total numbers regularly exceeding 20,000 birds (for example 27,581 in winter 1998/99) and for the Whooper Swan population (287 – average peak count 1995/96-1999/00). Whooper Swan is listed on Annex I of the EU Birds Directive.

Five further species occur in numbers of national importance (all figures are average peaks for winters 1995/96-1999/00) – Mute Swan 349, Wigeon 2,972, Golden Plover (listed on Annex I of the EU Birds Directive) 4,254, Lapwing 11,578 and Black-tailed Godwit 388. For some of these species, peak counts in the period have been considerably higher than the averages, such as 1,096 Black-tailed Godwits and 23,839 Lapwings. The importance of the site for species like Blacktailed Godwit and Whimbrel may have been underestimated if count coverage missed the brief spring peaks for these species. A wide range of other species occur in numbers of regional or local importance, including Bewick's Swan (listed on Annex I of the EU Birds Directive) 7, Teal 77, Tufted Duck 33, Dunlin 369, Curlew 129, Redshank 31 and Black-headed Gull 1,061. Small numbers of Greenland Whitefronted Goose (listed on Annex I of the EU Birds Directive) use the Shannon Callows (average 21, peak 55) and these are generally associated with larger flocks which occur on the adjacent Little Brosna Callows and River Suck Callows. The callow grasslands provide optimum feeding grounds for these various species of waterfowl, while many of the birds also roost or rest within the site. The site is also of national importance for breeding waterfowl. The total population of breeding waders (Lapwing, Redshank, Snipe and Curlew) on the Shannon and Little Brosna Callows in 1987 was one of three major concentrations in Ireland and Britain. Since then, however, numbers of at least Lapwing and Redshank have shown serious declines (a full survey of the callows is being carried out in 2002). For example, at a monitoring site at the callows at Shannon Harbour, numbers of Lapwing fell from 29 to 10 pairs and Redshank from 26 to 10 pairs between 1987 and 1994. Black-tailed Godwit, a very rare breeding species in Ireland, nests or attempts to nest in small numbers each year within the site. A further scarce breeding species, Shoveler, also nests in small numbers each year (an estimated 12 pairs in 1987). The Shannon Callows continues to hold approximately 40% of the Irish population of Corncrake, a species of global conservation concern that is also listed on Annex I of the EU Birds Directive. Between 1997 and 2001, the average number of calling birds was 60, with a peak of 69. BirdWatch Ireland, in association with Dúchas and the RSPB, operate a grant scheme to encourage farming practices that favour the Corncrake and this has probably been responsible for the stabilisation of numbers in recent years. A related scarce species, the Quail, is also known to breed within the callow grasslands. A good variety of other bird species are attracted to this site. Birds of prey, including scarce species such as Merlin (listed on Annex I of the EU Birds Directive) and wintering Hen Harrier (listed on Annex I of the EU Birds Directive), are regularly reported hunting over the callows. A range of passerine species associated with grassland and swamp vegetation breed, including Sedge Warbler, Grasshopper Warbler, Skylark and Reed Bunting. Kingfisher (listed on Annex I of the EU Birds Directive) is also regularly seen within the site. Whinchat, an uncommon breeding species, occur in small numbers. The wintering waterfowl within the Shannon Callows are difficult to monitor due to the size and inaccessibility of large parts of the site. In each winter there is usually one complete aerial census, as well as partial land-based counts. The population of Corncrake within the site is monitored each year and research is carried out on various aspects of the species' ecology. The breeding waders are also surveyed at intervals. About 30 ha of the callows is a nature reserve owned by voluntary conservation bodies. The Shannon Callows has by far the largest area of lowland semi-natural grassland and associated aquatic habitats in Ireland and one in which there is least disturbance of natural wetland processes. Botanically, it is extremely diverse. In winter the site is internationally important for the total numbers of birds (regularly exceed 20,000) and for Whooper Swan in

particular. It also holds nationally important populations of a further five species. Some of the wintering species are listed on Annex I of the EU Birds Directive, including Whooper Swan, Greenland White-fronted Goose and Golden Plover. In summer the site supports important populations of breeding waders. Perhaps the most important species which occurs in the site is Corncrake (the site holds 40% of the national total), as this is listed on Annex I of the EU Birds Directive and is Ireland's only globally endangered species.

20.6.2002

#### **All Saints Bog (Site Code: 004103)**

All Saints Bog is a lowland raised bog lying about 5 km north-west of Birr and separated from the River Little Brosna callows by a fragmented esker ridge. The site is unique in that it contains the largest stand of birch (*Betula* sp.) woodland in the country growing on an active raised bog. The active bog is dominated by bog mosses (*Sphagnum* spp.). White Beak-sedge (*Rhynchospora alba*) and Bog Asphodel (*Narthecium ossifragum*) are abundant in the wetter areas and Ling Heather (*Calluna vulgaris*) occurs on the hummocks. Hare's-tail Cottongrass (*Eriophorum vaginatum*) is a common species. The wooded area, which covers c. 20 ha, is dominated by birch trees which are 5 - 8m high. There are scattered pines and a shrub layer of willows (*Salix aurita* and *S. cinerea* subsp. *oleifolia*), a dwarf shrub layer of Ling Heather and Crowberry (*Empetrum nigrum*) and a thick mat of mosses and lichens. In drier and more open areas Bracken (*Pteridium aquilinum*) is locally dominant, accompanied by such species as Sweet Vernal-grass (*Anthoxanthum odoratum*) and Field Wood-rush (*Luzula campestris*). All Saints Bog was formerly an important refuge for part of the internationally important population of Greenland White-fronted Geese based on the River Little Brosna. The geese would utilise the bog when disturbed from the callows. In recent years, however, there has been little or no use of All Saints by the geese following a general trend of less usage of raised bogs and also perhaps due to disturbance from peat milling activities on the bog adjacent to the site. Merlin has been seen on the bog during the breeding season and probably nests. The peat dome and marginal areas provide good foraging habitat for this bird of prey species. The birch wood supports an interesting invertebrate fauna, with two rare species being recorded - a ladybird (*Hippodamia tredecimpunctata*) and a fly (*Dicthenida bimaculata*). There is a concentration of saproxylic invertebrates in the birch woodland, which suggests that the woodland is ancient. While All Saints Bog SPA appears to have been abandoned by wintering Greenland White-fronted Geese, it is still of some ornithological importance as it probably supports a nesting pair of Merlin, a species of high conservation importance and one that is listed on Annex I of the E.U. Birds Directive.

11.2.2004

#### **Slieve Bloom Mountains (Site Code 004160)**

The Slieve Bloom Mountains SPA is situated on the border between Counties Offaly and Laois, and runs along a north-east/south-west aligned ridge for approximately 25 km. Much of the site is over 200 m in altitude, rising to a maximum height of 527 m at Arderin. The mountains are of Old Red Sandstone, flanked by Silurian rocks. Several important rivers rise within the site, including the Barrow, Delour and Silver. The site has a near continuous ridge of mountain blanket bog, with wet and dry heaths also well represented. Species present in these habitats include Ling Heather (*Calluna vulgaris*), Crowberry (*Empetrum nigrum*), Bilberry (*Vaccinium myrtillus*), Cottongrasses (*Eriophorum* spp.), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*). Much of the slopes are afforested, and overall coniferous plantations account for c. 60% of the site. The forests include first and second rotation

plantations, with both pre-thicket and post-thicket stands present. Substantial areas of clear-fell are also present at any one time. The principal tree species present are Sitka Spruce (*Picea sitchensis*) and Lodgepole Pine (*Pinus contorta*). The remainder of the site is mostly rough grassland that is used for hill farming. This varies in composition and includes some wet areas with rushes (*Juncus* spp.) and some areas subject to scrub encroachment. Some stands of deciduous woodland also occur, especially within the river valleys. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for Hen Harrier. This SPA is one of the strongholds for Hen Harrier in the country and, indeed, is the most easterly regular population. A survey in 2005 resulted in five confirmed and three possible breeding pairs, whereas ten confirmed pairs and one possible pair had been recorded in the 1998-2000 period. These numbers represent c. 5% of the national total. The mix of forestry and open areas provides optimum habitat conditions for this rare bird, which is listed on Annex I of the E.U. Birds Directive. The early stages of new and second-rotation conifer plantations are the most frequently used nesting sites, though some pairs may still nest in tall heather of unplanted bogs and heath. Hen Harriers will forage up to c. 5 km from the nest site, utilising open bog and moorland, young conifer plantations and hill farmland that is not too rank. Birds will often forage in openings and gaps within forests. In Ireland, small birds and small mammals appear to be the most frequently taken prey. The site is also a traditional site for a breeding pair of Peregrine. Several pairs of Merlin are known to breed within the site but further survey is required to determine the exact status of this small falcon. Both of these species are also listed on Annex I of the E.U. Birds Directive. Red Grouse is found on many of the unplanted areas of bog and heath - this is a species that has declined in Ireland and is now Red-listed. The main threat to the long-term survival of Hen Harriers within the site is further afforestation, which would reduce and fragment the area of foraging habitat, resulting in possible reductions in breeding density and productivity. The observed decline between the 1998-2000 and 2005 surveys may be real and due to habitat change as a result of maturation of conifer plantations. Much of the unplanted blanket bog is a Statutory Nature Reserve. Overall, the site provides excellent nesting and foraging habitat for breeding Hen Harrier and is among the top five sites in the country for the species. It is also likely to be of national importance for breeding Merlin.

#### **Dovegrove Callows (Site Code: 004137)**

Dovegrove Callows is an area of callowland beside the Little Brosna River 2 km downstream from Birr, Co. Offaly and 5 km upstream from the start of the main area of River Little Brosna callows. The main habitat is wet grassland which floods. The grassland is regularly used by a flock of Greenland White-fronted Geese, and a variety of other waterfowl in winter. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for Greenland White-fronted Goose. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. The wet grassland supports species typical of this habitat - Creeping Bentgrass (*Agrostis stolonifera*), Creeping Buttercup (*Ranunculus repens*), Soft Rush (*Juncus effusus*) and, in places, Marsh Foxtail (*Alopecurus geniculatus*). The site is an important feeding area for the internationally important Little Brosna Greenland White-fronted Goose flock (527 individuals - 5 year mean of winter maximum, 1994/95 to 1998/99) and is used on an occasional basis when other feeding sites along the middle Shannon and Little Brosna callows are flooded. It is of

particular importance as it can support the entire Little Brosna flock. For this reason the site is a key part of this flock's winter range and important for its protection. Dovegrove Callows SPA is of major conservation significance as a feeding site for an internationally important flock of Greenland White-fronted Goose, a species that is listed on Annex I of the E.U. Birds Directive.

11.1.2007

## Candidate Special Areas of Conservation

### The River Shannon Callows (Site Code: 000216)

The River Shannon Callows is a long and diverse site which consists of seasonally flooded, semi-natural, lowland wet grassland, along and beside the river between the towns of Athlone and Portumna. It is approximately 50 km long and averages about 0.75 km wide (reaching 1.5 km wide in places). Along most of its length the site is bordered by raised bogs - many, but not all, in the process of large-scale harvesting - esker ridges and limestone-bedrock hills. The soils grade from silty-alluvial to peat. This site has a common boundary, and is closely associated, with two other sites of similar habitats, River Suck Callows and Little Brosna Callows. The River Shannon Callows is mainly composed of lowland wet grassland. Different plant communities occur, depending on elevation, and therefore their flooding patterns. Two habitats listed on Annex I of the EU Habitats Directive are well represented within the site - *Molinia* meadows and lowland hay meadows. The former is characterised by the presence of the Meadow Thistle (*Cirsium dissectum*) and Purple Moor-grass (*Molinia caerulea*), while typical species in the latter include Meadow Fescue (*Festuca pratensis*), Rough Meadow-grass (*Poa trivialis*), Downy Oat-grass (*Avenula pubescens*), Common Knapweed (*Centaurea nigra*), Ribwort Plantain (*Plantago lanceolata*) and Common Sorrel (*Rumex acetosa*). In places these two habitats grade into one another. Low-lying areas of the callows with more prolonged flooding are characterised by Floating Sweet-grass (*Glyceria fluitans*), Marsh Foxtail (*Alopecurus geniculatus*) and wetland herbs such as Yellow Cress (*Rorippa* spp.), Water Forget-me-not (*Myosotis scorpioides*) and Common Spike-rush (*Eleocharis palustris*). Most of the callows consist of a plant community characterised by Creeping Bent (*Agrostis stolonifera*), Brown Sedge (*Carex disticha*), Common Sedge (*Carex nigra*), and herbs such as Marsh Marigold (*Caltha palustris*) and Marsh Bedstraw (*Galium palustre*). While the more elevated and peaty areas are characterised by low-growing sedges, particularly Yellow Sedge (*Carex flava* agg.) and Star Sedge (*Carex echinata*). All these communities are very diverse in their total number of plant species, and include the scarce species Meadow-rue (*Thalictrum flavum*), Summer Snowflake (*Leucojum aestivum*), and Marsh Stitchwort (*Stellaria palustris*). Two further Annex I habitats, both listed with priority status, have a minor though important presence within the site. Alluvial forest occurs on a series of alluvial islands just below the ESB weir near Meelick. Several of the islands are dominated by well grown woodland of mainly Ash (*Fraxinus excelsior*) and Willows (*Salix* spp.). The islands are prone to regular flooding from the river. At Clorhane, an area of limestone pavement represents the only known example in Co Offaly. It is predominantly colonised by mature hazel woodland, with areas of open limestone and calcareous grassland interspersed. The open limestone pavement comprises bare or moss covered rock or rock with a very thin calcareous soil cover supporting a short grassy turf. The most notable plant in the grassy area is a substantial population of Green-winged Orchid (*Orchis morio*), which occurs with such species as Sweet Vernal-grass (*Anthoxanthum odoratum*), Quaking Grass (*Briza*

media), sedges (*Carex caryophylla*, *C. flacca*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Common Knapweed (*Centaurea nigra*), and Narrow-leaved Plantain (*Plantago lanceolata*). Ferns associated with the cracks in the paving include *Asplenium trichomanes*, *A. ruta-muraria*, *A. adiantum-nigrum*, *Polypodium australe*. Bryophytes include *Grimmia apocarpa* and *Orthotrichum* cf. *anomalum*. Anthills are common within the open grassland. The Hazel wood is well-developed and has herbaceous species such as Primrose (*Primula vulgaris*), Common Dog-violet (*Viola riviniana*), Wood Sorrel (*Oxalis acetosella*) and Herb Robert (*Geranium robertianum*). The wood is noted for its luxuriant growth of epiphytic mosses and liverworts, with such species as *Neckera crispa* and *Hylocomium brevirostre*. Yew (*Taxus baccata*) occurs at one area. Other habitats of smaller area but equal importance within the site are lowland dry grassland, drainage ditches, freshwater marshes and reedbeds. The dry grassland areas, especially where they exist within hay meadows, are species-rich, and of two main types: calcareous grassland on glacial material, and dry grassland on levees of river alluvium. The former can contain many Orchid species, Cowslip (*Primula veris*), abundant Adder's-tongue Fern (*Ophioglossum vulgatum*) and Spring-sedge (*Carex caryophylla*), and both contain an unusually wide variety of grasses, including False Oatgrass (*Arrhenatherum elatius*), Yellow Oatgrass (*Trisetum flavescens*), Meadow Foxtail (*Alopecurus pratense*), and Meadow Brome (*Bromus commutatus*). In places Summer Snowflake also occurs. Good quality habitats on the edge of the callows included in the site are wet broadleaved semi-natural woodland dominated by both Birch (*Betula pubescens*) and Alder (*Alnus glutinosa*) and dry broad-leaved woodland dominated by Hazel (*Corylus avellana*). There are also areas of raised bog, fen on old cut-away bog with Black Bog-rush (*Schoenus nigricans*), and a 'petrifying stream' with associated species-rich calcareous flush which supports Yellow Sedge (*Carex lepidocarpa*), Blunt-flowered Rush (*Juncus subnodulosus*) and Stoneworts (*Chara* spp.). Two legally-protected plant species (Flora (Protection) Order 1999) occur in the site: Opposite-leaved Pondweed (*Groenlandia densa*) in drainage ditches, and Meadow Barley (*Hordeum secalinum*) on dry alluvial grassland. This is one of only two known inland sites for the Meadow Barley in Ireland. The Red Data Book plant Greenwinged Orchid (*Orchis morio*) is known from dry calcareous grasslands within the site, while the site also supports a healthy population of Marsh Pea (*Lathyrus palustris*). The site is of International Importance for wintering waterfowl as numbers regularly exceed the 20,000 threshold (mean of 34985 for 5 winters 1994/94-1998/99). Of particular note is an Internationally Important population of Whooper Swans (287). A further five species have populations of national importance (all figures are means for 5 winters 1995/96-1999/00): Mute Swan (349), Wigeon (2972), Golden Plover (4254), Lapwing (11578) and Black-tailed Godwit (388). Species which occur in numbers of regional or local importance include Bewick's Swan, Tufted Duck, Dunlin, Curlew and Redshank. The population of Dunlin is notable as it is one of the few regular inland flocks in Ireland. Small flocks of Greenland White-fronted Goose use the Shannon Callows; these are generally associated with larger flocks which occur on the adjacent Little Brosna Callows and River Suck Callows. Shoveler (an estimated 12 pairs in 1987) and Black-tailed Godwit (Icelandic race) (one or two pairs in 1987) breed within this site. These species are listed in the Red Data Book as being threatened in Ireland. The scarce bird Quail is also known to breed within the area. The Callows continues to hold over 40% of the Irish population of the globally endangered Corncrake, although numbers have declined in recent years. A total of 66 calling birds were recorded in 1999. The total population of breeding waders (Lapwing, Redshank, Snipe and Curlew) in 1987 was

one of three major concentrations in Ireland and Britain. The breeding Redshank, numbers was estimated at 10% of the Irish population, making it Nationally significant. Also, the Annex I species Merlin and Hen Harrier are regularly reported hunting over the callows during the breeding season and in autumn and winter. This site holds a population of Otter, a species listed on Annex II of the EU Habitats Directive, while the Irish Hare, which is listed in the Irish Red Data Book, is a common sight on the callows. The Shannon Callows are used for summer dry-stock grazing (mostly cattle, with some sheep and a few horses), and permanent hay meadow. About 30 ha is a nature reserve owned by voluntary conservation bodies. The River Shannon is used increasingly for recreational purposes with coarse angling and boating accounting for much of the visitor numbers. Intermittent and scattered damage to the habitats has occurred due to over-deepening of drains and peat silt deposition, water-skiing, ploughing and neglect of hay meadow (or reversion to pasture). However, none of these can as of yet be said to be serious. Threats to the quality of the site may come from the siting of boating marinas in areas away from centres of population, fertilising of botanically-rich fields, the use of herbicides, reversion of hay meadow to pasture, neglect of pasture and hay meadow, disturbance of birds by boaters, anglers, birdwatchers and the general tourist. The maintenance of generally high water levels in winter and spring benefits all aspects of the flora and fauna, but in this regard, summer flooding is a threat to breeding birds, and may cause neglect of farming. The Shannon Callows has by far the largest area of lowland semi-natural grassland and associated aquatic habitats in Ireland and one in which there is least disturbance of natural wetland processes. Botanically, it is extremely diverse with two legally protected species of plants and many scarce species. Excellent examples of two habitats listed on Annex I of the EU Habitats Directive occur within the site – *Molinia* meadows and lowland hay meadows with good examples of a further two Annex habitats (both with priority status). In winter the site is internationally important for numbers and species of waterfowl. In spring it feeds large numbers of birds on migration. And in summer it holds very large numbers of breeding waders, rare breeding birds and the endangered Corncrake, as well as a very wide variety of more common grassland and wetland birds. The presence of Otter, an Annex II species, adds further importance to the site.

22.10.2003

#### **Slieve Bloom Mountains (Site Code: 000412)**

The Slieve Bloom Mountains lie on the Offaly-Laois border, starting about 8km north-east of Roscrea and running about 24km north-east, towards Clonaslee. The mountains are of Old Red Sandstone, flanked by Silurian rocks. From approx. 180m O.D., the site extends to 529m O.D. This site is remarkable for its mountain blanket bog habitat. Generally uniform in character, the vegetation consists of a deep, spongy mat of Bog Moss (*Sphagnum capillifolium*), with other mosses and lichens. Growing on this are Ling Heather (*Calluna vulgaris*) and Crowberry (*Empetrum nigrum*), with smaller amounts of Cottongrasses (*Eriophorum* spp.), Bilberry (*Vaccinium myrtillus*), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*). An unusual feature is the abundance of Bog Rosemary (*Andromeda polifolia*) and Cranberry (*Vaccinium oxycoccus*), species usually associated with raised bogs. The uncommon Lesser Twayblade (*Listera cordata*) occurs under Heather at this site. The uplands at this site provide excellent habitat for Peregrine Falcon, a species listed on Annex I of the E.U. Birds Directive. Breeding pairs occur here. For the main part, the site is fringed by forestry plantations although in a few places there remains a relatively undisturbed transition downslope to poorly-drained acidic grassland. The primary

threats to Irish blanket bogs in general are afforestation, drainage and overgrazing, and current habitat quality is dependent on past landuse. On the Slieve Blooms, the Heather forms tall, dense stands, with individual stems up to 20 years old, suggesting that burning has not been extensive in recent years. There is little evidence of grazing or erosion. Overall, vegetation structure is exceptionally well conserved due to lack of disturbance. A large portion of the site lies within a Statutory Nature Reserve. Blanket bogs are an increasingly rare habitat in Europe, and in Ireland are continually under threat. The Slieve Bloom Mountains are an important link in the east-to-west gradient of bogs in Ireland, and are floristically linked to the midland raised bogs north of the site. The intactness of the blanket bog here is remarkable and is echoed in few other areas in the Republic of Ireland, making this site of unique conservation value.

23.1.1997

#### **All Saints' Bog (Site Code: 000566)**

All Saints' Bog is a lowland raised bog lying about 5 km north-west of Birr and separated from the Little Brosna Callows by a fragmented esker ridge. The site is unique in that it contains the largest stand of birch woodland in the country growing on an active raised bog. Three distinct vegetation types occur. The true ombrotrophic bog is dominated by *Sphagna* species, e.g. *S. cuspidatum* in pools, *S. magellanicum* forming carpets and *S. imbricatum* forming hummocks. White Beaksedge (*Rhynchospora alba*) and Bog Asphodel (*Narthecium ossifragum*) are abundant in the wetter areas and Heather (*Calluna vulgaris*) occurs on the hummocks. The presence of Brown Beak-sedge (*Rhynchospora fusca*), a relatively rare species, and the liverwort *Pleurozia purpurea*, a western species, are notable. Approximately in the centre of the bog is an elongated flushed area with an outer non-wooded area surrounding a central wooded area. The non-wooded area is dominated by *Sphagnum recurvum* and *S. fimbriatum*, with hummocks of *S. palustre* and *S. capillifolium*. Hare's-tail Cottongrass (*Eriophorum vaginatum*) is common and Heather, Crowberry (*Empetrum nigrum*) and Cranberry (*Vaccinium oxycoccus*) are abundant. The wooded area, which covers c. 20 ha, is dominated by birch (mostly *Betula pubescens* but with a little *B. pendula*), 5 - 8m high. There are scattered pines and a shrub layer of willows (*Salix aurita* and *S. atrocinerea*), a dwarf shrub layer of Heather and Crowberry and a thick mat of mosses and lichens: *Sphagnum fimbriatum*, *S. palustre*, *Aulacomnium palustre*, *Polytrichum commune*, *Peltigera* cf. *canina* and *Cladonia portentosa*. In drier and more open areas Bracken (*Pteridium aquilinum*) is locally dominant with grasses, e.g. *Anthoxanthum odoratum* and the Field Wood-rush (*Luzula campestris*). In wetter areas Bottle Sedge (*Carex rostrata*) occurs. The rare Myxomycete fungus, *Badhamia lilacina* has been recorded from the site. The birch wood supports an interesting invertebrate fauna, with two rare species being recorded; a fly (*Dicthena bimaculata*) and a ladybird (*Hippodamia tredecimpunctata*). There is a concentration of saproxylic invertebrates in the birch woodland, which suggests that the woodland is ancient. The bog has traditionally been used as an occasional refuge for part of the Little Brosna flock of Greenland White-fronted Geese, an Annex I species of the EU Birds' Directive, although in recent years they have not been observed on the bog. An extensive area in the NE corner of the bog, representing about 20% of the bog surface, is being cut by machine, with drains running into the eastern edge of the birch woodland. This appears to be leading to the bog drying out as the surface is reported to be much drier than when first surveyed in the mid-1980s. The absence of the geese may also be indicative of drying out. To the south of the bog are the fragmented remains of an esker ridge, which may have an influence on the hydrology of the flush. It is

included in the site partly for this reason, but also for its own intrinsic value. The area south-east of Coneycarn pit is steeply sloping and unfertilised, and supports species-rich calcareous esker grassland. A large population of Green-winged Orchid (*Orchis morio*), a species listed in the Irish Red Data Book of vascular plants, occurs here. Coneycarn pit itself supports populations of one legally protected and one threatened plant species: Red Hempnettle (*Galeopsis angustifolia*) and Blue Fleabane (*Erigeron acer*), both annual species of ruderal habitats, listed in the Irish Red Data Book of vascular plants. All Saints' Bog is a unique bog, important for its vegetation types, plants, invertebrates and birds. To conserve the site peat cutting needs to stop, drains blocked and marginal dams built to raise the water table. The esker supports species-rich grassland, including rare species. They should continue to be grazed but left unfertilized. Further gravel extraction should be prevented, although some disturbance may be required to conserve the red hempnettle and blue fleabane.

18.10.1999

#### **Charleville Wood (Site Code: 000571)**

Charleville Wood is a large Oak woodland surrounded by estate parkland and agricultural grassland located about 3 km south-west of Tullamore. The site, which is underlain by deep glacial deposits, includes a small lake with a wooded island, and a stream runs along the western perimeter. The woodland is considered to be one of very few ancient woodlands remaining in Ireland, with some parts undisturbed for at least 200 years. Some 10% of the woodland has been underplanted with conifers and other exotic trees, but the rest of the area is dominated by Pedunculate Oak (*Quercus robur*). Apart from Oak, there is much Ash (*Fraxinus excelsior*) and scattered Wych Elm (*Ulmus glabra*), while Birch (*Betula* spp.) is a feature of the boggy margins. The shrub layer is composed largely of Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*) and Blackthorn (*Prunus spinosa*). The ground layer is varied, including damp flushed slopes with Ramsons (*Allium ursinum*) and drier, more open areas with a moss sward composed largely of *Rhytidiadelphus triquetrus*. The fungal flora of the woodland is notable for the presence of several rare Myxomycete species, namely *Hemitrichia calyculata*, *Perichaena depressa*, *Amaurochaete atra*, *Collaria arcyronema*, *Stemonitis nigrescens* and *Diderma deplanata*. A number of unusual insects have also been recorded in Charleville Wood, notably *Mycetobia obscura* (Diptera), a species known from only one other site in Ireland. The site is also notable for the presence of a large population of the rare snail species, *Vertigo moulinsiana*. Extensive swamps of Bulrush (*Typha latifolia*) and Bottle Sedge (*Carex rostrata*) have developed in the lake shallows. The lake is an important wildfowl habitat - it supports populations of Mute and Whooper Swan and a number of duck species, including Teal, Wigeon, Shoveler, Pochard and Tufted Duck. The wooded island at its centre is famed for its long history of non-disturbance. Hazel, Spindle (*Euonymus europaeus*) and Ivy (*Hedera helix*) reach remarkable sizes here. Charleville Wood is one of the most important ancient woodland sites in Ireland. The woodland has a varied age structure and is relatively intact with both areas of closed canopy and open areas with regenerating saplings present. The understorey and ground layers are also well represented. Old Oak woodland is a habitat listed on Annex I of the EU Habitats Directive, while the rare snail species, *Vertigo moulinsiana*, is listed on Annex II of this directive. The wetland areas, with their associated bird populations, the rare insect and Myxomycete species contribute further to the conservation significance of the site.

6.12.1999

#### **Clara Bog (Site Code: 000572)**

Clara Bog is situated some 2 km south of Clara village. Much of it is state-owned and designated a statutory Nature Reserve. Clara Bog has long been regarded as one of the most important lowland raised bogs in the country, being the largest remaining example of the true Midland sub-type. It has well developed hummock and hollow complexes and one of the few remaining soak systems. The bog vegetation has been much studied and is well known. Variations in the proportions of Bog moss (*Sphagnum* spp.), Heather (*Calluna vulgaris*) and Cottongrass (*Eriophorum* spp.) has been related to ecological features such as pools, soaks and ridges. Several rare invertebrate species are associated with the soak, including the midge, *Lasiodiamesa sphagnicola*, for which Clara Bog is its only known Irish site, a click beetle, *Ampedus pomorum* and another midge, *Parhelophilus consimilis*. The bog is also important for the rare moss, *Tetraplodon angustatus*, at its only known Irish station here. Clara Bog supports breeding Merlin (1-2 pairs), a scarce species in Ireland and one that is listed on Annex I of the EU Birds Directive. Red Grouse also breeds, along with other common bogland species such as Meadow Pipit and Skylark. To the east the transition into calcareous woodland, and to the north the transition to the esker ridge have been retained and some excellent examples of esker grassland occur in the site. Some peripheral reclaimed farmland is also included in the site, because management undertaken in these areas can have a profound effect upon the rest of the bog. The site has been divided into a western and an eastern section by a road. The eastern part of the site has been damaged by previous drainage attempts, however, restoration work is in progress. Continuing peat extraction from the southern margins is also damaging and has potential effect upon much of the internal bog, including the soak system. Ideally the whole bog should be managed as a hydrological unit. Active raised bogs, once characteristic of central Ireland, are now rare and vulnerable, and have been recognised by the European Union as a habitat of international importance. Ireland has a special responsibility to conserve the best of its remaining bogs. Further drainage, peat extraction, burning or attempted land reclamation is not consistent with this responsibility.

25.2.1999

#### **Ferbane Bog (Site Code: 000575)**

Ferbane Bog is a relatively large, domed, raised bog located about 10 km east of Shannonbridge. It is underlain by low permeability Waulsortian limestone and clayrich tills. Much of the surface of the bog is very wet and spongy and the cover of Bog Mosses (*Sphagnum* spp.) and lichens is generally good. A wet quaking area to the east occurs in a depression and is characterised by a dominant growth of Hare's-tail Cottongrass (*Eriophorum vaginatum*), while another very wet quaking area on the western side of the site has well-developed inter-connecting pools. Around these wet areas is found a slightly drier area with lawns of *Sphagnum magellanicum* and hummocks of *S. papillosum*, *S. capillifolium* and *S. imbricatum*. Carnation Sedge (*Carex panicea*) is present in abundance throughout the site, but particularly so on sloping areas. Purple Moor-grass (*Molinia caerulea*) and Bog-myrtle (*Myrica gale*) occur in scattered patches throughout the bog. Bog-rosemary (*Andromeda polifolia*) and Cranberry (*Vaccinium oxycoccos*) are also found. A flushed area occurs on the northern part of the site. Scots Pine (*Pinus sylvestris*) and Birch (*Betula* sp.) trees have encroached onto the high bog in the north, south, east and north-west. In the north and south these extend approximately 300 m into the site. An area of mixed woodland is included in the site for hydrological reasons. The vegetation of the older cutaway areas to the west, north and east of the site is dominated by Birch and Gorse (*Ulex europaeus*), with areas of Bracken (*Pteridium*)

aquilinum), Willow (*Salix* sp.), Bilberry (*Vaccinium myrtillus*), Scots Pine and Rhododendron (*Rhododendron ponticum*) also found. Raised bogs, due to the high water content of peat are vulnerable to activities which increase water loss. Drainage is extensive at the site and has caused significant drying out. Past peat-cutting and some active peat-cutting have also speeded up water loss. However, although the high bog has suffered some water loss, it is still in restorable condition. Ferbane Bog is a good example of a raised bog of a particular topographical type and is of considerable conservation significance. Raised bogs are becoming increasingly rare in Ireland and Europe and are listed as a priority habitat on Annex I of the EU Habitats Directive.

4.2.1997

#### **Fin Lough (Site Code: 000576)**

Fin Lough is a shallow limestone lake surrounded by a complex of wetland habitats, 7 km north-east of Shannonbridge in Co. Offaly. The name Fionn Loch, "White Lake", probably derives from the white colour of the lake bottom caused by marl deposits. It is a shallow lake about 16 ha. in extent (winter) bounded to the north and east by the Clonfinlough esker ridge and to the south and west by Blackwater Bog which is now largely cut over. The lake and its surrounding wetland communities are arranged in distinct zones reflecting wetness and substrate. They include open water, reedswamp, tall sedge, alkaline fen, fen-bog transition, swamp woodland and bog. The transition from calcium-rich lake to reedbed, to fen, to bog is relatively intact in some areas, which is exceptional for this part of the country. The alkaline fen, which is a habitat listed on Annex I of the EU Habitats Directive, is species-rich with characteristic plants including Black Bog-rush (*Schoenus nigricans*) and the sedge species, *Carex flacca*, *C. lepidocarpa* and *C. panicea*. The total flora of the Fin Lough wetland is remarkably rich: 210 species of vascular plants and 29 species of bryophytes have been identified to date. In addition, the site supports an extensive invertebrate fauna and is nationally important for two rare Hover-fly species (Order Diptera), *Chrysogaster macquarti* and *Platycheirus perpallidus*. The presence of the rare snail, *Vertigo geyeri*, a species listed on Annex II of the EU Habitats Directive, is of considerable conservation significance. As one of the few areas of standing water in Co. Offaly, the lake is also an important roosting area for winter bird visitors such as Mallard, Teal and Tufted Duck. Drainage works to facilitate peat milling activities adjoining the site have reduced the extent of open water in the site and large areas of the former lake basin are now overgrown by reedswamp and scrub woodland. Fin Lough remains an important site, however, because of the diversity of wetland habitats and species that it supports.

6.12.1999

#### **Mongan Bog (Site Code: 000580)**

Mongan Bog is a midland raised bog of medium size situated immediately east of the monastic site of Clonmacnoise, Co. Offaly, and 12 km south of Athlone. It is situated in a basin, surrounded on 95% of its perimeter by high ground on mineral soil. At two points in the north it shares a common boundary with the Pilgrim's Road Esker. Most of the bog is a Statutory Nature Reserve, established in 1987. The bog has been the subject of on-going intensive research since 1972. The bog has a very well-developed microtopography of hummocks, pools and lawns. A variety of vascular plants, bog mosses (*Sphagnum* spp.) and other bryophytes are found. An unusually large number of hummocks, sometimes 1m high, largely composed of the moss *Leucobryum glaucum* are widespread on the bog. Pools found on the site contain Lesser Bladderwort (*Utricularia minor*), Great Sundew (*Drosera anglica*), the liverwort *Cladopodiella fluitans* and the bog mosses *Sphagnum cuspidatum* and *S.*

*auriculatum*. The scarce Brown Beak-sedge (*Rhynchospora fusca*) is found on the site. The presence of the moss *Pleurozium scheberi* and Carnation Sedge (*Carex panicea*) indicate an oceanic influence. The bog supports a rich lichen flora, including *Cladonia portentosa*, *C. arbuscula*, *C. tenuis*, *C. floerkeana* and *C. glauca*, due, in part, to the absence of burning over much of it. Many of the lichens occur on old Heather (*Calluna vulgaris*). A small strip of cut-away bog, part of which is colonised by Willow (*Salix* spp.) and Birch (*Betula* spp.) scrub on both the north and the south side of the bog add diversity to the site. Several rare invertebrate species occur on the bog, including *Chrysops sepulchralis*, *Dixella serotina*, *Coenonympha tullia*, *Tachina grossa* and *Saturnia pavonia*. One species of spider, *Gongylidiellum latebricola*, and two species of moth, *Biselachista serricornis* and *Aristotelia ericinella*, were first recorded from Ireland from the bog. The invertebrate fauna of the pools have been shown to be highly productive. A study of the birds of Mongan Bog has shown that Mallard, Snipe, Curlew, Skylark and Meadow Pipit breed on the peat dome. In winter, the bog is occasionally used as a refuge by Greenland White-fronted Geese (up to 40 individuals). The cutaway area of bog provides habitat for a range of bird species, including birds of prey, thrushes, warblers and finches. Mongan Bog is a mostly intact and unusually wet raised bog with classic hummock and pool formations over a large proportion of the surface, largely due to its unusual surrounding topography. It has several features of special zoological interest. In addition its lowest strata are among the oldest in Ireland. Scenically it is part of an area rich in intact natural features (callows, eskers, limestone pavement) which enhances its importance even more. Raised bogs which are actively growing are a rare habitat in Europe and are listed on Annex I of the EU Habitats Directive as a priority habitat. The ongoing intensive research on all aspects of bog ecology reinforces its international importance.

10.1.1997

#### **Moyclare Bog (Site Code: 000581)**

Moyclare Bog is a small raised bog situated 4 km west of Ferbane - its mean height above sea level is 54 m. On the western edge of the bog, a low peatface with no perimeter drain lies adjacent to wet peaty pasture, which has a spring-line at its junction with mineral soil. The water from this spring disappears under the peat dome of the bog. Much of the bog surface is very wet, though not quaking, with an almost 100% cover of bog mosses (*Sphagnum* spp.) beneath a sparse cover of Heather (*Calluna vulgaris*) and abundant Deergrass (*Scirpus cespitosus*). Cranberry (*Vaccinium oxycoccos*) is especially abundant on lawns of the moss *Sphagnum magellanicum*. Numerous small pools, mostly filled with the moss *Sphagnum cuspidatum* are present. Active bog moss growth approaches unusually close to the western margin of the bog, where some trees of Scots Pine (*Pinus sylvestris*) occur. A small flushed hollow on the dome of the bog contains Soft Rush (*Juncus effusus*) and the moss *Sphagnum cuspidatum*. The bog becomes drier towards the northern boundary, especially north of an old track which traverses the dome. Fir Clubmoss (*Huperzia selago*), the rare Brown Beaked-sedge (*Rhynchospora fusca*) and the liverwort (*Pleurozia purpurea*) occur on the bog. Moyclare Bog has a largely intact and relatively wet dome with a uniformly active cover of bog mosses. It is a bog of good quality in an area where large scale harvesting of peat is on-going, and where only small bogs remain - most of those are degraded and dry. As actively growing raised bogs are a rare habitat throughout Europe, those found in Ireland have a particular scientific and conservation value.

10.1.1997

**Raheenmore Bog (Site Code: 000582)**

This raised bog developed in a small basin in the catchment of two major river systems i.e. the Brosna and the Boyne. It is situated about 5 km from Daingean. The peat is very deep, being up to 15 m in places. The bog has a well-developed hummock and hollow system. The hummocks are often colonised by the mosses *Sphagnum imbricatum* and *S. fuscum*. Pool areas support Great Sundew (*Drosera anglica*), the moss *Sphagnum cuspidatum* and the liverwort (*Cladopodiella fluitans*). In places, moss lawns of *Sphagnum magellanicum* have infilled the pools. Overall, the cover of *Sphagnum* moss on the bog is very good. Away from the dome summit, Bog Asphodel (*Narthecium ossifragum*) flats dominate the peat surface. Some sections of old cutaway bog has narrow strips of Downy Birch (*Betula pubescens*) woodland developing. Much of the rest of the cutaway is now unimproved pasture and wet grassland, rich in Rushes (*Juncus* spp.) and Purple Moorgrass (*Molinia caerulea*). Valerian (*Valeriana officinalis*), Meadowsweet (*Filipendula ulmaria*) and Brown Sedge (*Carex disticha*) can also be found in fields at the bog margins. In 1959, the very rare Rannock Rush (*Scheuchzeria palustris*), found only in its only Irish Station in a nearby bog, was transplanted to Raheenmore Bog. However, it has not been recorded recently and may be now extinct. Raheenmore Bog is within the breeding territory of a pair of Merlin, a scarce species in Ireland and one that is listed on Annex I of the EU Birds Directive. Other typical bogland birds which breed include Red Grouse and Snipe. The margins of the bog have been arterially drained in connection with the previous Boyne Drainage Scheme. This could result in desiccation of the bog. However, the majority of the bog dome is undrained and peat extraction has substantially discontinued. On the western side, mineral springs feeding the lag zone still survive. (The lag zone is the natural marginal drainage channel circumscribing the bog and receiving water from the bog and adjacent mineral soil). Although the north-eastern section suffered from burning in the past, the majority of the site is relatively unaffected by this practice at present. Raheenmore Bog is a classical example of a Midland Raised Bog and the deepest remaining in Ireland. This habitat is increasingly under threat in this country and worldwide. The site is remarkably intact and is one of the few raised bogs where restoration of the lag zone is feasible.

10.1.1997

**Sharavogue Bog (Site Code: 000585)**

Sharavogue Bog is located about 8 km south of Birr, Co. Offaly, in the Little Brosna Valley. It is situated between the River Little Brosna and a ridge of high ground of Carboniferous limestone. The eastern edge is bounded by a disused railway embankment, the western by the river. The site is underlain by low permeability limestone and limestone till. Ground water upwells at the base of the ridge on the eastern side of the site. Sharavogue Bog has a well-developed dome which is relatively long and narrow. The vegetation is dominated by White Beak-sedge (*Rhynchospora alba*), short Heather (*Calluna vulgaris*) and Bog Asphodel (*Narthecium ossifragum*) in the disturbed areas, with taller Heather and Cottongrass (*Eriophorum* spp.) in the undisturbed areas. Deergrass (*Scirpus cespitosus*) occurs commonly on the site. As a result of drainage and fire damage, the site is generally quite dry and the cover of Bog Moss (*Sphagnum* spp.) is low; the highest percent cover of Bog Moss occurs in the undisturbed areas. However, some areas do have hummocks of Bog Moss (*S. capillifolium*, *S. magellanicum*, *S. papillosum*, *S. imbricatum* and *S. fuscum*) and shallow pools filled with *S. cuspidatum*. Scots Pine (*Pinus sylvestris*), Oak (*Quercus* sp.), Birch (*Betula* sp.) and Bracken (*Pteridium aquilinum*) is encroaching onto the bog, in particular on its southern side. Small groups of Scots Pine and Birch are found on the high

bog. The vegetation of the areas of old peat-cutting is very interesting, particularly in the eastern part of the site, where a spring-fen, species-rich fen is found. Between this fen and the railway embankment Alder (*Alnus glutinosa*) carr, with some Birch and Gorse (*Ulex europaeus*) occurs. On the western side the site grades from high bog, through fringing woodland to alluvial wet grassland by the Little Brosna River. The rare, Red Data Book species, Alder Buckthorn (*Frangula alnus*) and the scarce, Brown Beak-sedge (*Rhynchospora fusca*) have been recorded from the site. Although the high bog has suffered some damage from drainage, burning and peat cutting, it is still in moderately good condition. The associated area of fen on the eastern side of the site is intact; its association with the high bog is of considerable conservation significance. Sharavogue Bog is one of the few remaining raised bogs situated on a flood plain and is a very important example of a habitat that is becoming increasingly rare in Ireland and Europe.

4.2.1997

**Ridge Road, SW of Rapemills (Site Code: 000919)**

This steep-sided twin esker ridge, formed from glacial gravels, is situated under 2 km south-west of the village of Rapemills in County Offaly. The more northerly ridge supports a road running towards the Little Brosna River. Hollows are present with deeper soils which are more nutrient-enriched, while the banks are slightly leached. The vegetation is primarily unimproved grassland in the western section and a mixture of dry unimproved esker grassland and wet grassland in the more easterly section. An important feature of this site is the presence of orchid-rich calcareous grassland, a priority Annex I habitat under the EU Habitats Directive. This vegetation supports a rich diversity of plant species and a variety of unusual plant communities. Along with several uncommon or localised plant species, this site supports a large population of Green-winged Orchid (*Orchis morio*), a Red Data Book species. Noteworthy is the presence of herb communities containing Bloody Crane's-bill (*Geranium sanguineum*), Burnet Rose (*Rosa pimpinellifolia*) and Zigzag Clover (*Trifolium medium*) in association with woody species such as Yew (*Taxus baccata*) and Buckthorn (*Rhamnus catharticus*). Other herb species present are Upright Brome (*Bromus erectus*), Dog's Mercury (*Mercurialis perennis*), Stone Bramble (*Rubus saxatilis*) and Wild Madder (*Rubia perigrina*), while shrubs such as Spindle (*Euonymus europaeus*), Crab Apple (*Malus sylvestris*) and Dwarf Cherry (*Prunus cerasus*) are also present. Some banks have mature Hazel (*Corylus avellana*) woods. The herb species mentioned are unusual in a midland, inland context. Species-rich calcareous grasslands are sensitive to agricultural improvement, e.g. fertiliser application or re-seeding. At Ridge Road, the steep esker banks have restricted the agricultural use of this site and the lands are, in general, unfertilized. The site is used for cattle grazing. Overall, grazing is a positive influence on calcareous grasslands. However, it is important that the correct level of grazing is achieved, i.e. enough to halt the spread of shrub species and to maintain the balance between scrub and species-rich grassland. Too much grazing would result in damage to the vegetation cover. Eskers are increasingly rare in Ireland - many have been destroyed as a result of gravel extraction. Although small, this site is of ecological value as a good example of species-rich calcareous grassland, rich in orchids. This habitat type is increasingly rare as a result of agricultural intensification, and is given priority status on Annex I of the EU Habitats Directive. The vegetation at Ridge Road is diverse and features a variety of unusual plant communities, as well as a large population of Green-winged Orchid.

12.10.2001



**The Long Derries (Site Code: 000925)**

The Long Derries is located approximately 5 km south-east of Edenderry and is part of a low esker ridge running from Edenderry to Rathdangan. It primarily consists of glacial gravels interspersed with loam and peat soil. The dominant habitat is dry calcareous grassland. This can be observed towards the north-western end where Carline Thistle (*Carlina vulgaris*), Marjoram (*Origanum vulgare*), Wild Thyme (*Thymus praecox*) and Cowslip (*Primula veris*) grow. An interesting feature is a number of used and unused gravel pits which are host to plants such as Mountain Everlasting (*Antennaria dioica*) and the rare Fine-leaved Sandwort (*Minuartia hybrida*) among others. In places invading Hawthorn (*Crataegus monogyna*) forms blocks of scrub interspersed with open areas of calcareous grassland, as can be viewed in the eastern section. The eastern boundary grades into peatland where calcareous runnels are interspersed with miniature peat flushes. Here calcicole plant species are mixed with calcifuge ones such as Heather (*Calluna vulgaris*), Tormontil (*Potentilla erecta*), Lousewort (*Pedicularis sylvatica*) and Devil's-bit Scabious (*Succisa pratensis*). An important aspect of this site is the presence of the rare, Red Data Book species, Blue Fleabane (*Erigeron acer*), and the legally protected (Flora Protection Order, 1987), Basil Thyme (*Acinos arvensis*) and Green-winged Orchid (*Orchis morio*). A large population of the latter species occurs in the grassland communities, including those in the transition to peatland zone. Blue Fleabane is found in grassland and gravel pits on the site, the latter habitat also supporting Basil Thyme. The summer birdlife of this area includes Sand Martin, Whinchat, Whitethroat and Cuckoo. Nightjar, a rare species listed in Annex I of the EU Birds Directive, breeds on the site. Partridge, an endangered species in Ireland and one listed in the Red Data Book, is known from the site. Badgers have setts along some of the mature hedgerows. The western section of this site is used in connection with activities connected with the harvesting of peat. The eastern section of the site is grazed by cattle and horses. Grazing is essential for the preservation of the rare orchid, but overgrazing needs to be avoided. Shooting and motorbike scrambling are other activities occurring. Although gravel extraction has helped create habitats for some plant species, this could result in excessive damage if uncontrolled. Dumping of rubbish and old railway tracks is undesirable, as is interference with Badger setts. The Long Derries is of botanical importance due to the presence of good quality dry, calcareous grassland, an interesting gravel pit flora and the presence of three rare plant species, two of which are legally protected. The presence of an interesting transition habitat from Esker to peatland, and a varied bird population, including the rare Nightjar and Partridge, adds to the site's importance.

14.1.1997

**Pilgrim's Road Esker (Site Code 001776)**

Pilgrim's Road Esker is a narrow continuous esker ridge extending 2 km east from Clonmacnoise. The site is adjacent to the River Shannon callows, to the north, and Mongan raised bog, to the south. The western area includes Bunthulla Hill (north of the road) and Hanging Hill (south of the road); the central area runs along both sides of the summit ridge before widening out eastwards to include a substantial area of esker grassland centered on the site of an old ring-fort. The site is important for orchid-rich calcareous grassland, a priority Annex I habitat under the EU Habitats Directive. The most species-rich grasslands occur on Hanging Hill, a small and very steep-sided hill of unstable calcareous soil. Plant species typical of this habitat occur in abundance, including Carline Thistle (*Carlina vulgaris*), Common Centaury (*Centaureum erythraea*) and Yellow-wort (*Blackstonia perfoliata*), with a range of Orchids, e.g. Pyramidal Orchid (*Anacamptis pyramidalis*), Fragrant Orchid

(*Gymnadenia conopsea*) and Common Spotted-orchid (*Dactylorhiza fuchsii*). The most species-rich vegetation on Bunthulla Hill occurs on the south- and south-west facing slopes, where Spring Sedge (*Carex caryophylla*) and Autumn Gentian (*Gentianella amarella*) are abundant among the closed sward. The rest of Bunthulla Hill retains elements of the original flora despite having been semiimproved by means of fertiliser application. Grassland in the central area consists of similar orchid-rich swards, also with Autumn Gentian, a species that is locally frequent in the centre of Ireland and scarce elsewhere. Wild Carrot (*Daucus carota*) also occurs here. The western extension of this central area contains a young, species-rich flora developing after recent clearance (post-1984) of hazel woodland. Two small areas of Hazel (*Corylus avellana*) woodland occur on the northern side of the central area. The site supports a large population of the rare Green-winged Orchid (*Orchis morio*), a Red Data Book species. This population is apparently the largest in Ireland - over 1,000 individuals recorded in 1991, showing the full colour range for the species. Land-use on the site is mostly grazing by cattle (also rabbits) and this helps to prevent encroachment of scrub, a potential threat to the species-rich grassland. In places to the east, where grazing is extensive, Blackthorn (*Prunus spinosa*) encroachment is evident. Lack of fertiliser application has allowed the localised species-rich flora to survive. If fertiliser application were ceased over the whole area species-richness would gradually increase throughout Pilgrim's Road Esker is the most scenically impressive esker in the Midlands and the one best known to the public. Orchid-rich grassland is a rare habitat in Ireland and is listed as a priority habitat under Annex I of the EU Habitats Directive. Furthermore the population of the rare Green-winged Orchid is the largest known in Ireland.

11.10.2001

**Lisduff Fen (Site Code: 002147)**

Lisduff Fen is situated about 4 km south-east of Birr in County Offaly. Its exact location is at the north-east quarter of Kilcolman crossroads. The site comprises a wet calcareous fen, with typical fen and marsh species such as Black Bog-rush (*Schoenus nigricans*), Common Reed (*Phragmites australis*), Fewflowered Spike Rush (*Eleocharis quinqueflora*) and Grass of Parnassia (*Parnassia palustris*). This habitat corresponds to alkaline fen, a habitat that is listed on Annex I of the EU Habitats Directive. Included as part of the fen system are areas of wet grassland, some Birch (*Betula* sp.) and Willow (*Salix* sp.) scrub, and some vegetation more akin to that of raised bog with species such as Ling Heather (*Calluna vulgaris*) and Bog Myrtle (*Myrica gale*). There is a small stand of Scots Pine (*Pinus sylvestris*) at the eastern marginal area. On the western side, the fen merges into wet grassland which has been improved to varying degrees for pasture. Of major conservation and scientific significance is the presence on the site of a population of the rare snail *Vertigo geyeri*. This species occurs in northern and central Europe, its distribution extending from Ireland in the west to the European Russian states in the east. It is probably a European endemic and is considered to be a glacial relict. Its distribution is very scattered and fragmented and most populations are fairly isolated. In particular, the Irish populations are very isolated from the main European range of the species. Throughout its entire range it is classified as being endangered, vulnerable or rare. *Vertigo geyeri* is listed on Annex II of the EU Habitats Directive. *Vertigo geyeri* is a species associated with calcareous fens, where it occurs at the base of small sedges (*Carex* spp.) and Black Bog-rush (*Schoenus nigricans*), where these are growing at the water edge. The sites are often in open, tufa-forming calcareous spring flushes with a stable water table and of mesotrophic type. A survey in 1995 confirmed the presence of the species at Lisduff. The habitat was considered to be

excellent for the species and there were no apparent threats. However, a small site such as Lisduff could easily be damaged or destroyed by drainage activities. Overall, this is an important site owing to the presence of alkaline fen, a habitat listed on Annex I of the EU Habitats Directive, and for the occurrence of *Vertigo geyeri*, a rare mollusc listed on Annex II of this directive.

18.5.1999

#### **River Barrow And River Nore (Site Code: 002162)**

This site consists of the freshwater stretches of the Barrow/Nore River catchments as far upstream as the Slieve Bloom Mountains and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. The site passes through eight counties – Offaly, Kildare, Laois, Carlow, Kilkenny, Tipperary, Wexford and Waterford. Major towns along the edge of the site include Mountmellick, Portarlinton, Monasterevin, Stradbally, Athy, Carlow, Leighlinbridge, Graignamanagh, New Ross, Inistioge, Thomastown, Callan, Bennettsbridge, Kilkenny and Durrow. The larger of the many tributaries include the Lerr, Fushoge, Mountain, Aughavau, Owenass, Boherbaun and Stradbally Rivers of the Barrow and the Delour, Dinin, Erkina, Owveg, Munster, Arrigle and King's Rivers on the Nore. Both rivers rise in the Old Red Sandstone of the Slieve Bloom Mountains before passing through a band of Carboniferous shales and sandstones. The Nore, for a large part of its course, traverses limestone plains and then Old Red Sandstone for a short stretch below Thomastown. Before joining the Barrow it runs over intrusive rocks poor in silica. The upper reaches of the Barrow also runs through limestone. The middle reaches and many of the eastern tributaries, sourced in the Blackstairs Mountains, run through Leinster Granite. The southern end, like the Nore runs over intrusive rocks poor in silica. Waterford Harbour is a deep valley excavated by glacial floodwaters when the sea level was lower than today. The coast shelves quite rapidly along much of the shore. The site is a candidate SAC selected for alluvial wet woodlands and petrifying springs, priority habitats on Annex I of the E.U. Habitats Directive. The site is also selected as a candidate SAC for old oak woodlands, floating river vegetation, estuary, tidal mudflats, *Salicornia* mudflats, Atlantic salt meadows, Mediterranean salt meadows, dry heath 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, Nore Freshwater Pearl Mussel, Crayfish, Twaite Shad, Atlantic Salmon, Otter, *Vertigo moulinsiana* and the plant Killarney Fern. Good examples of Alluvial Forest are seen at Rathsnagadan, Murphy's of the River, in Abbeylax estate and along other shorter stretches of both the tidal and freshwater elements of the site. Typical species seen include Almond Willow (*Salix triandra*), White Willow (*S. alba*), Grey Willow (*S. cinerea*), Crack Willow (*S. fragilis*), Osier (*S. viminalis*), with Iris (*Iris pseudacorus*), Hemlock Water-dropwort (*Oenanthe crocata*), Angelica (*Angelica sylvestris*), Thin-spiked Wood-sedge (*Carex strigosa*), Pendulous Sedge (*C. pendula*), Meadowsweet (*Filipendula ulmaria*), Valerian (*Valeriana officinalis*) and the Red Data Book species Nettle-leaved Bellflower (*Campanula trachelium*). Three rare invertebrates have been recorded in this habitat at Murphy's of the River. These are: *Neoascia obliqua* (Diptera: Syrphidae), *Tetanocera freyi* (Diptera: Sciomyzidae) and *Dictya umbrarum* (Diptera: Sciomyzidae). A good example of petrifying springs with tufa formations occurs at Dysart Wood along the Nore. This is a rare habitat in Ireland and one listed with priority status on Annex I of the EU Habitats Directive. These hard water springs are characterised by lime encrustations, often associated with small waterfalls. A rich bryophyte flora is typical of the habitat and two diagnostic species, *Cratoneuron*

*commutatum* var. *commutatum* and *Eucladium verticillatum*, have been recorded. The best examples of old Oak woodlands are seen in the ancient Park Hill woodland in the estate at Abbeylax; at Kyleadahir, on the Delour, Forest Wood House, Kylecorragh and Brownstown Woods on the Nore; and at Cloghristic Wood, Drummond Wood and Borris Demesne on the Barrow, though other patches occur throughout the site. Abbeylax Woods is a large tract of mixed deciduous woodland which is one of the only remaining true ancient woodlands in Ireland. Historical records show that Park Hill has been continuously wooded since the sixteenth century and has the most complete written record of any woodland in the country. It supports a variety of woodland habitats and an exceptional diversity of species including 22 native trees, 44 bryophytes and 92 lichens. It also contains eight indicator species of ancient woodlands. Park Hill is also the site of two rare plants, Nettle-leaved Bellflower and the moss *Leucodon sciurioides*. It has a typical bird fauna including Jay, Long-eared Owl and Raven. A rare invertebrate, *Mitostoma chrysomelas*, occurs in Abbeylax and only two other sites in the country. Two flies *Chrysogaster virescens* and *Hybomitra muhlfieldi* also occur. The rare *Myxomycete* fungus, *Licea minima* has been recorded from woodland at Abbeylax. Oak woodland covers parts of the valley side south of Woodstock and is well developed at Brownsford where the Nore takes several sharp bends. The steep valley side is covered by Oak (*Quercus* spp.), Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*) and Birch (*Betula pubescens*) with some Beech (*Fagus sylvatica*) and Ash (*Fraxinus excelsior*). All the trees are regenerating through a cover of Bramble (*Rubus fruticosus* agg.), Foxglove (*Digitalis purpurea*) Wood Rush (*Luzula sylvatica*) and Broad Buckler-fern (*Dryopteris dilatata*). On the steeply sloping banks of the River Nore about 5 km west of New Ross, in County Kilkenny, Kylecorragh Woods form a prominent feature in the landscape. This is an excellent example of a relatively undisturbed, relict Oak woodland with a very good tree canopy. The wood is quite damp and there is a rich and varied ground flora. At Brownstown a small, mature Oak-dominant woodland occurs on a steep slope. There is younger woodland to the north and east of it. Regeneration throughout is evident. The understorey is similar to the woods at Brownsford. The ground flora of this woodland is developed on acidic, brown earth type soil and comprises a thick carpet of Bilberry (*Vaccinium myrtillus*), Heather (*Calluna vulgaris*), Hard Fern (*Blechnum spicant*), Cowwheat (*Melampyrum* spp.) and Bracken (*Pteridium aquilinum*). Borris Demesne contains a very good example of a semi-natural broad-leaved woodland in very good condition. There is quite a high degree of natural re-generation of Oak and Ash through the woodland. At the northern end of the estate Oak species predominate. Drummond Wood, also on the Barrow, consists of three blocks of deciduous woods situated on steep slopes above the river. The deciduous trees are mostly Oak species. The woods have a well established understorey of Holly (*Ilex aquifolium*), and the herb layer is varied, with Brambles abundant. Whitebeam (*Sorbus devoniensis*) has also been recorded. 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*). Indian Balsam (*Impatiens glandulifera*), an introduced and invasive species, is abundant in places. Floating River Vegetation is well represented in the Barrow and in the many tributaries of the site. In the Barrow the species found include Water Starworts (*Callitriche* spp.), Canadian Pondweed (*Elodea canadensis*), Bulbous Rush (*Juncus bulbosus*), Milfoil (*Myriophyllum* spp.), Potamogeton

x nitens, Broad-leaved Pondweed (*P. natans*), Fennel Pondweed (*P. pectinatus*), Perfoliated Pondweed (*P. perfoliatus*) and Crowfoots (*Ranunculus* spp.). The water quality of the Barrow has improved since the vegetation survey was carried out (EPA, 1996). Dry Heath at the site occurs in pockets along the steep valley sides of the rivers especially in the Barrow Valley and along the Barrow tributaries where they occur in the foothills of the Blackstairs Mountains. The dry heath vegetation along the slopes of the river bank consists of Bracken (*Pteridium aquilinum*) and Gorse (*Ulex europaeus*) species with patches of acidic grassland vegetation. Additional typical species include Heath Bedstraw (*Galium saxatile*), Foxglove (*Digitalis purpurea*), Common Sorrel (*Rumex acetosa*) and Bent Grass (*Agrostis stolonifera*). On the steep slopes above New Ross the Red Data Book species Greater Broomrape (*Orobanchae rapum-genistae*) has been recorded. Where rocky outcrops are shown on the maps Bilberry (*Vaccinium myrtillus*) and Wood Rush (*Luzula sylvatica*) are present. At Ballyhack a small area of dry heath is interspersed with patches of lowland dry grassland. These support a number of Clover species including the legally protected Clustered Clover (*Trifolium glomeratum*) - a species known from only one other site in Ireland. This grassland community is especially well developed on the west side of the mud-capped walls by the road. On the east of the cliffs a group of rock-dwelling species occur, i.e. English Stonecrop (*Sedum anglicum*), Sheep's-bit (*Jasione montana*) and Wild Madder (*Rubia peregrina*). These rocks also support good lichen and moss assemblages with *Ramalina subfarinacea* and *Hedwigia ciliata*. Dry Heath at the site generally grades into wet woodland or wet swamp vegetation lower down the slopes on the river bank. Close to the Blackstairs Mountains, in the foothills associated with the Aughnabriskey, Aughavaud and Mountain Rivers there are small patches of wet heath dominated by Purple Moor-grass (*Molinia caerulea*) with Heather (*Calluna vulgaris*), Tormentil (*Potentilla erecta*), Carnation Sedge (*Carex panicea*) and Bell Heather (*Erica cinerea*). Saltmeadows occur at the southern section of the site in old meadows where the embankment has been breached, along the tidal stretches of in-flowing rivers below Stokestown House, in a narrow band on the channel side of Common Reed (*Phragmites*) beds and in narrow fragmented strips along the open shoreline. In the larger areas of salt meadow, notably at Carrickcloney, Ballinlaw Ferry and Rochestown on the west bank; Fisherstown, Alderton and Great Island to Dunbrody on the east bank, the Atlantic and Mediterranean sub types are generally intermixed. At the upper edge of the salt meadow in the narrow ecotonal areas bordering the grasslands where there is significant percolation of salt water, the legally protected species Borrer's Saltmarsh-grass (*Puccinellia fasciculata*) and Meadow Barley (*Hordeum secalinum*) (Flora Protection Order, 1987) are found. The very rare Divided Sedge (*Carex divisa*) is also found. Sea Rush (*Juncus maritimus*) is also present. Other plants recorded and associated with salt meadows include Sea Aster (*Aster tripolium*), Sea Thrift (*Armeria maritima*), Sea Couch (*Elymus pycnanthus*), Spear-leaved Orache (*Atriplex prostrata*), Lesser Sea-spurrey (*Spergularia marina*), Sea Arrowgrass (*Triglochin maritima*) and Sea Plantain (*Plantago maritima*). *Salicornia* and other annuals colonising mud and sand are found in the creeks of the saltmarshes and at the seaward edges of them. The habitat also occurs in small amounts on some stretches of the shore free of stones. The estuary and the other Habitats Directive Annex I habitats within it form a large component of the site. Extensive areas of intertidal flats, comprised of substrates ranging from fine, silty mud to coarse sand with pebbles/stones are present. Good quality intertidal sand and mudflats have developed on a linear shelf on the western side of Waterford Harbour, extending for over 6 km from north to south between Passage East and Creadaun Head,

and in places are over 1 km wide. The sediments are mostly firm sands, though grade into muddy sands towards the upper shore. They have a typical macro-invertebrate fauna, characterised by polychaetes and bivalves. Common species include *Arenicola marina*, *Nephtys hombergii*, *Scoloplos armiger*, *Lanice conchilega* and *Cerastoderma edule*. The western shore of the harbour is generally stony and backed by low cliffs of glacial drift. At Woodstown there is a sandy beach, now much influenced by recreation pressure and erosion. Behind it a lagoonal marsh has been impounded which runs westwards from Gaultiere Lodge along the course of a slow stream. An extensive reedbed occurs here. At the edges is a tall fen dominated by sedges (*Carex* spp.), Meadowsweet, Willowherb (*Epilobium* spp.) and rushes (*Juncus* spp.). Wet woodland also occurs. This area supports populations of typical waterbirds including Mallard, Snipe, Sedge Warbler and Water Rail. The dunes which fringe the strand at Duncannon are dominated by Marram grass (*Ammophila arenaria*) towards the sea. Other species present include Wild Sage (*Salvia verbenaca*), a rare Red Data Book species. The rocks around Duncannon ford have a rich flora of seaweeds typical of a moderately exposed shore and the cliffs themselves support a number of coastal species on ledges, including Thrift (*Armeria maritima*), Rock Samphire (*Crithmum maritimum*) and Buck's-horn Plantain (*Plantago coronopus*). Other habitats which occur throughout the site include wet grassland, marsh, reed swamp, improved grassland, arable land, quarries, coniferous plantations, deciduous woodland, scrub and ponds. Seventeen Red Data Book plant species have been recorded within the site, most in the recent past. These are Killarney Fern (*Trichomanes speciosum*), Divided Sedge (*Carex divisa*), Clustered Clover (*Trifolium glomeratum*), Basil Thyme (*Acinos arvensis*), Hemp nettle (*Galeopsis angustifolia*), Borrer's Saltmarsh Grass (*Puccinellia fasciculata*), Meadow Barley (*Hordeum secalinum*), Opposite-leaved Pondweed (*Groenlandia densa*), Autumn Crocus (*Colchicum autumnale*), Wild Sage (*Salvia verbenaca*), Nettle-leaved Bellflower (*Campanula trachelium*), Saw-wort (*Serratula tinctoria*), Bird Cherry (*Prunus padus*), Blue Fleabane (*Erigeron acer*), Fly Orchid (*Ophrys insectifera*), Broomrape (*Orobanchae hederaceae*) and Greater Broomrape (*Orobanchae rapum-genistae*). Of these the first nine are protected under the Flora Protection Order 1999. Divided Sedge (*Carex divisa*) was thought to be extinct but has been found in a few locations in the site since 1990. In addition plants which do not have a very wide distribution in the country are found in the site including Thin-spiked Wood-sedge (*Carex strigosa*), Field Garlic (*Allium oleraceum*) and Summer Snowflake (*Leucojum aestivum*). Six rare lichens, indicators of ancient woodland, are found including *Lobaria laetevirens* and *L. pulmonaria*. The rare moss *Leucodon sciurioides* also occurs. The site is very important for the presence of a number of EU Habitats Directive 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 Lamprey species - Sea (*Petromyzon marinus*), Brook (*Lampetra planeri*) and River (*Lampetra fluviatilis*), the marsh snail *Vertigo moulinsiana* and Otter (*Lutra lutra*). This is the only site in the world for the hard water form of the Pearl Mussel *M. m. durrovensis* and one of only a handful of spawning grounds in the country for Twaite Shad. The freshwater stretches of the River Nore main channel is a designated salmonid river. The Barrow/Nore is mainly a grilse fishery though spring salmon fishing is good in the vicinity of Thomastown and Inistioige on the Nore. The upper stretches of the Barrow and Nore, particularly the Owenass River, are very important for spawning. The site supports many other important animal species. Those which are listed in the Irish Red Data Book include Daubenton's Bat (*Myotis*

daubentoni), Badger (*Meles meles*), Irish Hare (*Lepus timidus hibernicus*) and Frog (*Rana temporaria*). The rare Red Data Book fish species Smelt (*Osmerus eperlanus*) occurs in estuarine stretches of the site. In addition to the Freshwater Pearl Mussel, the site also supports two other freshwater Mussel species, *Anodonta anatina* and *A. cygnea*. The site is of ornithological importance for a number of E.U. Birds Directive Annex I species including Greenland White-fronted Goose, Whooper Swan, Bewick's Swan, Bartailed Godwit, Peregrine and Kingfisher. Nationally important numbers of Golden Plover and Bar-tailed Godwit are found during the winter. Wintering flocks of migratory birds are seen in Shanahoe Marsh and the Curragh and Goul Marsh, both in Co. Laois and also along the Barrow Estuary in Waterford Harbour. There is also an extensive autumnal roosting site in the reedbeds of the Barrow Estuary used by Swallows before they leave the country. Landuse at the site consists mainly of agricultural activities – many intensive, principally grazing and silage production. Slurry is spread over much of this area. Arable crops are also grown. The spreading of slurry and fertiliser poses a threat to the water quality of the salmonid river and to the populations of Habitats Directive Annex II animal species within the site. Many of the woodlands along the rivers belong to old estates and support many non-native species. Little active woodland management occurs. Fishing is a main tourist attraction along stretches of the main rivers and their 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. There is net fishing in the estuary and a mussel bed also. Other recreational activities such as boating, golfing and walking, particularly along the Barrow towpath are also popular. There is a golf course on the banks of the Nore at Mount Juliet and GAA pitches on the banks at Inistioge and Thomastown. There are active and disused sand and gravel pits throughout the site. Several industrial developments, which discharge into the river, border the site. New Ross is an important shipping port. Shipping to and from Waterford and Belview ports also passes through the estuary. The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, overgrazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel and Rhododendron (*Rhododendron ponticum*). The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above. Good quality is dependent on controlling fertilisation of the grasslands, particularly along the Nore. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as lamprey and shad. Land reclamation also poses a threat to the salt meadows and the populations of legally protected species therein. Overall, the site is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive respectively. Furthermore it is of high conservation value for the populations of bird species that use it. The occurrence of several Red Data Book plant species including three rare plants in the salt meadows and the population of the hard water form of the Pearl Mussel which is limited to a 10 km stretch of the Nore, add further interest to this site.

16.1.2003

#### Island Fen (Site Code: 002236)

This site is located in a small valley in the foothills of the Slieve Bloom Mountains, south west of Clareen village in Co. Offaly. The geology of the area is Lower Carboniferous Limestone and the principle soil is grey brown podzolic with brown earths, gleys, basin peat and limestone gravels and sands. The site overlies an old lake bed lined with shelly marl. Generally, soil cover is thin with some rocks protruding locally. This is a relatively small but species diverse wetland site. The interest of the site lies primarily in the presence of alkaline fen and juniper scrub, both of which are listed as Annex 1 habitats under the EU Habitats Directive. Excellent specimens of upright Juniper (*Juniperus communis*) formations occur at this site, in association with species-rich calcareous grassland and heath. Some exposed limestone rocks are also present. The ground flora of the juniper scrub is a calcareous grassland/heath mosaic in which are found Heather (*Calluna vulgaris*), Purple Moorgrass (*Molinia caerulea*), Devil's-bit Scabious (*Succisa pratensis*), Carlina Thistle (*Carlina vulgaris*), Tormentil (*Potentilla erecta*), Slender St. John's Wort (*Hypericum pulchrum*), Carnation Sedge (*Carex panicea*), Lady's Bedstraw (*Galium verum*) and many orchid species. Yew (*Taxus baccata*) and Whitebeam (*Sorbus aria*) are also present. The alkaline fen vegetation occurs on the reed margins to the west and in the north of the site. Typically, Black Bog-rush (*Schoenus nigricans*) dominates with many moss species including *Calliergonella cuspidatum*, *Ctenidium molluscum* and a rich vascular flora with Purple Moor-grass, Carnation Sedge, Bottle Sedge (*Carex rostrata*), Glaucous Sedge (*C. flacca*), Devil's-bit Scabious, Tormentil and Meadow Thistle (*Cirsium dissectum*). Species such as Grass-of-parnassus (*Parnassia palustris*) and Common Butterwort (*Pinguicula vulgaris*) occur less frequently. The fen grades into reed swamp and wet marsh/swamp habitat and a small area of coppiced hazel (*Corylus avellana*) and ash (*Fraxinus excelsior*) dominated woodland occurs to the northeast of the site. Also present are occasional birch (*Betula pubescens*), oak (*Quercus* spp.) and Yew. The shrub layer here is almost non-existent, and the ground flora appears relatively poor with occasional Sheeps Sorrel (*Oxalis acetosella*), Primrose (*Primula vulgaris*), Wood Avens (*Geum urbanum*) and Herb Robert (*Geranium robertianum*). Jays are present within the woodland. Other birds regularly seen at the site include Kestrel, Raven and Herons. The Irish Hare also occurs. This is a sub-species listed under the Bern Convention and is legally protected in Ireland under the 1976 Wildlife Act. It is also a Red Data Book species listed as Internationally Important. The Frog also occurs in abundance within the site. This is a Red Data Book species listed as Internationally important and is legally protected under the 1976 Wildlife Act. It is listed in Annex V of the EU Habitats Directive. Cattle grazing is the dominant land-use at the site. Recent damage from drainage activities to the north of the site has reduced the overall scientific interest of the site but the remainder does not appear to be under threat from similar activities. In summary, the site is important for the occurrence of excellent examples of upright Juniper scrub formations, on a species rich calcareous grassland/heath, and alkaline fen, both habitats listed on Annex 1 of the EU Habitats Directive.

9.3.2000

## Natural Heritage Areas

#### River Little Brosna Callows (Site Code: 000564)

The River Little Brosna Callows NHA is located 5 km south-west of Banagher, Co. Offaly and stretches from the canal at the junction with the River Shannon, some 9 km along the River Little Brosna to a point 1 km above the new bridge on the R438 road. The site extends from both sides of the river

and is situated in the townlands of Clonahenoge, Cloghan Demesne, Gortskeha, Newtown, Clonrah and Glaster in County Offaly and the townlands of Annagh, Clongowna and Ballyoughter in Co. Tipperary. The main habitat is the extensive area of low-lying callows on the floodplains of the River Little Brosna and River Shannon. These wet meadows are subject to prolonged flooding in winter and early spring. A wide range of callow pasture is present, with the vegetation influenced by the exact flooding regime and the peat content of the soil. The raised bog habitat at Cloghan Demesne consists of a small dome of high bog with associated cutover. Four remnants of raised bog are also included on the southern side of the Little Brosna with Annagh bog, the most easterly, being the largest and most intact. Mixed deciduous woodland, east of Cloghan Demesne is included in the site. The main grassland types present are alluvial, sedge-rich, calcareous and improved grasslands. The inundated alluvial grassland is dominated by Floating Sweet-grass (*Glyceria fluitans*) with other low-growing, wetland grasses such as Creeping Bent (*Agrostis stolonifera*) and Marsh Foxtail (*Alopecurus geniculatus*). Wetland herbs such as Water Mint (*Mentha aquatica*) and Water Forget-me-not (*Myosotis scorpioides*) are frequent, and the distinction between this grassland and freshwater marsh is indistinct. Sedge-rich grasslands occur on peaty soils, with small sedges such as Yellow Sedge (*Carex demissa*), Flea Sedge (*Carex pulicaris*) and Carnation Sedge (*Carex panicea*) present. The high base status and the naturalness of this vegetation is indicated by species such as Bog Pimpernel (*Anagallis tenella*) and Meadow Thistle (*Cirsium dissectum*). Similar areas that have received more fertiliser are dominated by Soft Rush (*Juncus effusus*). Some improved agricultural pasture is included in the site and dry grassland occurs in the well-drained calcareous areas. The high bog at Cloghan Demesne is a flat uniform dome and supports characteristic raised bog vegetation and well developed hummock/ hollow complexes. A number of softer areas occur but none of these are quaking. The scarce species Brown Beaksedge (*Rhynchospora fusca*) is recorded from the site. There is a small flush to the east. Cutover surrounds all of the bog margins, and scrub encroachment has occurred to the north and north-east on old abandoned cutover. The southern boundary of the site encompasses cutover areas, now a mosaic of habitats of grassland, fen and Downy Birch (*Betula pubescens*) woodland. There are notable stands of Black Bog-rush (*Schoenus nigricans*) and Saw Sedge (*Cladium mariscus*). Cregg wood is found to the east of the raised bog at Cloghan Demesne. It is a mature mixed woodland mainly dominated by Oak (*Quercus* sp.) along with some Downy Birch and Beech (*Fagus sylvatica*). Some felling has taken place in the recent past. This site also boasts outstanding variety and quality of wet grassland and marshland. The ditches that cross the site are also an important refuge for many scarce wetland species such as Flowering Rush (*Butomus umbellatus*) and River Water-dropwort (*Oenanthe fluviatilis*). Other scarce or notable plant species on the site include Bee Orchid (*Ophrys apifera*) at Annagh bog, Pale Butterwort (*Pinguicula lusitanica*) and Oblong-leaved Sundew (*Drosera intermedia*) in the cutaway areas. The River Little Brosna Callows is an internationally important site for wintering waterfowl, being noted both for numbers and diversity of species. In the five year period 1995/96 to 1999/00, the mean peak waterfowl count (excluding gulls) was 30,223 birds (qualifying threshold for international importance is 30,000). Of particular note is the internationally important flock of Greenland White-fronted Geese based along the Brosna (though the birds also have a range of other feeding and roosting sites on grassland and bogs in the vicinity). Average peak count for the flock over the five winters 1995/96 to 1999/00 was 454. The population of Blacktailed Godwit is also of international importance, with an average maximum of 2,900 for the

same five-year period. This flock, which is the largest in the country, has exceeded 4,000 and there is also an important spring passage. A further seven species have populations of national importance. These are Whooper Swan 122, Wigeon 9,608, Teal 2,756, Pintail 130, Shoveler 164, Golden Plover 11,408 and Lapwing 2,900. The populations of Wigeon, Teal and Golden Plover are consistently among the largest in the country. Other species which have regionally important populations include Mute Swan 82, Mallard 334 and Dunlin 434, the latter species being of note as it is the largest inland population in the country. Of the species which occur regularly at this site, three (Greenland White-fronted Geese, Whooper Swan, Golden Plover) are listed on Annex I of the E.U. Birds Directive. The Brosna callows are also of importance for breeding waders. In 2002, 22 pairs of Redshank and 23 pairs of Snipe were recorded. These numbers, however, are considerably lower than in 1987 when 65 pairs of Redshank and 35 pairs of Snipe were present, along with 41 pairs of Lapwing (no Lapwing present in 2002). The globally endangered Corn Crake formerly bred on the Brosna callows, with 2 calling birds in 1993, and may still breed occasionally. Part of the site is a no shooting area, the Little Brosna Wildfowl. Current landuse on the site consists of peat-cutting at Cloghan Demesne, along all the margins of the high bog. However there are no recent drains on the high bog. Damaging activities associated with this landuse include drainage and burning. These are all activities that have resulted in loss of habitat and damage to the hydrological status of the high bog, and pose a continuing threat to its viability. The River Little Brosna Callows NHA is a site of considerable conservation significance, including as it does, a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. This bog is one of the few remaining raised bogs developed on the former floodplain of the River Shannon and its tributaries. The site supports a good diversity of raised bog microhabitats including some hummock/hollow complexes. The presence of mature deciduous woodland adds to the overall habitat diversity. The close proximity to the River Shannon increases the ecological interest and conservation value of the site. Ireland has a high proportion of the total E.U. resource of raised bog (over 50%) and so has a special responsibility for its conservation at an international level. The site is of international importance for its waterfowl and is designated a Special Protection Area under the E.U. Birds Directive. 14.11.2002

#### **Clonydonnin Bog (Site Code: 000565)**

Clonydonnin Bog NHA is located on the border of Co. Offaly and Co. Westmeath, approximately 13 km south-east of Athlone. It is situated mainly in the townlands of Esker, Laughil and Castletown. The site comprises an area of raised bog that includes both areas of high bog and cutover bog. The site consists of one dome of high bog, fringed with areas of cutover bog, scrub and low-lying agricultural land. Although the bog surface is relatively dry, the cover of bog mosses is good. However, the typical hummock/hollow topography of a raised bog is poorly-developed. The area of cutover associated with this bog is quite limited, and much of it has been reclaimed for agriculture or overgrown with scrub. This high bog is an example of a Midlands Raised Bog, with species such as Ling Heather (*Calluna vulgaris*), Cross-leaved Heath (*Erica tetralix*), Bog Asphodel (*Narthecium ossifragum*), Carnation Sedge (*Carex panicea*) and Cottongrass species (*Eriophorum* spp.). Other species found here include Cranberry (*Vaccinium oxycoccos*), Bog-rosemary (*Andromeda polifolia*) and Deergrass (*Scirpus cespitosus*). Bog mosses found on the site include *Sphagnum papillosum*, *S. capillifolium* and *S. imbricatum*; a number of lichens (*Cladonia* spp.) are also found. The cutover areas of the site are mainly dominated by Downy

Birch (*Betula pubescens*) and/or Gorse (*Ulex europaeus*) scrub, or by areas of Purple Moor-grass (*Molinia caerulea*) and Soft Rush (*Juncus effusus*). There are also areas of Bracken (*Pteridium aquilinum*) and Blackberry (*Rubus fruticosus* agg.). Current landuse on the site consists of some peat-cutting around the edge of the high bog. In the past this occurred in localised areas at the south-east, west and north-east of the bog. However, peat-cutting has decreased, and is now restricted to two areas at the north-east and south. The older areas of cutover bog have been reclaimed for agriculture (at the north-east and south-west), and scrub or rough grassland have developed on other sections. Damaging activities associated with this landuse include drainage and burning. The site appears to be subject to regular episodes of burning, with most of the surface having been subjected to burning within the past decade. A recent fire has damaged two areas of the bog at the northern side. Recurrent burning at the site is having a drying effect on the bog. These are all activities that have resulted in loss of habitat and damage to the hydrological status of the site, and pose a continuing threat to its viability. There has also been recent drainage on the high bog, involving the excavation of numerous shallow drains across the surface of the site. However, these are already infilling with vegetation and rewetting is occurring in the centre of the bog. Clonydonn Bog NHA is a site of considerable conservation significance comprising as it does a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. Ireland has a high proportion of the total E.U. resource of raised bog (over 50%) and so has a special responsibility for its conservation at an international level.

18.11.2002

#### **Black Castle Bog (Site Code: 000570)**

Black Castle Bog NHA is situated approximately 8 km north-west of Edenderry, mainly in the townlands of Clonmore, Ballyheashill and Ballymacwilliam in County Meath. The site comprises a raised bog that includes both areas of high bog and cutover bog. The north-western margins of the site are bounded by roads and those on the south-east are bounded mainly by scrub and woodland. The site consists of one crescent-shaped lobe, which is quite flat. There is an absence of permanent pools on the high bog. The raised bog is of particular interest as it is one of the most easterly remaining raised bogs in the country. The peripheral area of abandoned cutover bog has developed into a range of different habitats. Much of the high bog vegetation is typical of the Midland Raised Bog type, consisting of Ling Heather (*Calluna vulgaris*), Cross-leaved Heath (*Erica tetralix*) and White Beak-sedge (*Rhynchospora alba*). The bog moss (*Sphagnum* spp.) cover is quite high, especially in the central areas of the bog. Bog-rosemary (*Andromeda polifolia*) and Cranberry (*Vaccinium oxycoccos*) are also found on the bog, although not in abundance. A number of species of lichen (*Cladonia* spp.) are recorded from this site. There are a number of habitat types found on the cutover areas of the bog. These include areas of wet grassland dominated by Soft Rush (*Juncus effusus*), Purple Moor-grass (*Molinia caerulea*) and Yorkshire Fog (*Holcus lanatus*), areas with dense Bracken (*Pteridium aquilinum*) cover, Gorse (*Ulex europaeus*) scrub, Downy Birch (*Betula pubescens*) woodland and Ash (*Fraxinus excelsior*) dominated semi-natural woodland. Irish Hare, a Red Data Book species, has been recorded at the site. Current landuse on the site consists of peat-cutting around the edge of the high bog, and the drainage associated with this. Large portions of the bog have been burnt at regular intervals. These activities have resulted in loss of habitat and damage to the hydrological status of the site, and pose a continuing threat to its viability. Black Castle Bog NHA is a site of considerable conservation significance, comprising as it does, a raised

bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. It is especially important because of its eastern location. This site also supports a wide range of habitats, especially associated with the cutover areas. Ireland has a high proportion of the total E.U. resource of raised bog (over 50%) and so has a special responsibility for its conservation at an international level.

14.11.2002

#### **Cangort Bog (Site Code 000890)**

Cangort Bog NHA is located 1 km north of Shinrone, mostly in the townlands of Quakerstown, Kilmurryely, Cangort Demesne and Kilfra in Co. Offaly and Co. Tipperary. The site comprises a raised bog that includes both areas of high bog and cutover bog. The site is partially bounded in the south by the local road between Shinrone and Ballingarry and in the east by a tributary of the Little Brosna River. This raised bog was originally part of a larger area of bog that has now been cutover and reclaimed for forestry and agriculture. Cangort Bog has hummocks throughout most of the high bog and in places the surface of the bog is wet and spongy. There are pools on the high bog, but they are either tear pools or dominated by algae. Cutover is found all around the high bog. There is coniferous forestry on the cutover in the south of the site and deciduous woodland on cutover surrounds the remainder of the bog. Much of the high bog has vegetation typical of a Midland Raised Bog, consisting of Ling Heather (*Calluna vulgaris*), Cranberry (*Vaccinium oxycoccos*) and Bog-rosemary (*Andromeda polifolia*). Bog mosses (*Sphagnum* spp.) are found over much of the bog and hummocks of the rare bog moss species *Sphagnum imbricatum* and *S. fuscum* have been recorded, as have the more common hummock forming bog mosses *S. capillifolium* and *S. papillosum*. The tops of hummocks are completely overgrown with lichens, in particular *Cladonia portentosa*, *C. tenuis*, *C. arbuscula* and *C. uncialis*. Lichens are abundant on the bog and the fact that there are large areas of mature Ling Heather covered in epiphytic lichens suggests that the bog has not been burnt for a long time. The surface of the bog is wet and spongy in places and there are occasional carpets of the bog moss *S. magellanicum* and tracts of Bog Asphodel (*Narthecium ossifragum*). The prominence of mosses other than *Sphagnum*, such as the moss *Hypnum jutlandicum*, on this bog is one unusual feature of the vegetation recorded for this bog. The pools found between the *Sphagnum* hummocks are mostly algal with only a small quantity of the aquatic bog moss *S. cuspidatum* recorded in them. Tear pools were recorded in the south-west of the site and *S. cuspidatum* is more common in these pools. White Beak-sedge (*Rhynchospora alba*) and Bog Sedge (*Carex limosa*) were recorded in the vicinity of the tear pools. Other species of note on the bog include Great Sundew (*Drosera anglica*), Bog-myrtle (*Myrica gale*), which is quite common in the north of the site, and Carnation Sedge (*Carex panicea*) which is common throughout the bog. There is a track running across the site which has been colonised by Gorse (*Ulex* sp.) scrub and Downy Birch (*Betula pubescens*). It has been observed that there is less bog moss on the eastern side of the track. Overall the vegetation complexes on the bog were considered to be atypical and of interest for this reason. The south and south-east of the cutover has been planted with coniferous forestry and disturbingly the forestry is spreading onto the high bog. In the east of the site there is an area of mixed woodland with mature conifers inter-dispersed with Oak (*Quercus* sp.), Beech (*Fagus sylvatica*) and Horse-chestnut (*Aesculus hippocastanum*). The rest of the cutover directly bordering the high bog is surrounded by semi-natural Birch woodland. Current landuses on the site include forestry and agriculture. Coniferous forestry has been planted on the cutover in the south and south-east of the site. The only significant area of agricultural fields is in

the north of the site. Damaging activities associated with these landuses include drainage throughout the site and burning of the high bog. All these activities have resulted in the loss of habitat, damage to the hydrological status of the site, and pose a continuing threat to its viability. Cangort Bog NHA is a site of considerable conservation significance comprising as it does a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. This site supports a good diversity of raised bog microhabitats, including hummocks. Ireland has a high proportion of the total E.U. resource of raised bog (over 50%) and so has a special responsibility for its conservation at an international level.

14.11.2002

#### **Screggan Bog (Site Code: 000921)**

Screggan Bog NHA is situated approximately 7km south-west of Tullamore, mainly in the townlands of Ross and Killurin in County Offaly. The site comprises a raised bog that includes both areas of high bog and cutover bog. The Clodiagh River flows at the east of the site, and Pallas Lough bounds the site at the west, while the other margins are bounded by areas of cutover, woodland and grassland. Screggan Bog consists of three main sections divided by roads and tracks. There are areas with occasional small pools, and some poorly developed hummock/hollow systems in the largest section. Much of the bog is quite dry due to drainage and peatcutting at the margin. An unusual feature is the extensive colonisation of its southeast portion by Scots Pine (*Pinus sylvestris*). There are large areas of coniferous forestry on the cutover areas of the site, along with areas of deciduous woodland and scrub. The high bog at Screggan shows features typical of a Midland Raised Bog. The bog surface is soft and wet in places, and is largely comprised of bog mosses (*Sphagnum* spp.) including two notable hummock-forming species *S. imbricatum* and *S. fuscum*. *S. papillosum*, *S. capillifolium*, *S. tenellum*, *S. auriculatum* and *S. cuspidatum* are also found. The hummocks are colonised by Ling Heather (*Calluna vulgaris*), Hare's-tail Cottongrass (*Eriophorum vaginatum*) and Bog-rosemary (*Andromeda polifolia*). In the wet channels between hummocks Common Cottongrass (*Eriophorum angustifolium*) and White Beak-sedge (*Rhynchospora alba*) are common. Around the margin of the high bog a range of habitats which have developed on the cutover areas. Frequently, the flat cutover surface is covered by Ling Heather and Purple Moor-grass (*Molinia caerulea*). In some places it has been colonised by Downy Birch (*Betula pubescens*), Scot's Pine (*Pinus sylvestris*) and Rowan (*Sorbus aucuparia*). The understorey often contains Hawthorn (*Crataegus monogyna*), Bilberry (*Vaccinium myrtillus*) and Bramble (*Rubus fruticosus* agg.), amongst others. There are areas of grassland with species such as Soft Rush (*Juncus effusus*), Nettle (*Urtica dioica*), Creeping Buttercup (*Ranunculus repens*) and Meadowsweet (*Filipendula ulmaria*). At the western end of the site there is a flooded area with species-rich marsh vegetation. Plants recorded here include rushes (*Juncus* spp.), Bogbean (*Menyanthes trifoliata*), Marsh Marigold (*Caltha palustris*), Wild Angelica (*Angelica sylvestris*), and Water Mint (*Mentha aquatica*). There are also some plants here which are indicative of fen conditions, namely Great Fen-sedge (*Cladium mariscus*) and Bogmyrtle (*Myrica gale*). At the eastern edge of the site there are areas of woodland, the easternmost being a satellite of the main Screggan Bog site. These woodlands consist of commercial conifer plantations surrounded by an area of scrub woodland containing several plant species of high scientific interest, notably two Red Data Book species, Alder Buckthorn (*Frangula alnus*) and Bird Cherry (*Prunus padus*). There is also an excellent diversity of other native trees and shrubs occurring including Pedunculate Oak (*Quercus robur*), Irish Whitebeam (*Sorbus*

*hibernica*), willows (*Salix* spp.), Yew (*Taxus baccata*), Alder (*Alnus glutinosa*), Blackthorn (*Prunus spinosa*), Hazel (*Corylus avellana*) and Gorse (*Ulex europaeus*). Current landuse on the site consists of peat-cutting around much of the eastern edge of the high bog, and the drainage associated with this. Large portions of the bog have been severely burnt in the past. Significant areas of cutover bog have been drained, cleared and reclaimed for agricultural purposes. There are also considerable amounts of coniferous forestry on the cutover at the north-east of the site. These activities have resulted in loss of habitat and damage to the hydrological status of the site, and pose a continuing threat to its viability. Screggan Bog NHA is a site of considerable conservation significance comprising as it does a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. Ireland has a high proportion of the total E.U. resource of raised bog (over 50%) and so has a special responsibility for its conservation at an international level.

14.11.02

#### **Daingean Bog (Site Code: 002033)**

Daingean Bog NHA is located approximately 3 km south-west of Daingean in the townlands of Knockballyboy, Townparks and Clonad in eastern Co. Offaly. The site comprises a raised bog that includes both areas of high bog and cutover bog. The northern and southern margins of the site are bounded by roads, and agricultural fields form most of the boundaries at the east and west of the site. The site consists of two main lobes. The northern lobe is much larger than the southern one and forms the majority of the high bog in the site. The lobes are separated by a drain running through a narrow, low-lying section between them. The cutover areas surrounding the site have, for the most part, been reclaimed for agriculture. The bog is of particular interest as it is one of the most easterly remaining raised bogs in the country. Much of the high bog vegetation is typical of the Midland Raised Bog type, consisting of Ling Heather (*Calluna vulgaris*), Cross-leaved Heath (*Erica tetralix*), White Beaksedge (*Rhynchospora alba*) and bog mosses (*Sphagnum* spp.). Other plants include Bog-myrtle (*Myrica gale*), Bog Asphodel (*Narthecium ossifragum*), Bog-rosemary (*Andromeda polifolia*) and Deergrass (*Scirpus cespitosus*). The bog moss cover is low and consists mainly of species such as *Sphagnum capillifolium* and *S. papillosum*. On the cutover, some areas have been colonised by Gorse (*Ulex* spp.) and Birch (*Betula pubescens*). The Common Spotted-orchid (*Dactylorhiza fuchsii*) can be found beside some pools on the cutover. These pools are vegetated by Bogbean (*Menyanthes trifoliata*), Bottle Sedge (*Carex rostrata*) and the bog moss *Sphagnum papillosum*. The drained low-lying section of the southern lobe is dominated by Gorse and Willow (*Salix* spp.), with a ground flora including Purple Moor-grass (*Molinia caerulea*), Bramble (*Rubus fruticosus* agg.), Bog-myrtle (*Myrica gale*), Silverweed (*Potentilla anserina*), Meadowsweet (*Filipendula ulmaria*) and Yorkshire-fog (*Holcus lanatus*). The site is host to a population of Irish Hare, a species listed in the Irish Red Data Book. Current landuse on the site consists of a small coniferous plantation on cutover at the south-easterly margin of the high bog. Most of the cutover areas around the bog have been reclaimed for agriculture. Drainage associated with these activities and with old areas of peat-cutting, are severely drying out the bog, and have resulted in loss of habitat and damage to the hydrological status of the site, and pose a continuing threat to its viability. Daingean Bog NHA is a site of considerable conservation significance comprising as it does a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. It is especially important because of its eastern location, at the extreme of the range of raised bogs in Ireland. Ireland has a high proportion of

the total E.U. resource of raised bog (over 50%) and so has a special responsibility for its conservation at an international level.  
14.11.2002

**Hawkswood Bog (Site Code: 002355)**

Hawkswood bog is located 5 km south of Tullamore, in the townlands of Hawkswood and Derrybeg, Co. Offaly. The site comprises a raised bog that includes both areas of high bog and cutover bog and adjoins Clonard Wood NHA (574) to the west. It can be accessed from the local road to the south of the site. This raised bog is at the southern extreme of the range of raised bogs in Ireland and is in close proximity to Scraggan Bog NHA (921) and Pallis Lough NHA (916). The high bog has pools present and is still wet and quaking in places with very little drainage and no forestry. The wet areas occur in depressions on the high bog, causing re-wetting of the bog surface. Cutover is found all around the high bog margins. There are esker ridges with broadleaved woodland to the south and north of the site. Much of the high bog has vegetation typical of a Midland Raised Bog, dominated by abundant White Beak-sedge (*Rhynchospora alba*) with Cross-leaved Heath (*Erica tetralix*), Hare's-tail Cottongrass (*Eriophorum vaginatum*), Ling Heather (*Calluna vulgaris*), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*). There are some wet algal hollows present. Hummocks of the bog mosses *Sphagnum papillosum*, *S. magellanicum* and *S. subnitens* occur and Bog-rosemary (*Andromeda polifolia*) is also present. The abundance of *Rhynchospora* may be an indication of lowering water levels and recent burning. This is also indicated by the presence of Bog Asphodel hollows and small Ling Heather, which is slower to recover from fire than Cross-leaved Heath and so is not as dominant. Lichens (*Cladonia* spp.) are scarce on the bog due to this burning. Some small scattered hummocks of the bog moss *S. imbricatum* with the liverwort *Odontoschisma sphagni* are regenerating. There are some good pools with *Sphagnum cuspidatum* but these are becoming algal. Dead, burnt hummocks are being colonised by the moss *Campylopus introflexus*. Towards the centre of the high bog there are larger hummocks (2 m in diameter) of the bog moss *S. imbricatum* overgrown with Cross-leaved Heath. An old burn-line is present on the high bog to the east of the site. The eastern high bog has recovered from an older burn with dead hummocks still present. Ling Heather and Cottongrasses dominate with Lichens, abundant Bog Asphodel and Carnation Sedge (*Carex panicea*) locally abundant. The lichen (*Cladonia fleurkiana*) is also present, which along with the moss *Campylopus introflexus* is indicative of burning. There are very few living bog moss hummocks. White Beak-sedge is also locally abundant. To the north of the high bog, there is a very wet area with frequent pools. These are mostly algal, but some are filled with bog moss (*S. cuspidatum*). Between the pools White Beak-sedge, Cross-leaved Heath, Cottongrasses and Ling Heather dominate. This area is very wet and slightly quaking with extensive lawns of the bog moss *S. magellanicum*. There is also abundant Bog-rosemary present. There is a lot of surface water present. This area adjoins a wet flush of Common Reed (*Phragmites australis*) with Cottongrasses and Ling Heather present. There is some Birch (*Betula* spp) and Scots Pine (*Pinus sylvestris*) encroaching on the high bog. This area is slightly quaking with White Beak-sedge hollows. There is abundant bog moss *S. cuspidatum* along with the moss *Polytrichum commune*. There are few hummocks here but extensive *Sphagnum* lawns. This flush of Common Reed and Birch is probably occurring on shallow peat. Old peat-cutting to the north is dominated by Bracken and Gorse. A small area of reclaimed grassland occurs between the high bog and the wooded esker ridge to the south. This ridge has mature woodland of Oak (*Quercus* spp.) and Beech (*Fagus sylvatica*). A smaller ridge with

woodland (Hawkswood) occurs to the north of the site. Numerous Snipe have been recorded on the bog. Current landuses on the site include peat-cutting, agriculture and forestry. There appears to be very little peat-cutting, with only limited domestic peat-cutting to the south and south-west, but otherwise there is little damaging operations. Damaging activities associated with these landuses include burning of the high bog and drainage at the bog margins. These activities have resulted in the loss of habitat, damage to the hydrological status of the site, and pose a continuing threat to its viability. Hawkswood Bog NHA is a site of considerable conservation significance comprising as it does a raised bog, a rare habitat in the E.U. and one that is becoming increasingly scarce and under threat in Ireland. This site supports a good diversity of raised bog microhabitats, including hummocks, lawns and pools. Its southern location adds further interest. Ireland has a high proportion of the total E.U. resource of raised bog (over 50%) and so has a special responsibility for its conservation at an international level.  
20.11.2002