

# ENVIRONMENTAL REPORT

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OF THE

## DÚN LAOGHAIRE-RATHDOWN COUNTY DEVELOPMENT PLAN 2010-2016

### STRATEGIC ENVIRONMENTAL ASSESSMENT



**for: Dún Laoghaire-Rathdown County Council**

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## List of Abbreviations

<b>CDP</b>	County Development Plan
<b>CSO</b>	Central Statistics Office
<b>DEHLG</b>	Department of the Environment, Heritage and Local Government
<b>EIA</b>	Environmental Impact Assessment
<b>EPA</b>	Environmental Protection Agency
<b>EU</b>	European Union
<b>GSI</b>	Geological Survey of Ireland
<b>NHA</b>	Natural Heritage Area
<b>NIAH</b>	National Inventory of Architectural Heritage
<b>NSS</b>	National Spatial Strategy
<b>RBD</b>	River Basin District
<b>RMP</b>	Record of Monuments and Places
<b>RPS</b>	Record of Protected Structures
<b>SAC</b>	Special Area of Conservation
<b>SEA</b>	Strategic Environmental Assessment
<b>SEO</b>	Strategic Environmental Objective
<b>SI No.</b>	Statutory Instrument Number
<b>SPA</b>	Special Protection Area
<b>WFD</b>	Water Framework Directive

# Glossary

## Biodiversity and Flora and Fauna

Biodiversity is the variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems' (United Nations Convention on Biological Diversity 1992).

Flora is all of the plants found in a given area.

Fauna is all of the animals found in a given area.

## 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**

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 regional policies which generally govern environmental protection objectives and against which the environmental effects of the County Development Plan can be tested. The SEOs are used as standards against which the objectives of the County Development Plan can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if not mitigated.



## Preamble

The Plan which is accompanied by this Environmental Report needs to be read in the context of other relevant plans and policies for the area. It is important to understand that the control and care of the environment falls within the jurisdiction of a very wide range of departments and agencies. Within more rural areas and coastal areas, for instance, major land-uses can be significantly regulated by Departments dealing with agriculture, forestry, the marine or energy - all of which have separate specialist approval and evaluation procedures that protect environmental resources. Similarly, it is important to note that other agencies make plans for the development of road, rail and energy infrastructure which must be accommodated by county and local plans. Such agencies are responsible for the separate environmental assessment of the adoption of these plans.

### Planning

Land use plans are seek to ensure, inter alia, the arrangement of landuses to avoid conflicts and to protect amenities. Such plans exist as a series of layers that range from broad national policies – that have little spatial specificity - through regional, county, town and local area plans. Each level of planning is subject to separate levels of assessment.

### Environment

There are significant bodies of legislation that regulate how environmental resources are to be cared for. These exist and are implemented without local discretion. Areas covered by such regulations include the quality of air and water (surface, ground, drinking, marine and bathing waters), River Basin Districts, protection of ecological resources (habitats, species) and protection of archaeology and national monuments.

# Section 1 SEA Introduction and Background

## 1.1 Introduction and Terms of Reference

This is the Environmental Report of the Dún Laoghaire-Rathdown County Development Plan 2010-2016 Strategic Environmental Assessment (SEA). 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 Dún Laoghaire-Rathdown.

The SEA is 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.

The kind of development that occurs in Dún Laoghaire-Rathdown and where it occurs will be significantly determined by the implementation of a CDP. 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 the County - the scope of lower tier SEAs which may be required are likely to be reduced; the scope of any EIAs which may be required as part of any planning applications are also likely to be reduced; and, planning applications are more likely to be granted permission.

## 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 Dún Laoghaire-Rathdown County Council and the Elected Members

The above legislation requires certain plans and programmes which are prepared by Dún Laoghaire-Rathdown County Council - including the CDP - 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 started in September

2008 and this report has been produced in April 2010.

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

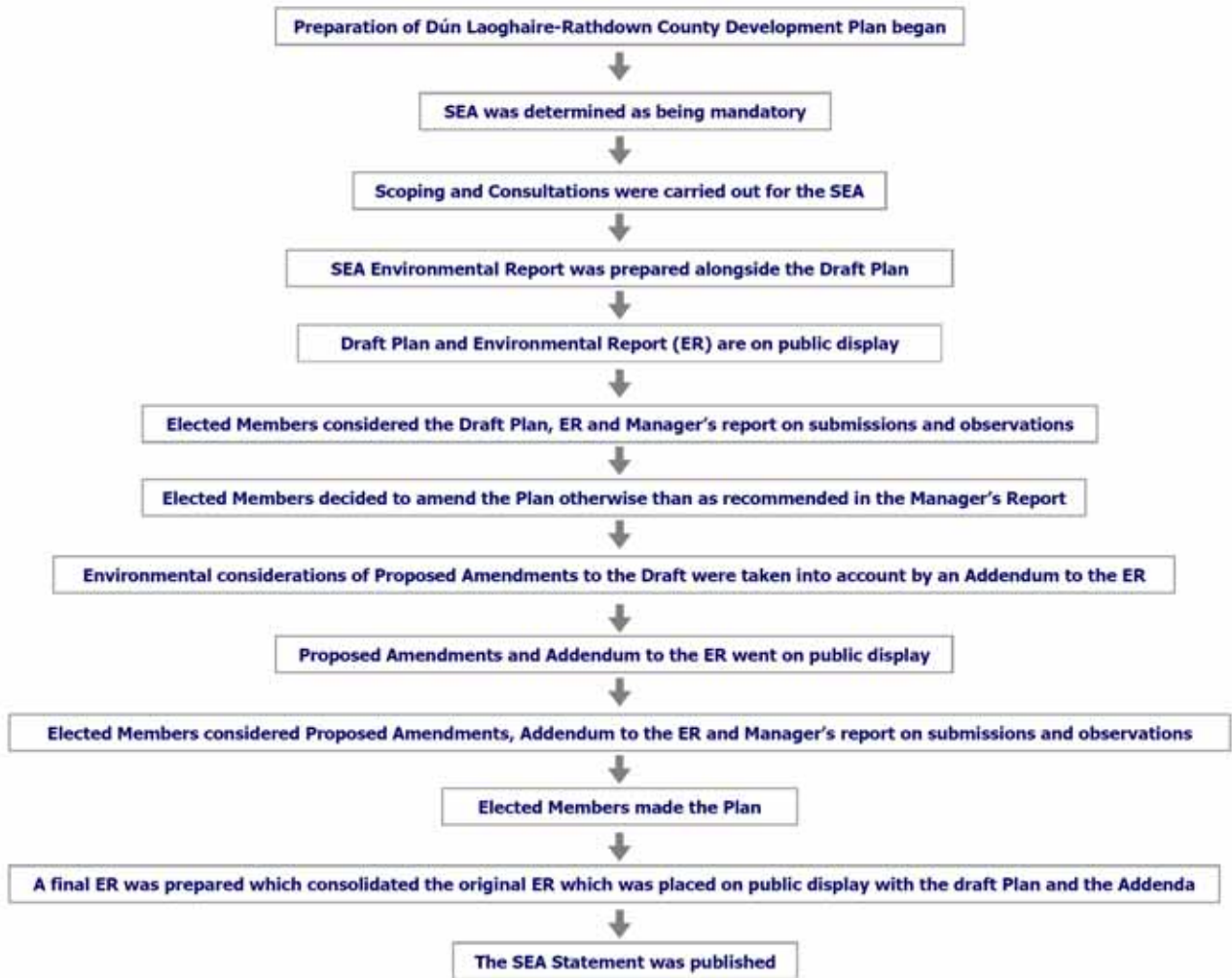


Figure 2.1 County Development Plan and SEA Stages

### 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

<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

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.

Consultations were held with: the Environmental Protection Agency (EPA); the Department of the Environment, Heritage and Local Government (DEHLG); the Department of Communications, Energy and Natural Resources; and, the Department of Transport. In addition, Dún Laoghaire-Rathdown County Council's intention to carry out SEA as part of the review of the CDP was identified during the consultation process on the preparation of the new CDP.

The most important strategic environmental issues in Dún Laoghaire-Rathdown were identified as follows:

- The compliance of all water bodies within the County with the objectives of the Water Framework Directive - the groundwater bodies and surface water bodies and catchments which are at most risk are those which likely to come under the most pressure as a result of development. Compliance with the Water Framework Directive will contribute to the protection of drinking water resources and consequently human health.
- Compliance with the objectives of the Habitats Directive; most of the pressure upon designated habitats as a result of

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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.

development is likely to occur in coastal areas and the Uplands where infringement could occur if unmitigated.

- The protection of valuable landscapes and views; housing has the potential to threaten some of these however wind energy development in the west of the County is the greatest threat.
- The prevention of flooding.
- The protection of cultural heritage, architectural and archaeological.

The findings of the SEA were communicated to the plan making team at Dún Laoghaire-Rathdown County Council on an ongoing basis from the outset in order to allow for their integration into the CDP thus minimising 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 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 Dún Laoghaire-Rathdown, 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 Dún Laoghaire-Rathdown 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 CDP, the likely environmental effects of the Plan and the alternatives were predicted and their significance evaluated with regard to the environmental baseline. The Environmental Report provided the decision-makers, the Elected Members of Dún Laoghaire-Rathdown County Council, who decided what type of Plan to adopt, with a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of growth in Dún Laoghaire-Rathdown. Mitigation measures to prevent or reduce significant adverse effects posed by the CDP, or to maximise any benefits arising, were proposed and integrated into the Plan. The alternatives are also presented in this report, as are measures concerning monitoring.

The Environmental Report had to be altered in order to address amendments which were made to the Draft Plan which was placed on public display and in order to make updates which resulted from the information and advice contained in submissions which were made on the Draft Plan, the Environmental Report, Proposed Amendments to the Draft Plan and Addendum II to the Environmental Report (which identified the environmental consequences of the Proposed Amendments).

## 2.6 The SEA Statement

On adoption of the CDP, an SEA Statement was published which includes information on: how environmental considerations have been integrated into the Dún Laoghaire-Rathdown CDP - highlighting the main changes to the Plan which resulted from the SEA process; how the Environmental Report and consultations have been taken into account - summarising the key issues raised in consultations and in the Environmental Report indicating what action, if any, was taken in response; and the reasons for choosing the CDP in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the CDP was selected.

## 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 (DEHLG, 2004)<sup>2</sup> and includes the relevant sections of this report which deal with these requirements.

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<sup>2</sup> DEHLG (2004) *Implementation of SEA Directive (2001/42/EC): Guidelines for Regional Authorities and Planning Authorities* Dublin: Government of Ireland.

<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, 6, 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, 6 and 7
(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**

## 2.8 Difficulties Encountered

### 2.8.1 Site Synopses

No Site Synopsis was available for Fitzsimon's Wood proposed Natural Heritage Area, Site Code: 001753 from the National Parks and Wildlife Service (NPWS).

Assessment dates for the following sites were not supplied on the Site Synopses and were not available from NPWS: Ballybetagh Bog pNHA, (Site Code: 001202), Dingle Glen pNHA (Site Code: 001207) and Loughlinstown Woods pNHA (Site Code: 001211).

### 2.8.2 Flood Mapping

The River Catchment Study for the Carrickmines/Shanganagh River Catchment identified predicted floodplains and vulnerable areas. These areas were not available in a mapped format.

The River Dodder Catchment Flood Risk Assessment and Management Study will produce flood hazard and risk maps for the Dodder Catchment, these maps will not be available until April May/June.

### 2.8.3 Ramsar Site Boundary

The exact boundaries of the Ramsar designation were unavailable from the Ramsar Sites Information Service however they are likely to be similar to those of Sandymount Strand/Tolka Estuary SPA which is included in Section 3.

### 2.8.4 Aquifer Vulnerability

The Geological Survey of Ireland has only carried out an interim study of the groundwater vulnerability in the Plan area. This gives a general high to low classification.

### 2.8.5 Rising Sea Levels

The EPA's 'Climate Change: Scenarios and Impacts for Ireland' (2003)<sup>[1]</sup> provided maps

showing coastal areas, including those around Dún Laoghaire-Rathdown, at risk due to rising sea levels.

The maps presented in the publication were not of sufficient quality to use in this report and the GIS layers used to create the maps were not available from either the EPA or the authors of the report.

It is noted however, the maps identify that rising sea levels could place certain areas of land bordering the Plan area at risk.

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<sup>[1]</sup> Department of Geography, National University of Ireland, Maynooth (2003) *Environmental RTDI Programme 2000-2006 Climate Change: Scenarios*

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*and Impacts for Ireland (2000-LS-5.2.1-M1) Final Report* Wexford: Environmental Protection Agency



## Section 3 Dún Laoghaire-Rathdown's Baseline Environment

### 3.1 Introduction<sup>3</sup>

The environmental baseline of Dún Laoghaire-Rathdown 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 Development Plan 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 Development Plan.

It is the administrative area of Dún Laoghaire-Rathdown County Council which the Plan covers comprises 125.8 km<sup>2</sup>, the smallest administrative County area in the country. The longest east-west distance of the County is 14.8 kilometres and the longest north-south distance is 14.6 kilometres.

The administrative area of Wicklow County Council lies to the south of the County while the administrative areas of Dublin City Council and South Dublin County Council lie to the north and west of the County respectively.

The southern boundary of the County is guided by the Wicklow County boundary. The eastern and most of the northern boundary are confined by the sea. The remainder of the northern boundary is guided by the River Dodder to the north-west and by various field boundaries to the north-east. The Owendoher River and

various field boundaries define the western boundary.

The County consists of extensive suburbs with embedded towns and villages, agricultural lands and upland areas of outstanding natural beauty. Approximately 54% of the County is urban and 46% can be described as rural.

Land uses within the northern half of Dún Laoghaire-Rathdown mainly comprise residential, commercial and industrial uses while land uses in the southern half agricultural uses.

Other than the urban landscape of County there is a significant coastal landscape and seascape - with 17 kilometres of coastline stretching along the north and east of the County - and a significant upland landscapes which comprises the Dublin Mountains and their foothills - the Mountains rise in excess of 500m in places such as Two Rock, Glendoo and Glencullen.

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<sup>3</sup> Text in this section is sourced from the Draft Dún Laoghaire-Rathdown County Development Plan 2010-2016

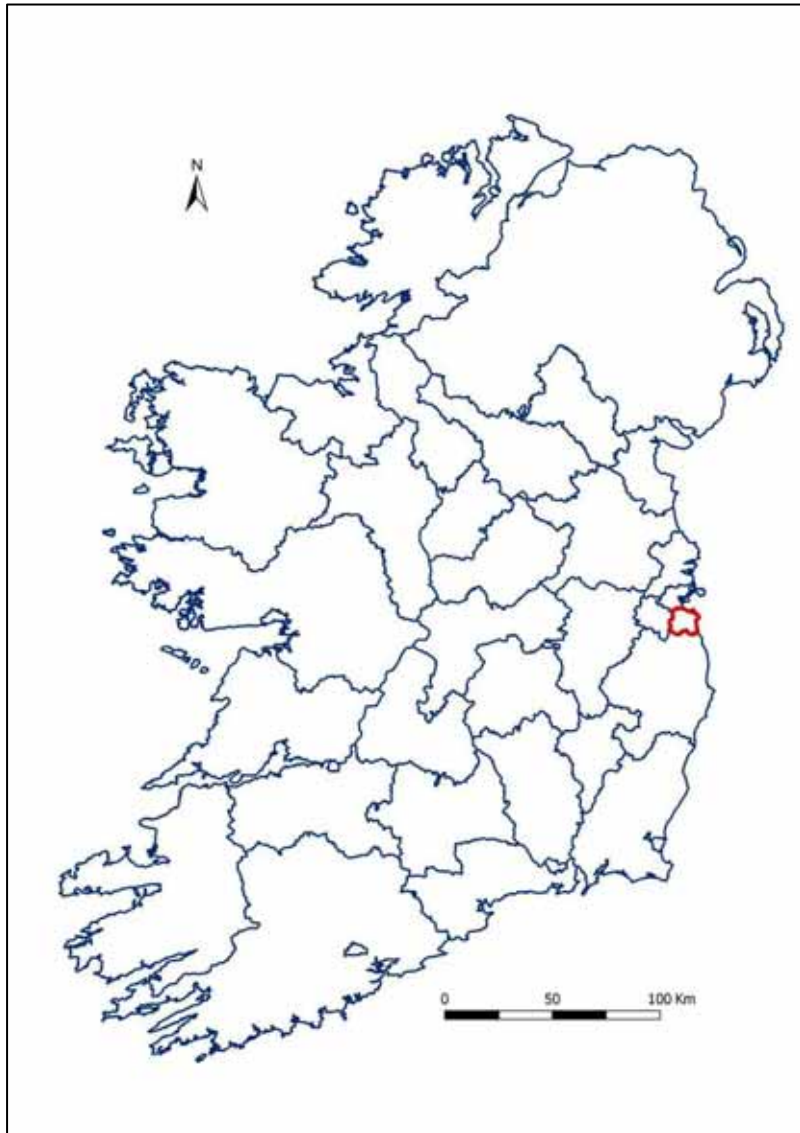


Figure 3.1 Context of Plan area in relation to the island of Ireland

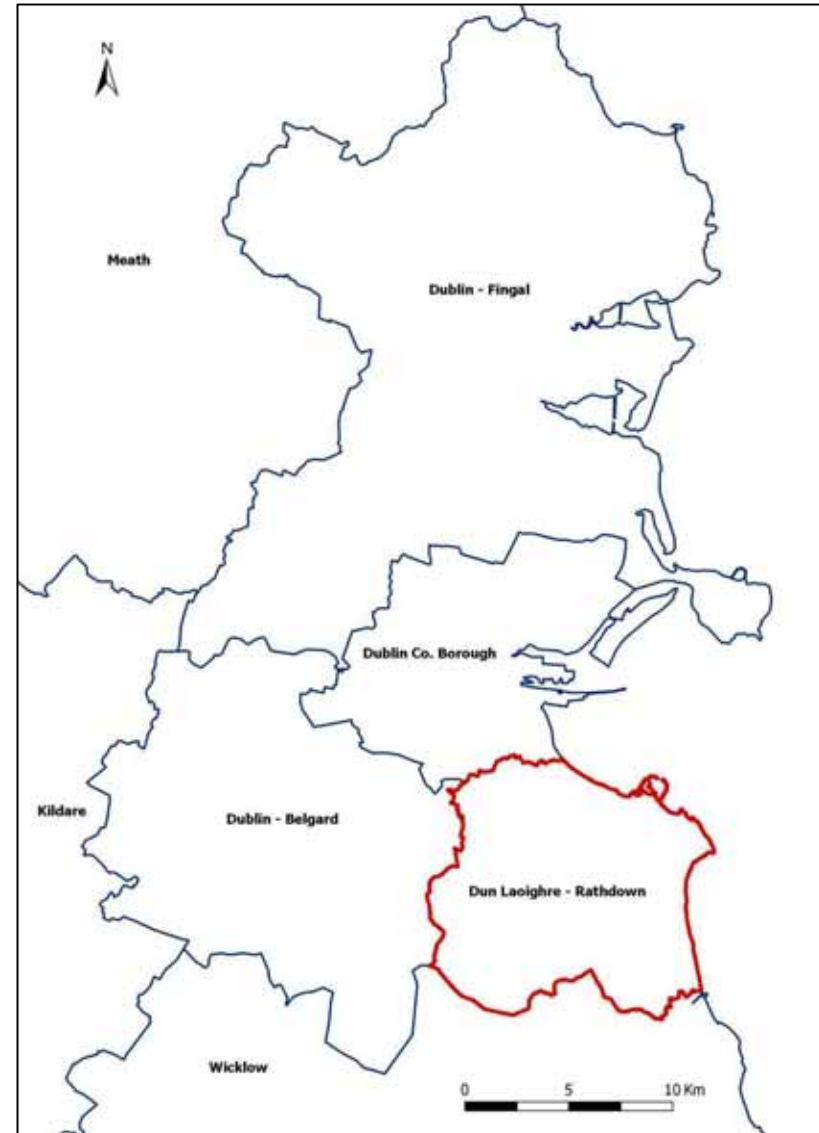


Figure 3.2 Context of the Plan area in relation to County Dublin and surrounding region





Figure 3.3 Ordnance Survey map of the Plan area

## 3.2 Biodiversity and Flora and Fauna<sup>4</sup>

### 3.2.1 Overview of the Habitats

#### 3.2.1.1 Introduction

Dún Laoghaire-Rathdown supports a wide diversity of natural and semi-natural habitats and a wide range of plant and animal species, which have come under threat due to development pressures and increased demand for new development land.

Green space, which makes up a large part of the southern portion of the County, consists of a variety of habitats including corridors which provide for the movement of wildlife. Green space within Dún Laoghaire-Rathdown is comprised of agricultural lands, bogs and heath in the uplands, woodlands, grasslands and a number of open spaces in residential areas. There are also a number of large parks within the County including Marlay Park in Rathfarnham, Deerpark in Mount Merrion, Cabinteely Park in Cabinteely and Shanganagh Park in Shankill.

The Loughlinstown River, with tributaries such as the Shanganagh River and the Cabinteely, Ballyogan and the Glenamuck Streams, forms the largest catchment in Dún Laoghaire-Rathdown. The southernmost branch of the River, also known as Brides Glen stream, is particularly rich in biodiversity. Trout, otter, and bats occur in the river while kingfisher may be present along sections of the stream. Other rivers supporting good areas of biodiversity include the Little Dargle which rises in Three Rock Mountain and flows through Marlay Park and the Glencullen River, which drains the uplands around Glendoo and Glencullen Mountains before crossing the county boundary into County Wicklow.

The Counties coastline, including areas such as South Dublin Bay and the Dalky Coastal Zone, provides a number of habitats for a variety of species. The Shanganagh Coastline represents a

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<sup>4</sup> Text in this section is sourced from the Draft County Biodiversity Action Plan for Dún Laoghaire-Rathdown which an overview of the County's biodiversity [Dún Laoghaire-Rathdown (2008) *Draft County Biodiversity Action Plan for Dún Laoghaire-Rathdown* Dublin: Dún Laoghaire-Rathdown County Council].

long stretch of the Killiney Bay shoreline, extending from Ballybrack to Bray in Wicklow. The area is important particularly for its sedimentary cliffs, displaying clear geological time sequences through the quaternary period. The shoreline also has an example of a drowned forest, visible in the sand only at extreme low tide.

The upland areas around Three Rock and Two Rock Mountains are valuable for their heath habitats and their exposed rocky outcrops. Red grouse, an upland bird species thought to be in decline across the Country, occurs in this area.

Man-made habitats within the Plan area are also important biodiversity areas. Gardens provide habitats for a range of wildlife including various bird species, invertebrates, such as bees and butterflies and mammals, such as hedgehogs, mice, rats and foxes. These species move around between gardens using hedgerows and vegetated areas. These urban green spaces, however small, are therefore of importance as they form part of a network of green spaces across the Plan area including gardens, parks, graveyards, amenity walks, railway lines and patches of woodland and scrub within which animals and plants continue to thrive.

A Biodiversity Plan for Dún Laoghaire-Rathdown has been carried out. The Plan identifies areas which are important for biodiversity, threats posed to these areas and lists of targets for the County's biodiversity.

#### 3.2.1.2 Habitat Mapping Survey<sup>5</sup>

White Young Green Environmental was commissioned by Dún Laoghaire-Rathdown County Council to prepare a habitat map of the County based on existing GIS data and a ground survey. On a county level, buildings and built land is identified as being the largest habitat group covering approximately 43% of the county area. Cultivated land, including agriculture was the second largest group type covering approximately 24% of the County. Semi-natural natural habitats covered approximately 17% non-native and disturbed ground covering 17%. Farming and urban dwellings, which are identified as being the main land use and land management activity in the

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<sup>5</sup> White Young Green (2007) *Habitat Mapping Survey for Dún Laoghaire-Rathdown County Council*, Dún Laoghaire-Rathdown County Council



area, exerts a major influence upon the local ecology and landscape character.

The Habitat Mapping Survey was undertaken in accordance with the classification scheme identified in Fossitt (2000)<sup>6</sup>. This classification scheme covers natural, semi-natural and artificial habitats of terrestrial, freshwater and marine environments and of rural and urban areas. Habitat categories are arranged within a series of ordered groupings to produce a hierarchical framework that operates on three levels. The scheme identifies 11 broad habitat groups (Level 1), 30 habitat subgroups (Level 2), and 117 separate habitats (Level 3).

Surveys to Level 2 and Level 3 can be seen on Figure 3.4 and Figure 3.5 respectively. Analysis of survey data revealed a total of 36 terrestrial habitats recorded from the southern survey area in accordance with Level 3 of Fossitt (2000).

### 3.2.1.3 Areas of High Ecological Value

Three areas which include a number of high diversity habitats were identified in the Habitat Mapping Survey. These areas are listed and briefly described below.

#### 1. Upland Region to the South East of the County.

This area, which begins at the Glendoo Mountains, is an upland area with a wide variety of habitat types including upland blanket bog, wet heath, dry siliceous heath, conifer plantation, dense bracken, and pockets of dry humid acid grassland.

#### 2. Woodland Area to the South East of the County

Located in the south eastern area of the county, this area includes Ballyman Glen SAC which contains a variety of habitats including habitats listed on Annex I of the Habitats Directive such as alkaline fen and petrifying springs.

#### 3. Kiltiernan / Loughlinstown Area

This area is located to the east of Kiltiernan and is surrounded by an area dominated by agricultural grassland lies a large pocket of dry meadows and grassy verges. This habitat is particularly rich in species diversity. Enhancing

<sup>6</sup> Fossitt, J.A. (2000) *A Guide to Habitats in Ireland* Dublin: The Heritage Council

the ecological value of the area is a large strip of wet grassland, mixed broadleaved woodland, wet pendulate oak-ash-hazel woodland and riparian woodland.

### 3.2.1.4 CORINE Land Cover Mapping<sup>7</sup>

The CORINE land cover mapping<sup>8</sup> for Dún Laoghaire-Rathdown for the year 2000 which classifies land cover under various headings indicates that land uses within the north and east of the Plan area comprise *Discontinuous Urban Fabric* with small sections of *Green Urban Areas* and *Sport and Leisure Facilities*. Lands in the south and west of the Plan area are indicated as comprising mainly agricultural uses such as *Pastures*, *Agricultural with Natural Vegetation*, *Non-Irrigated Arable Land*, *Complex Cultivation Patterns* as well as *Mixed and Coniferous Forests*, *Peat Bogs* and *Transitional Woodland Scrub*. (See Figure 3.7)

Land cover differences between the CORINE 2000 data (see Figure 3.6) and the data for the year 1990 (see Figure 3.7) are illustrated on Figure 3.8. This figure illustrates a number of areas that have changed from *Pastures*, *Transitional Woodland Scrub* and *Coniferous Forests* within that ten year period. Current uses include *Sport and Leisure Facilities*, *Non-Irrigated Arable Land*, *Transitional Woodland Scrub*, *Construction Sites*, *Pastures* and *Coniferous Forests*.

Land cover categories which indicate lands that are likely to be most valuable to biodiversity are illustrated on Figure 3.9. These lands comprise areas of *Peat Bogs* along and near to the south-western boundary of the Plan area, *Green Urban Areas* to the north and an area of *Mixed Forest* at the southern boundary. Some of these land

<sup>7</sup> European Environment Agency Coordination of Information on the Environment (2004) *Ireland's Corine Land Cover 2000 (CLC2000)* Copenhagen: EEA

<sup>8</sup> CORINE Land Cover (CLC) is a map of the European environmental landscape based on interpretation of satellite images. Land cover is the observed physical cover, as seen from the ground or through remote sensing, including for example natural or planted vegetation, water and human constructions which cover the earth's surface. Because of the scale of the CORINE data and the method by which it was collected there are likely to be a number of inaccuracies at the local level. It is noted, however, that the land cover shown on the maps is generally accurate. The European Environment Agency, in conjunction with the European Space Agency, the European Commission and member countries is currently updating the CORINE land cover database.

covers have come about as a result of human interaction with the landscape.

### 3.2.2 Ecological Networks

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 Natura 2000 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. Ecological networks are composed of linear features, such as treelines, hedgerows, rivers and 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.

Within and surrounding the County, the ecological networks are made up of components including the Loughlinstown River, the Little Dargle and the Cabinteely, Ballyogan, and the Glenamuck Streams and their tributaries and banks, the various woodlands, parks, gardens and hedgerows within and surrounding the Plan area and lands used for agriculture.

These components provide habitats for flora and fauna and facilitate linkages to the surrounding countryside for flora and fauna.

A hedgerow survey of the west, south and central parts of the Plan area has been undertaken as part of the Habitat Mapping Survey described under Section 3.2.1.2 above. The hedgerow survey identifies the most important hedgerows in the County in terms of their biodiversity.

Parks and open spaces cover over 800 hectares of the County. Prominent parks include Marlay Park, Cabinteely Park, The Peoples Park, Killiney Hill Park and the seafront from Dún Laoghaire to Sandycove. These parks and open spaces provide for a range of habitats for various species within the Plan area.

Ecological islands or areas of habitat that are not connected to surrounding ecologically valuable habitats are mainly found to the north of the study area, where development pressures are highest.

### 3.2.3 Designations

#### 3.2.3.1 Introduction

There are a number of ecologically designated sites within and surrounding the Dún Laoghaire-Rathdown Plan area. These sites are partially mapped on Figure 3.4.

It is noted that some of the ecological sensitivities discussed below – and associated potential for environmental impacts – occur beyond the fringes of the Plan area. They are included, however, to ensure that areas which could be impacted as a result of implementing the Plan are identified and assessed.

#### 3.2.3.2 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) - referred to as the Birds Directive - by the DEHLG due to their conservation value for birds of importance in the European Union. South Dublin Bay and River Tolka Estuary SPA lies to the north of the Plan area. It is mapped on Figure 3.10.

#### 3.2.3.3 Special Areas of Conservation

Special Areas of Conservation (SACs) 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) - referred to as the Habitats Directive - by the DEHLG due to their conservation value for habitats and species of importance in the European Union.

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.

SACs within the Plan area include South Dublin Bay SAC, Ballyman Glen SAC, Knocksink Wood SAC and Wicklow Uplands SAC. These sites are mapped on Figure 3.10.

### 3.2.3.4 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. NHAs are designated under the Wildlife (Amendment) Act 2000.

Proposed NHAs in the Plan area include Booterstown Marsh pNHA, Ballybetagh Bog pNHA, Fitzsimon's Wood pNHA, Dingle Glen pNHA, Loughlinstown Wood pNHA and Dalkey Coastal Zone and Killiney Hill pNHA. South Dublin Bay SAC, Ballyman Glen SAC and Knocksink Wood SAC are also designated as pNHAs.

The Scalp and the Shanganagh Coastline are recognised as being of NHA status for their geological interest (see Section 3.4.3).

### 3.2.3.5 Designated Sites<sup>9</sup>

The following designated ecological sites are found within or adjacent to the Plan area and are mapped on Figure 3.10.

- **South Dublin Bay and River Tolka Estuary SPA**  
**Site Code: 004024**

South Dublin Bay and River Tolka Estuary SPA lies to the north of the Plan area. The site comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dún Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included.

The Birds Directive pays particular attention to wetlands, and as these form part of the SPA, the site and its associated waterbirds are of special conservation interest for wetlands and waterbirds (see also Section 3.2.3.6).

The South Dublin Bay and River Tolka Estuary SPA is of international importance for Light-bellied Brent Goose and of national importance

<sup>9</sup> Text in this section is taken from the National Parks and Wildlife Service's Site Synopses. Full Site Synopses for these designations can be found in Appendix I

for nine other waterfowl species. As an autumn tern roost, it is also of international importance. Furthermore, the site supports a nationally important colony of Common Tern. All of the tern species using the site are listed on Annex I of the Birds Directive, as are Bartailed Godwit and Mediterranean Gull.

Proposals exist to include Booterstown Marsh, Williamstown Creek, a shallow sea area to the west of the West Pier at Dún Laoghaire and the outer rock slope of the West Pier in the South Dublin Bay and River Tolka Estuary SPA.

- **South Dublin Bay SAC and pNHA**  
**Site Code: 000210**

This site lies south of the River Liffey and extends from the South Wall to the west pier at Dún Laoghaire. It is an intertidal site with extensive areas of sand and mudflats, a habitat listed on Annex I of the Habitats Directive.

This site is a fine example of a coastal system with extensive sand and mudflats, a habitat also listed on Annex I of the Habitats Directive. South Dublin Bay is also an internationally important bird site.

- **Ballyman Glen SAC and pNHA**  
**Site Code: 000713**

Ballyman Glen is situated approximately 3 km north of Enniskerry. It is orientated in an east-west direction with a stream running through the centre.

The presence of alkaline fen and of petrifying spring/seepage areas on the site is particularly notable, as these habitats are listed, the latter with priority status, on Annex I of the Habitats Directive.

- **Knocksink Wood SAC and pNHA**  
**Site Code: 000725**

Knocksink Wood is situated in the valley of the Glencullen River north-west of Enniskerry. The fast-flowing Glencullen River winds its way over granite boulders along the valley floor.

Petrifying springs, which are present at the site, are listed as a priority habitat on Annex I of the Habitats Directive. Associated with the springs and the river are stands of wet alluvial forest, also a habitat listed with priority status on Annex I of the Habitats Directive.

Much of this site has been designated a Statutory Nature Reserve and there is presently an educational centre within the site.

- **The Wicklow Uplands SAC**  
**Site Code: 002122**

This site is a complex of upland areas in Counties Wicklow and Dublin, flanked by Blessington Reservoir to the west and Vartry Reservoir in the east, Cruagh Mountain in the north and Lybagh Mountain in the south. Most of the site is over 300m, with much ground over 600m and the highest peak of Lugnaquilla at 925m.

In all, ten habitats listed on Annex I of the Habitats Directive are found within the site. Several rare, protected plant and animal species occur.

- **Ballybetagh Bog pNHA**  
**Site Code: 001202**

Ballybetagh Bog includes three separate areas of marshland situated approximately 5 km north-west of Enniskerry. Although the site contains samples of fen and marsh vegetation, the main interest lies in its historical value. Ballybetagh Bog has become a classical site of quaternary studies due to the intensity of research. The site is renowned for the number of skeletons of the extinct Giant Irish Deer that have been dug from it.

- **Boosterstown Marsh pNHA**  
**Site Code: 001205**

Boosterstown Marsh lies approximately 3 miles south of Dublin City. It is separated from Merrion Strand to the east by an embankment which carries the Dublin to Wexford railway, and to the west it is bounded by the road from Dublin to Blackrock. Boosterstown Marsh is the only saltmarsh in south Dublin and, despite some concerns about the increasing salinity of the site, it remains a valuable habitat for many birds as well as containing a diverse flora including the protected plant Borrer's Saltmarsh-grass.

The marsh, since its separation from the bay in the 19<sup>th</sup> century, has always been an important wetland site for feeding and roosting waterbirds, but its importance for waterbirds has increased in recent years due to the restoration of its fully tidal status. Also, the recent construction of two

gravel islands in the marsh, which provide undisturbed roosting places for waterbirds at high tide, has led to an increase in the numbers of birds using the site.

It is proposed to include Boosterstown Marsh pNHA under the South Dublin Bay and River Tolka Estuary SPA designation.

- **Dalkey Coastal Zone and Killiney Hill pNHA**  
**Site Code: 001206**

This site includes the coastal stretch from Scotman's Bay to south of White Rock, the Dalkey Island group and Dalkey Sound, and Killiney Hill. This site represents a fine example of a coastal system with habitats ranging from the sub-littoral to coastal heath. The flora is well developed and includes some scarce species. The islands are important bird sites. The site also has geological importance.

- **Dingle Glen pNHA**  
**Site Code: 001207**

Dingle Glen is situated approximately 5 km west of Killiney. It is a dry valley formed as a glacial lake overflow channel. The importance in this site lies in the variety of habitats within a relatively small area. The site is secluded and not subject to much disturbance.

- **Loughlinstown Woods pNHA**  
**Site Code: 001211**

This site is located about 4 km north of Bray, on the east side of the main Dublin-Bray road. It is on the north bank of the Shanganagh River at Loughlinstown. Dumping and littering is a problem within the site. This site is a good example of a demesne type mixed woodland. It is now used chiefly for amenity purposes.

- **Fitzsimon's Wood pNHA**  
**Site Code: 001753**

Fitzsimon's Woods pNHA is located to the south of Ballinteer.

It is proposed that Management Plans will be prepared and implemented for Fitzsimons Wood, Loughlinstown Wood, Killiney Hill and Dalkey Island Coastal Zone.



### 3.2.3.6 Ramsar Sites

Ramsar sites are designated and protected under the Convention of Wetlands of International Importance, especially as Water Fowl Habitat, which was established at Ramsar in 1971 and ratified by Ireland in 1984. Ireland presently has 45 sites designated as Wetlands of International Importance, with surface areas of 66,994 hectares.

The objective of a Ramsar site is the conservation of wetlands for wildfowl. While Ireland ratified the Ramsar Convention in 1984 there is no legal backing for Ramsar sites unless they are also Nature Reserves or SPAs and as such are protected by the Wildlife Acts 1976 and 2000 or the Birds or Habitats Directives.

Sandymount Strand/Tolka Estuary (Site No. 4024) was designated a Ramsar Site on 11 June 1996 and provides 654 hectares of Wetlands of International Importance. The exact boundaries of the Ramsar designation were unavailable from the Ramsar Sites Information Service however they are likely to be similar to those of Sandymount Strand/Tolka Estuary SPA which is mapped on Figure 3.10

### 3.2.3.7 Tree Preservation Orders

Tree Preservation Orders (TPOs) enable local authorities to preserve any single tree or group of trees and brings them under planning control. TPOs are only made if it appears that a tree or group of trees need to be protected in the interests of amenity in the environment. The Planning and Development Act 2000 has further outlined the legal framework and procedures provided in the 1963 Act to make a TPO.

There are currently nine Tree Preservation Orders within Dún Laoghaire-Rathdown. These are mapped on Figure 3.12.

The following table lists the locations of TPOs within the County:

1. Corbawn Lane, Shanganagh including Dorney County
2. Wilson Road, Mouny Merrion
3. Carysfort House, Stillorgan
4. Kilmacud House, Kilmacud
5. Palermo, Old Connaught (No. 2)
6. Talbot Lodge
7. St. Helens Stillorgan
8. Carysfort College, Balcorock
9. Belgrave Square

Trees and woodlands which will be afforded protection under the Plan are mapped on Figure 3.11.

### 3.2.3.8 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 (RPAs) (see Section 3.5.3.4).

A number of water bodies in the Plan area have been listed on the RPAs for Water Dependent Habitats and Species, Drinking Water and Beaches.

The waters listed on the RPA are listed on Table 3.3 and are mapped on Figure 3.26.

### 3.2.3.9 Designated Salmonid Waters

The main channel of the River Dargle is designated and protected as a Salmonid Water under the European Communities (Quality of Salmonid Waters) Regulations 1998 (SI No. 293 of 1988). Designated Salmonid Waters are capable of supporting salmon (*Salmo salar*), trout (*Salmo trutta*), char (*Salvelinus*) and whitefish (*Coregonus*).

The Dodder, which rises to the south east of the Plan area and flows along the north-east boundary, and several of its tributaries are exceptional in the area in supporting Atlantic Salmon and Sea Trout in addition to resident Brown trout populations, eels and other fish species.

The Glencullen River flows through the south east of the plan area. The Glencullen is a tributary of the River Dargle and, along with its tributaries, constitutes a salmonid system. The Countybrook River, another tributary of the Dargle, is classed as salmonid by the Eastern Regional Fisheries Board. The Carrickmines (Glenamuck)/Shanganagh system is a regionally important salmonid system. The Carrickmines system supports a resident population of Brown trout and a migratory population of Sea trout. The lower reaches of the Deansgrange Stream support a small but significant population of Brown Trout.

It is noted that the River Dargle does not flow through the Plan area, however, a tributary of

the Dargle does flow through the south eastern corner of the Plan area. It is mentioned, however, to ensure that salmonid waters which could be impacted as a result of implementing the Plan are identified and assessed.

### 3.2.4 Existing Problems

Land cover differences between the CORINE 1990 data and the data for the year 2000 indicate a cumulative loss of agricultural land to *road and rail networks* and *sport and leisure facilities*.

The Habitat Mapping Survey for the County identified that the habitats adjacent to the southern portion of the M50, west and east along the M11 and to the extreme west of the County are under greatest threat from future development, pollution events or destruction through agricultural, forestry or landfill impacts.

Generally, development in Dún Laoghaire-Rathdown is not significantly impacting upon designated ecological sites however Site Synopses for these sites identify certain threats to the conservation value of these sites.

The Site Synopsis for Ballyman Glen SAC identifies that an area of land that slopes towards the fen has been used as a landfill site for domestic refuse. The site is also used a clay pigeon shoot and shattered clay pigeons are scattered throughout the area.

The Site Synopsis for the Wicklow Uplands SAC identifies that turf-cutting occurs in the Uplands. The turf is mostly hand-cut but some machine-cutting occurs where access is available. In the last 40 years, forestry has become an important landuse in the uplands, and has affected both the wildlife and the hydrology of the area.

If unmanaged increased recreational use of the County's uplands areas has the potential to result in disturbance of wildlife, erosion of pathways and fragmentation of ecological corridors which are important for the migration, dispersal and genetic exchange of flora and fauna.

Cumulative encroachment on the foothills and uplands of the Plan area could also have adverse effects on ecological connectivity and biodiversity and flora and fauna.

The Site Synopsis for the Ballybetagh Bog pNHA identifies that areas of the site have been lost to agricultural development and afforestation and sites the insertion of drains as being a threat to certain habitats.

The Site Synopsis for Loughlinstown Woods pNHA notes that dumping and littering is a problem at the site.

Aquatic flora and fauna is vulnerable to all forms of pollution such as that which can occur as a result of agricultural run-off and industrial and municipal effluents. As identified under Section 3.5, several water bodies within and surrounding the area are 'at risk' with regard to meeting legislative water quality objectives under the Water Framework Directive.

### 3.2.5 Evolution of Biodiversity and Flora and Fauna in the absence of a Development Plan

In the absence of a Development Plan for Dún Laoghaire-Rathdown development would have no guidance as to where developments occur 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. The evolution of biodiversity and flora and fauna would be dependent on the rate and extent of any such developments which would take place.

Development along or adjacent to the banks of rivers and along the coastline 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 along river catchments or along the coastline would be likely to adversely impact aquatic biodiversity and flora and fauna including salmonid species and other species protected under Annex II of the Habitats Directive.

Beneficial effects upon biodiversity and flora and fauna which would be likely to arise out of the specific policies and objectives included in the Development Plan which are not included in the current Dún Laoghaire-Rathdown County Development Plan would not be likely without the implementation of the Plan.

In the absence of a Development Plan, any greenfield development would adversely impact upon biodiversity and flora and fauna by replacing natural or semi natural habitats with artificial surfaces. The significance of such impacts would be dependent on whether such developments would result in the loss of habitats or species of importance as well as the cumulative loss and fragmentation of habitats and species as a result of all greenfield developments.

A Development Plan for the area could contribute to the occurrence of development in an appropriate and sustainable manner.

A Development Plan provides an opportunity to integrate the ecological protection measures required by the Habitats Directive with the planning or development management of vulnerable areas, which might not be presented in the absence of a Development Plan.

In the absence of a Development Plan there would not be an integration of the ecological protection measures required by the Habitats Directive with the planning or development management of vulnerable areas. Therefore it is likely that there would be less effective protection of ecological resources in the absence of a Development Plan.

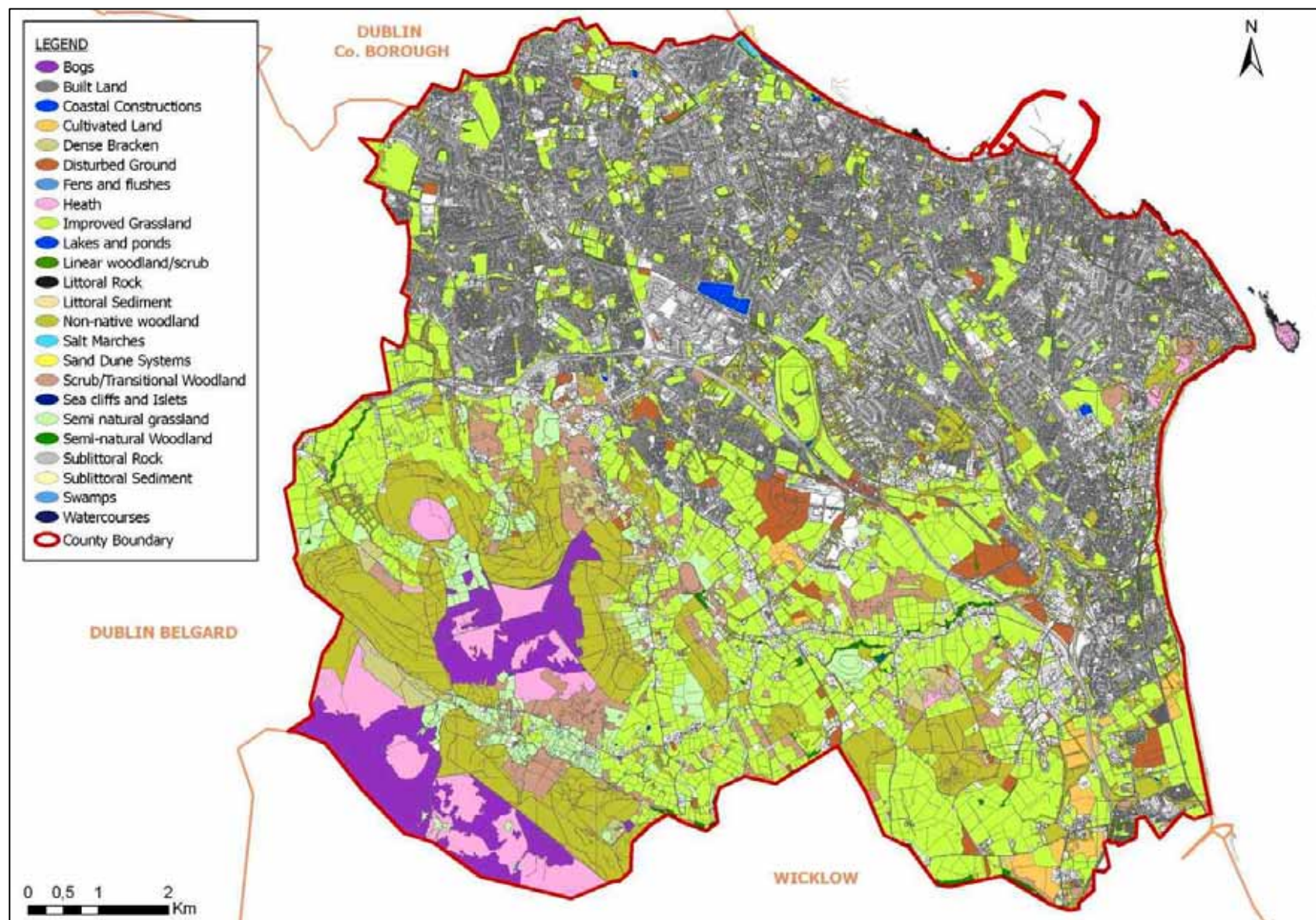


Figure 3.4 Habitats Survey - Level Two



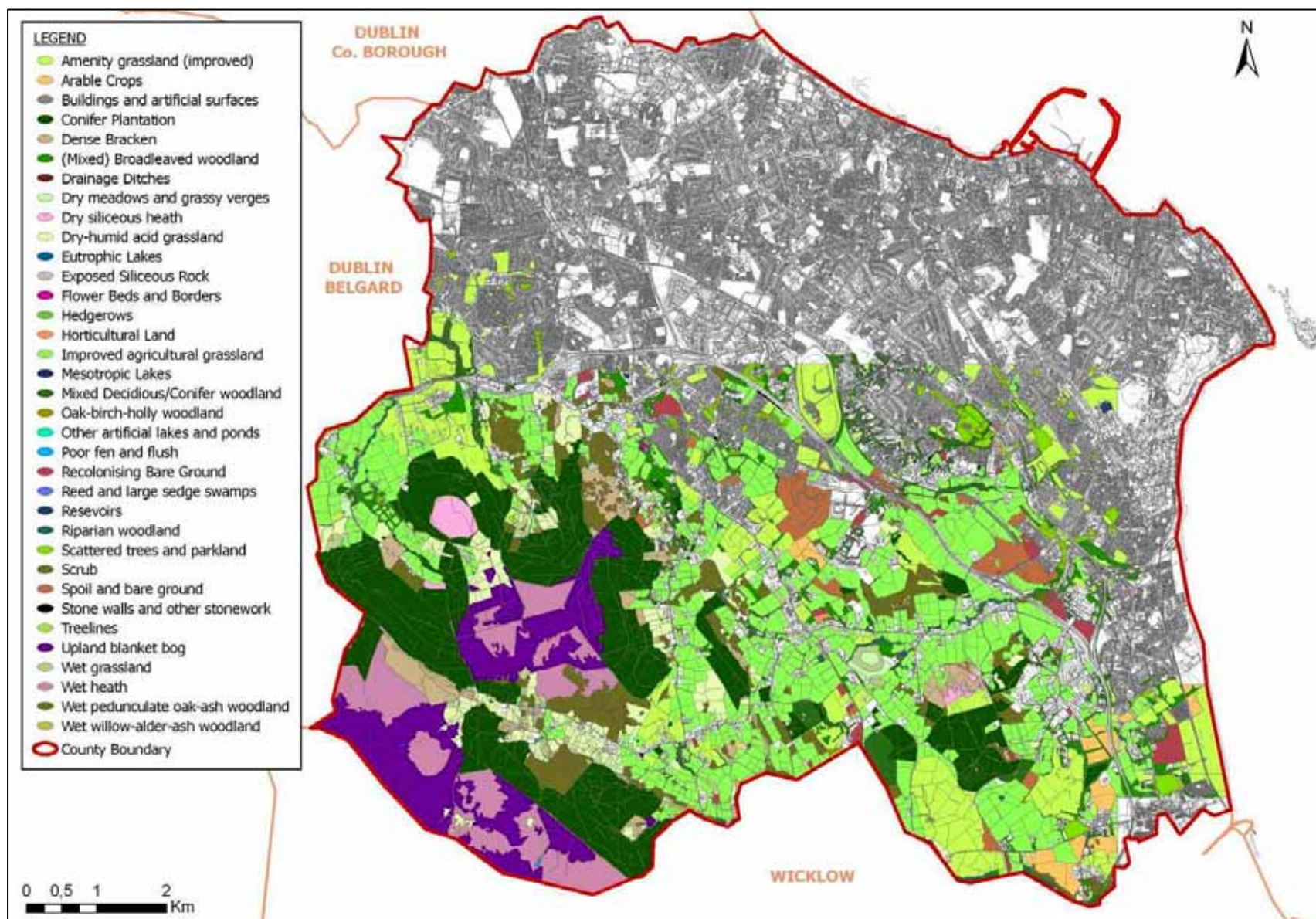


Figure 3.5 Habitats Survey- Level Three



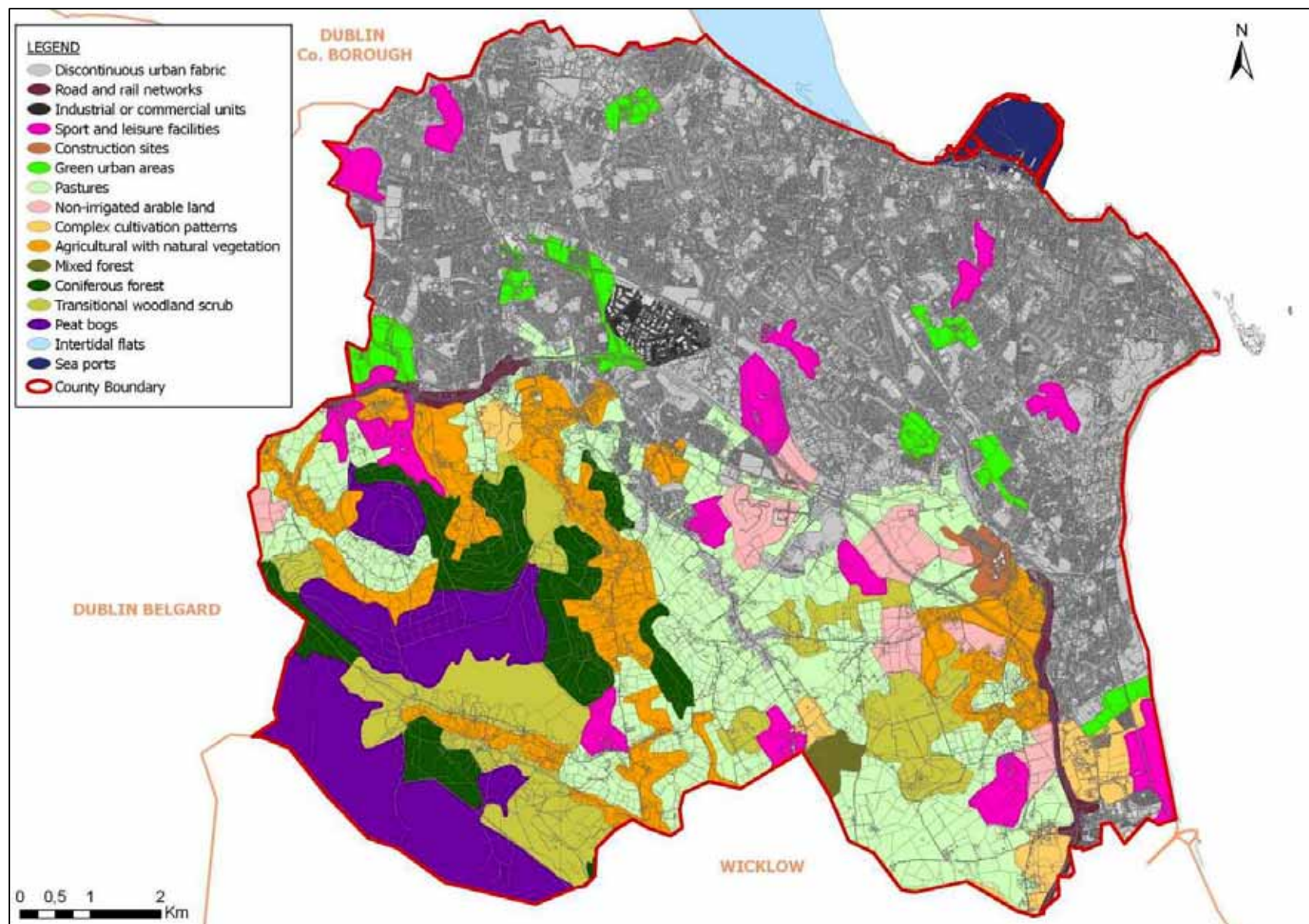


Figure 3.6 CORINE Land Cover 2000

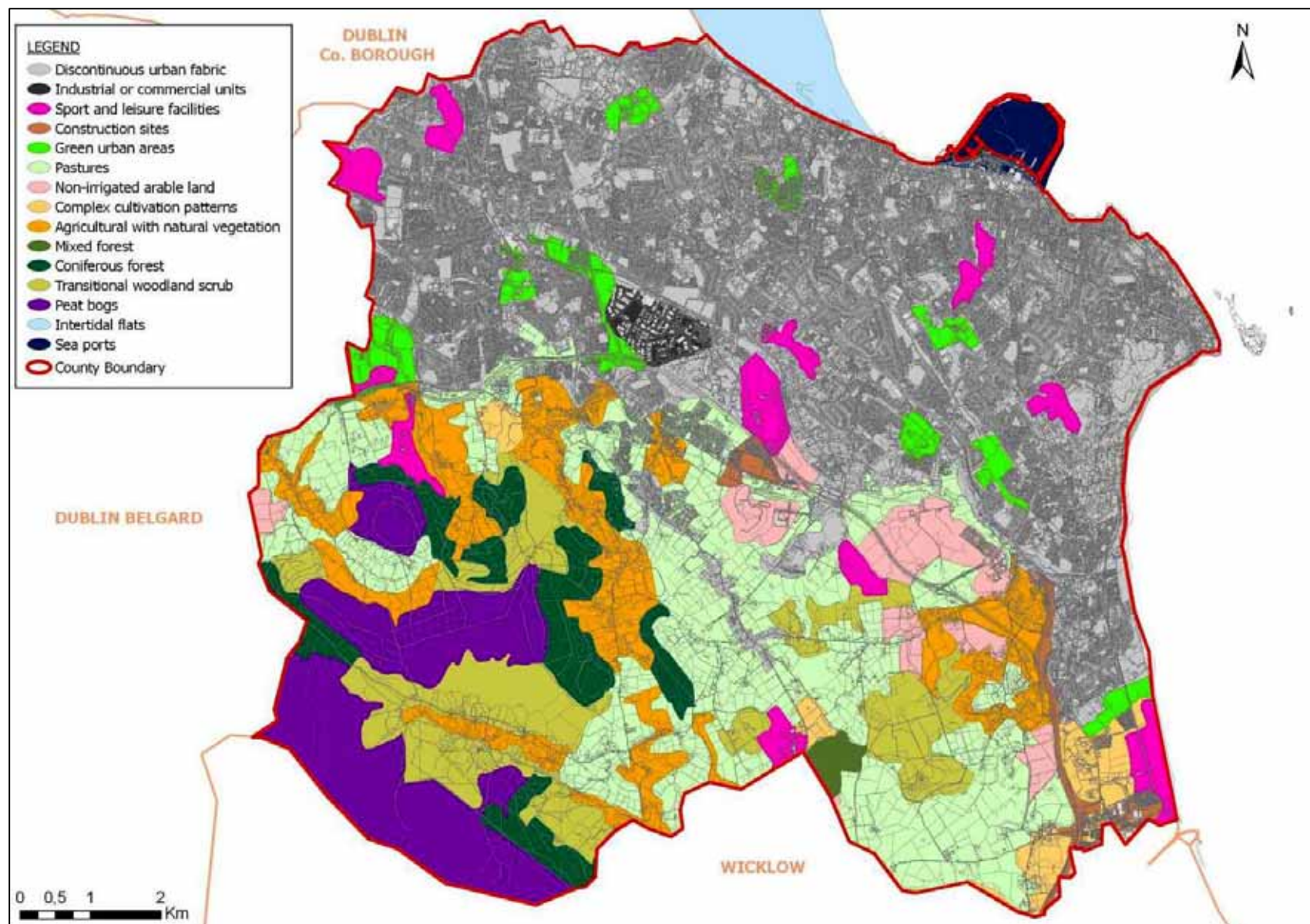


Figure 3.7 CORINE Land Cover 1990



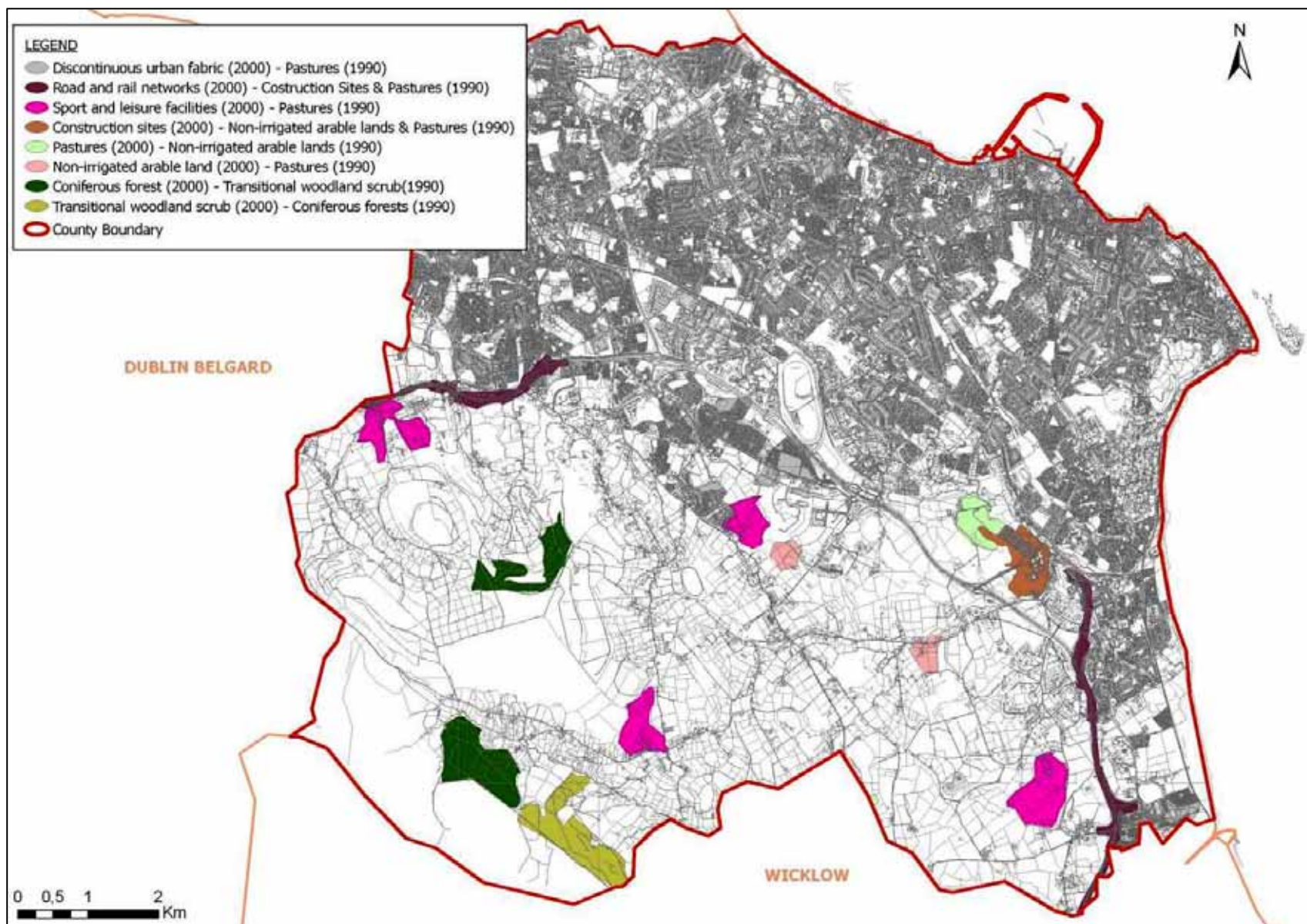


Figure 3.8 CORINE Land Cover Changes 1990-2000



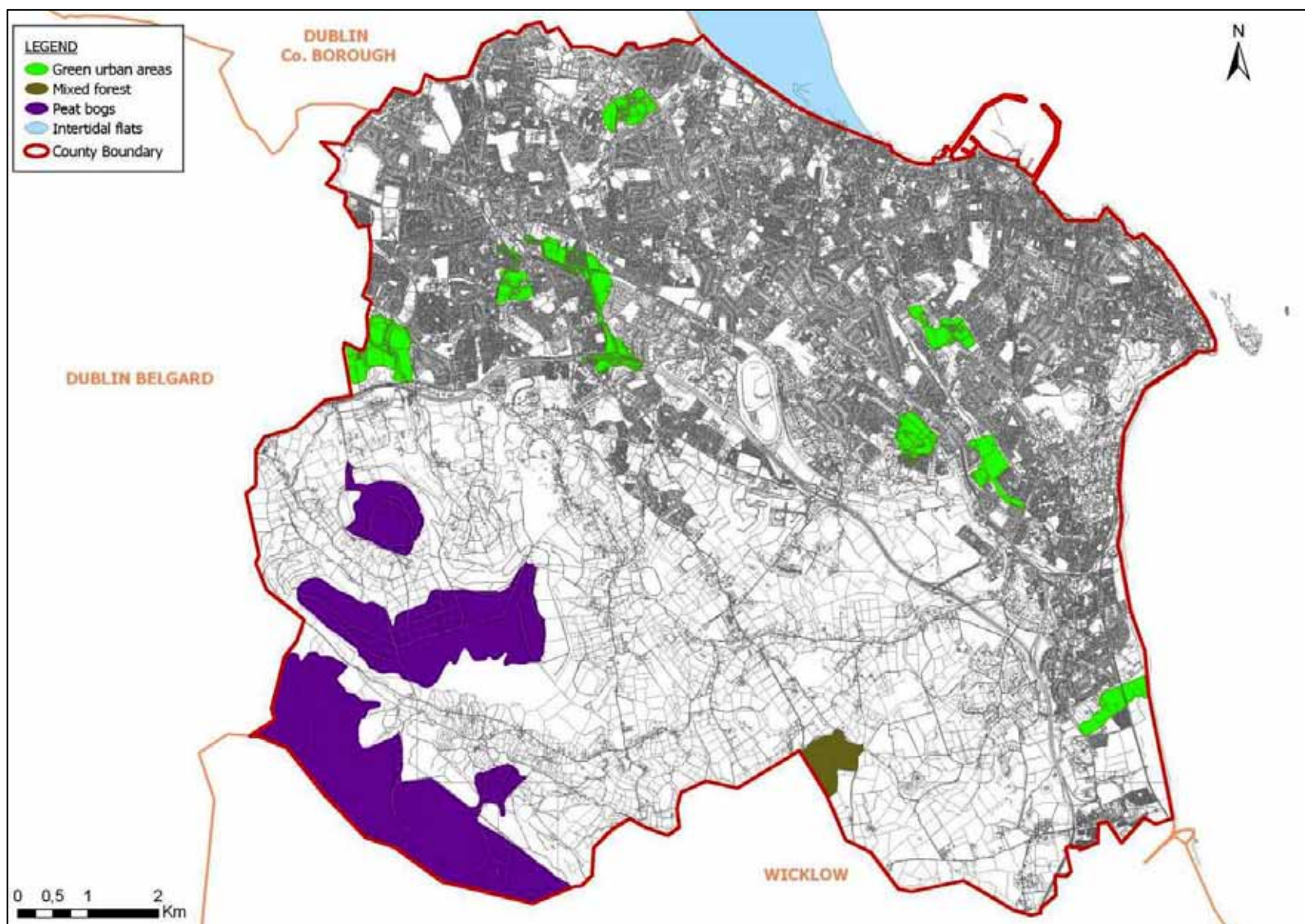


Figure 3.9 CORINE Land Cover Categories which indicate lands which are likely to be most valuable to biodiversity

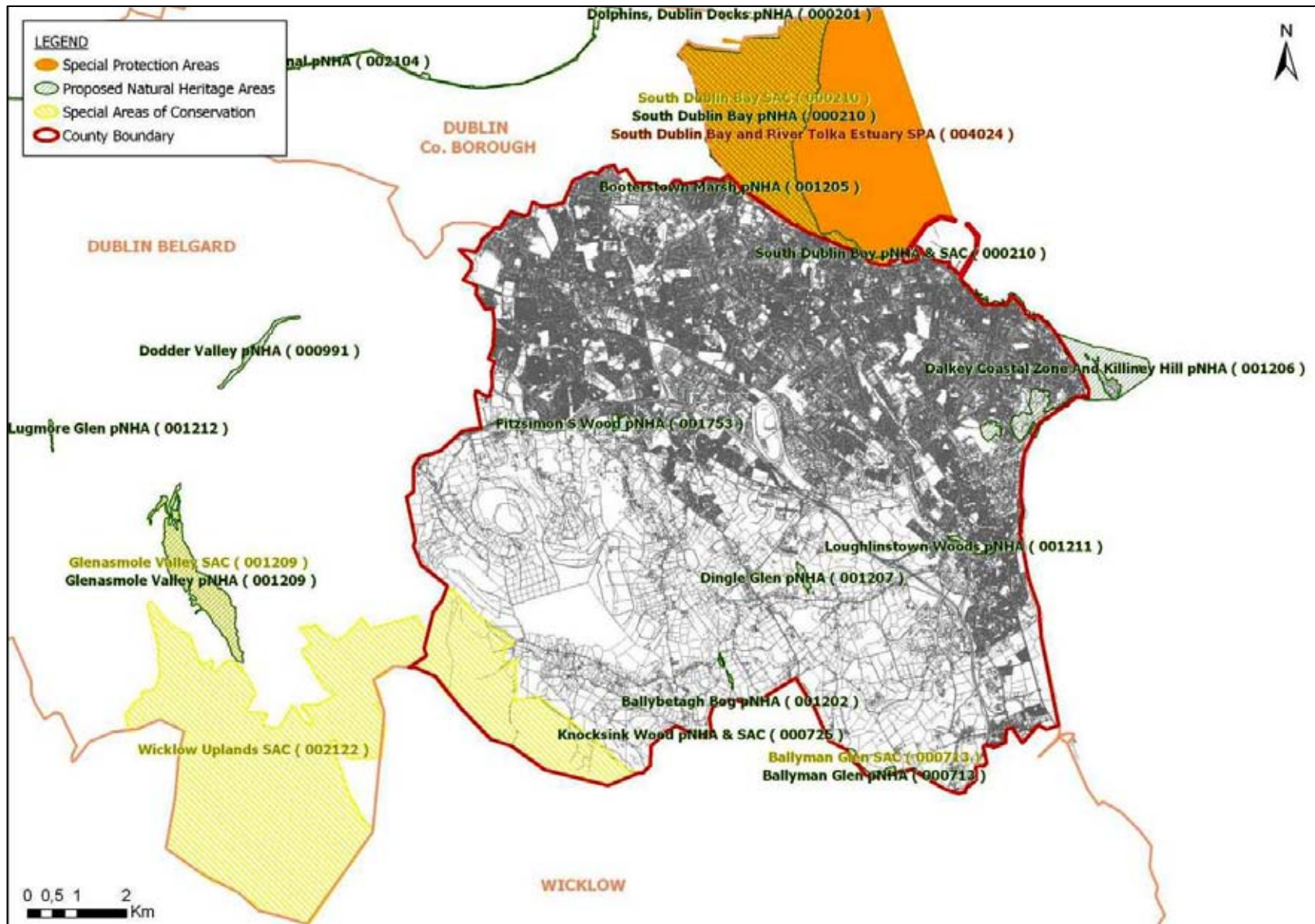
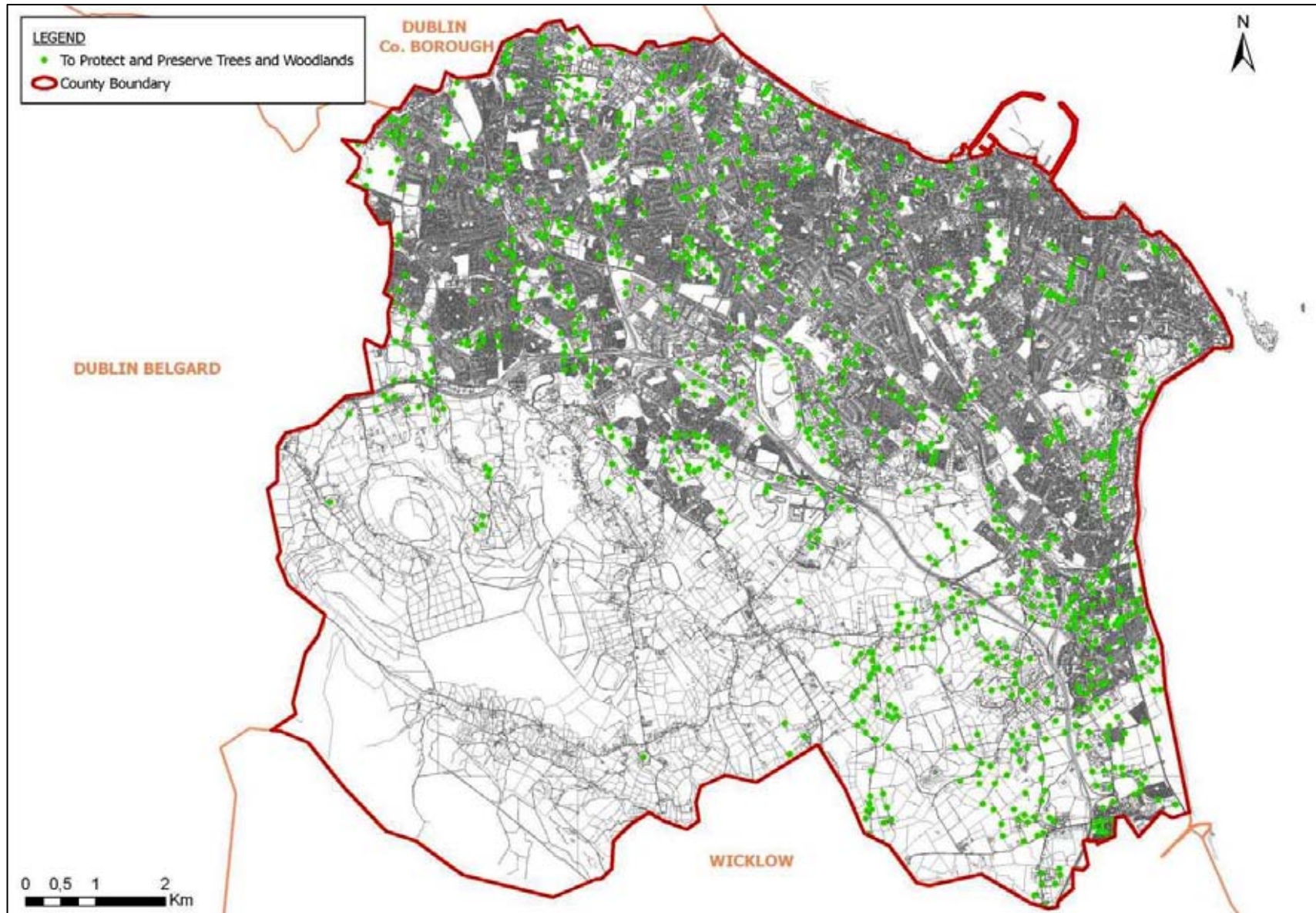


Figure 3.10 Designated sites within and surrounding the Plan area





**Figure 3.11 Trees and Woodlands**

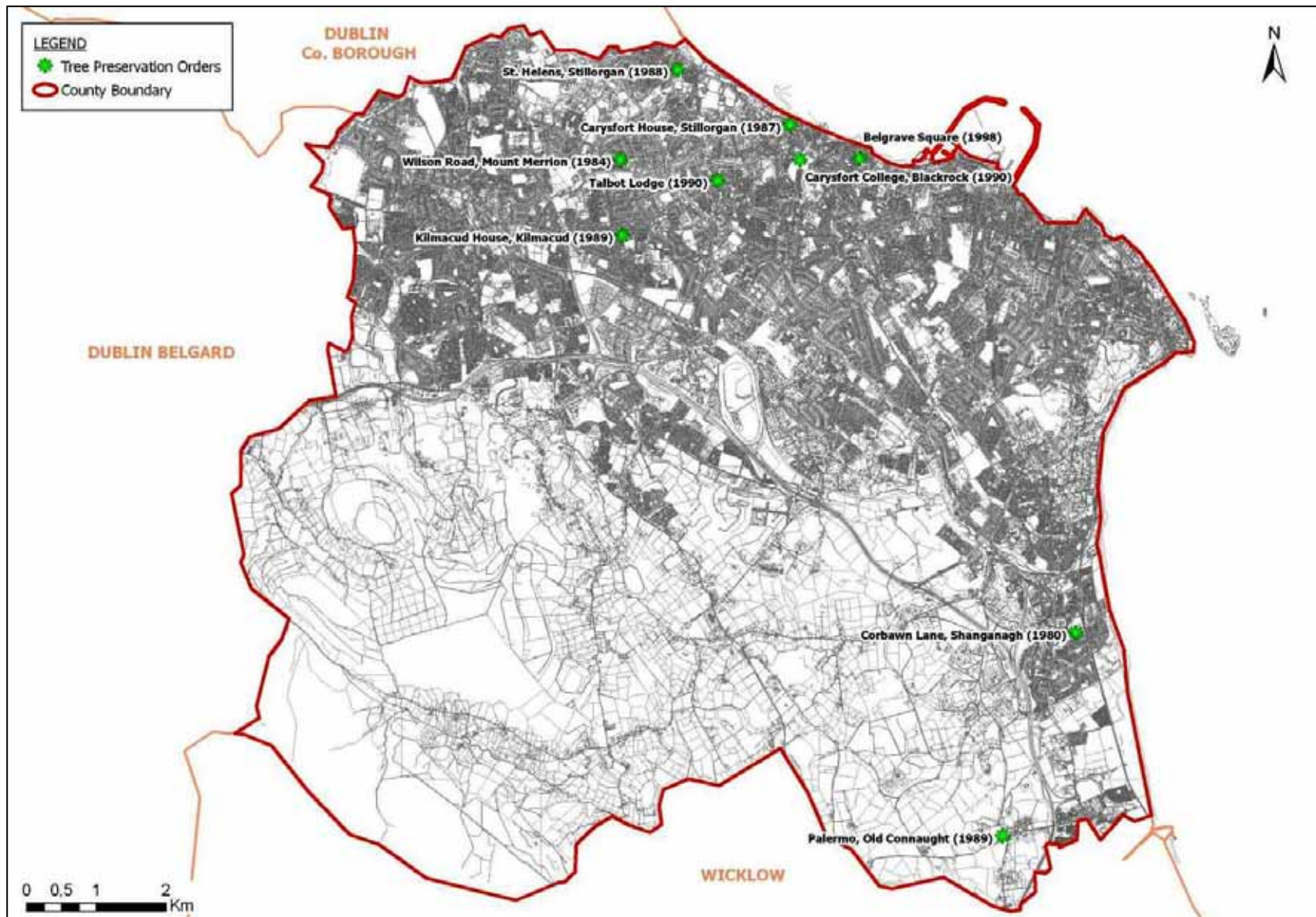


Figure 3.12 TPOs in the Plan area

### 3.3 Population and Human Health

#### 3.3.1 Population<sup>10</sup>

The Greater Dublin Area has experienced strong population growth in recent years and it is forecast to grow in population from 1.6 million persons to 2 million persons by 2016. It is anticipated that Dún Laoghaire-Rathdown will accommodate a share of this growth, in accordance with Regional Planning Guidelines.

The County's population stands at c.194,038 or 16% of Dublin's population. The 2006 Census revealed a continued trend of relatively low population growth. The population grew by 2,250 persons or 1.2%, between 2002 and 2006, at a time when the national increase was 8.2%. In the last 10 years the County has grown by just 4,039 persons, a growth rate of 2%. The low population growth rate can be explained as a consequence of the relatively low level of housing output and an ageing population.

A key feature of population change in the County has been the uneven distribution of growth, with some areas experiencing strong population growth and other areas experiencing stagnation or decline. The large Glencullen District Electoral Division, for example, grew by 3,700 persons or 36% and was the sixth biggest increase in the Country. Table 3.1 illustrates the population for each DED in the Plan area.

Housing densities in the Plan area are high in the urban regions and comparatively low in the rural Uplands. Spatial distribution of the population in the Uplands is generally one-off housing, linear in parts. The majority of the population located in the lower-lying north west, north, eastern and central parts of the Plan area.

#### 3.3.2 Existing Problems

Certain environmental vectors within the Plan area - such as air, water or soil - have the potential to transport and deposit contaminants

<sup>10</sup> CSO (various) *Census 2006 Volume 1 - Population Classified by Area; Census 2002 Volume 1 - Population Classified by Area; Census 1996 Volume 1 - Population Classified by Area* Cork: CSO.

or pollutants, which have the potential to cause harm and adversely impact upon the health of the area's population.

The presence of radon gas, a naturally occurring radioactive gas that originates from the decay of uranium in rocks and soils, has been detected in 6% of houses within the Plan area. Exposure to radon for long periods or at high concentrations can lead to lung cancer.

IPPC licensed facilities could be potential polluters to the Plan area if the facilities do not comply with their licenses.

Dún Laoghaire-Rathdown is vulnerable to adverse effects from small changes in sea level combined with changes in the occurrence of severe rainfall events and associated flooding of the rivers and streams in the Plan area. Flooding is an environmental phenomenon which in certain circumstances could pose a risk to human health.

Although air quality in Dún Laoghaire-Rathdown meets current standards, there are traffic 'hotspots', located along the main road routes - especially at intersections - give rise to a harsh sensory environment which may impact upon human health. *Traffic hotspots* in low lying areas that have surrounding high buildings are likely to be more stressful environments due to air pollution and noise levels (see also Section 3.6)

#### 3.3.3 Evolution of Population and Human Health in the absence of a Development Plan

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

In the absence of a Development Plan for the area 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.

### **3.3.4 Human Health**

Human health has the potential to be impacted upon by 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). Hazards or nuisances to human health can arise as a result of exposure to these vectors arising from incompatible adjacent land uses for example. 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.



Ward	Ballybrack		Blackrock		Dúndrum		Dún Laoghaire		Glencullen		Stillorgan		Total	
	2002	2006	2002	2006	2002	2006	2002	2006	2002	2006	2002	2006	2002	2006
<b>Population</b>	41,946	41,384	29,835	29,455	37,828	37,373	41,339	40,182	21,221	25,804	19,623	19,840	191,792	194,038
<b>Population Change on Previous Census</b>		-562		-380		-455		-1157		4583		217		2246
<b>% Population Change on Previous Census</b>		-1.3%		-1.2%		-1.2%		-2.8%		21.6%		1.1%		1.2%

**Table 3.1 Population Change by DED**

## 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.

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<sup>11</sup>

Figure 3.13 shows the distribution of soil types across the Plan area. The biodiversity, flora and fauna detailed under Section 3 are facilitated by these soils, as is an extent of agricultural land use. *Urban soils* make up the northern, most built-up section of the Plan area. The majority of the Plan area is covered by *grey brown podzols* with areas of *brown podzolics*, *peaty podzols* and *litosols* and *outcropping rock* existing as the Plan area extends to the south west.

*Urban soils* are soils which have been disturbed, transported or manipulated by human activity in the urban environment and are often overlain by a non-agricultural, man-made surface layer that has been produced by mixing, filling or by contamination of land surfaces in urban and suburban areas.

*Urban soils* have a combination of characteristics that differ from natural soils. These characteristics are due to alterations in both physical and chemical soil properties that cause long term deviation from the natural state.

Natural soil profiles generally tend to gradually change from one horizon to the next; however, urban soils show abrupt changes from one horizon to another depending on the construction history of the soil. Layers may drastically differ in structure, pH, texture, and properties important to plant growth such as aeration, drainage and water holding capacity. A soil's aeration and water drainage capabilities are negatively affected by compaction which occurs as a result of overlying conditions which include traffic and building.

*Grey brown podzolic* soils are usually formed from a calcareous parent material, which counteracts the effects of leaching. Because of this, the podzolisation process is restricted and the principal materials translocated down the soil profile are the clay particles themselves. The lighter texture *grey brown podzolics* are good all-purpose soils, while the heavier textured members are highly suited to pasture production, responding well to manurial and management practices.

*Brown podzolic* soils are somewhat similar to the *podzols* and have been formed under the influence of the same process. They are less depleted than the *podzols* and the surface layer contains organic matter is intimately mixed with mineral matter. Because of their desirable physical characteristics, *brown podzolics* are often devoted extensively to cultivated cropping and pasture production. Their inherent low nutrient status is easily overcome by addition of lime and fertiliser.

*Litosols* are skeletal stony soils, usually overlying solid or shattered bedrock. They are often associated with *podzols* at higher elevations. Generally such soil areas have bare rock outcropping at frequent intervals and many also have steep slopes. Their use-range is usually limited to rough grazing.

<sup>11</sup> Teagasc, GSI, Forest Service & EPA (2006) *Soils and Subsoils Class* Dublin: DEHLG



### 3.4.3 Geology and Sites of Geological Interest

#### 3.4.3.1 Geology

The soils and habitats of Dún Laoghaire-Rathdown have been influenced by the area's underlying geology (see Figure 3.14).

The northern Plan area is underlain with Calp with a small area underlain by the Ballysteen Formation. Moving south, Type 2p microlite porphyritic extends from the west of the Plan area to the coast and is present in a band around the coastline and down to the southern Plan area. Type 2e equigranular exists as the lands begins to rise to the south west, this is interspersed with Type 1 grandiorite. A large area of Type 3 muscovite porphyritic surrounds around and area of Type 4 muscovite/microlite porphyritic which underlies the most elevated part of the Plan area. The Maulin Formation underlies lands in the south east, this is interlocked with the Bray Head Formation and Quartzite.

#### 3.4.3.2 Mines and Quarries

There are twenty-two mines and two quarry sites within the Plan area. The location of these sites is mapped on Figure 3.15.

#### 3.4.3.3 Sites of Geological Interest<sup>12</sup>

To date, sites of geological interest have not been comprehensively included under the existing nature conservation designations. The Geological Survey of Ireland, in partnership with the National Park and Wildlife Service (NPWS) are currently addressing the matter through the identification of the best nationally significant geological and geo-morphological sites for statutory designations as NHA's. Other geological sites of national or local importance are being identified as County Geological Sites and by their recognition in the County Development Plans, will be protected from potentially damaging developments through the development management system.

Table 3.2 lists sites of geological interest in the Plan area while Figure 3.16 maps the sites.

Site Name	Critical Feature(s)
Three Rock Mountain	Tors
Ballybetagh Bog pNHA	Chronology, Giant Deer
The Scalp	Glacial Outwash, Black Scree and spillway
Ballycorus	Leinster Granite and associated mineralization
Killiney Hill pNHA	Killinite mineral
Killiney Hill	Roche moutonnees, till
Dalkey Hill	Leinster Granite Quarries
Killiney Adit	Phosgenite mineral
White Rock, Killiney	Leinster Granite contact with Ordovician sediments
Killiney Bay (Bray Harbour to Killiney Station) pNHA	5.3km long coastal section of glacial sediments (interbedded diamicts)
Blackrock Breccia	Granite Breccia
Dalkey Island	Water Well
Shankill pNHA	Mass wasting (slumping)

**Table 3.2 Sites of Geological Interest and their Critical Features**

### 3.4.4 Existing Problems relating to Soil

Greenfield development involves the building upon and thereby sealing off of soil thus representing an environmental problem.

Soil has the potential to be polluted and contaminated as a result of pollution from development which is not serviced by appropriate waste water infrastructure and from agricultural sources.

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.

In addition to water quality and fishery impacts, these can impact on infrastructure and can have health and safety implication.

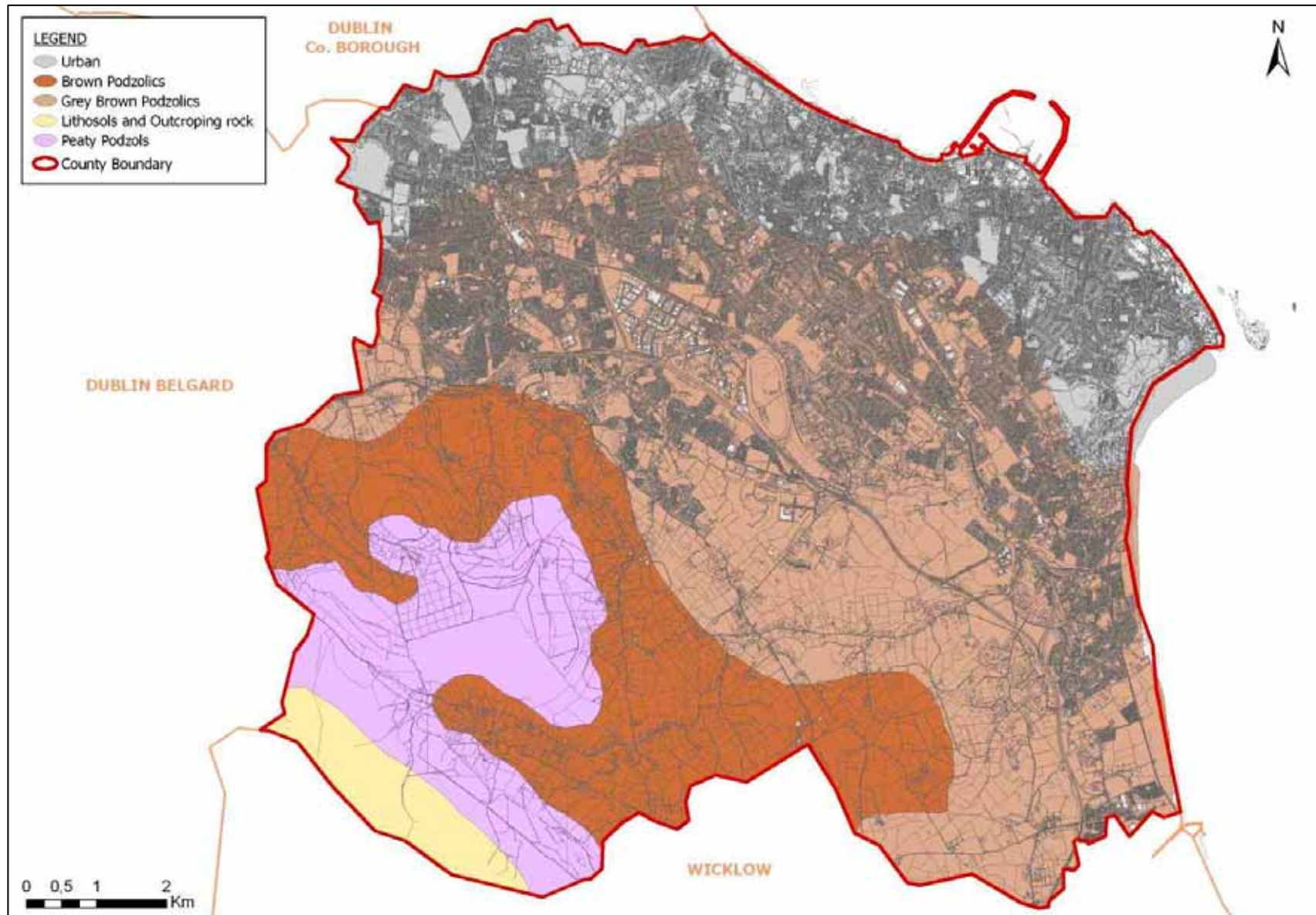
<sup>12</sup> Text in this section is taken from the *Draft Dún Laoghaire-Rathdown County Development Plan 2010-2016*, Dún Laoghaire-Rathdown County Council

### **3.4.5 Evolution of Soil in the absence of the Development Plan**

In the absence of a Development Plan for Dún Laoghaire-Rathdown, the evolution of soil would be dependent on developments which take place.

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 Development Plan there would be no framework for the direction of growth towards brownfield sites in Dún Laoghaire-Rathdown, where such direction is appropriate. As a result greenfield development would be likely to occur on an increased basis - both within and outside of the Plan area - and would result in the building upon and thereby sealing off of the non-renewable subsoil and soil resources.

In the absence of a Development Plan, 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.



**Figure 3.13 Soil Types**

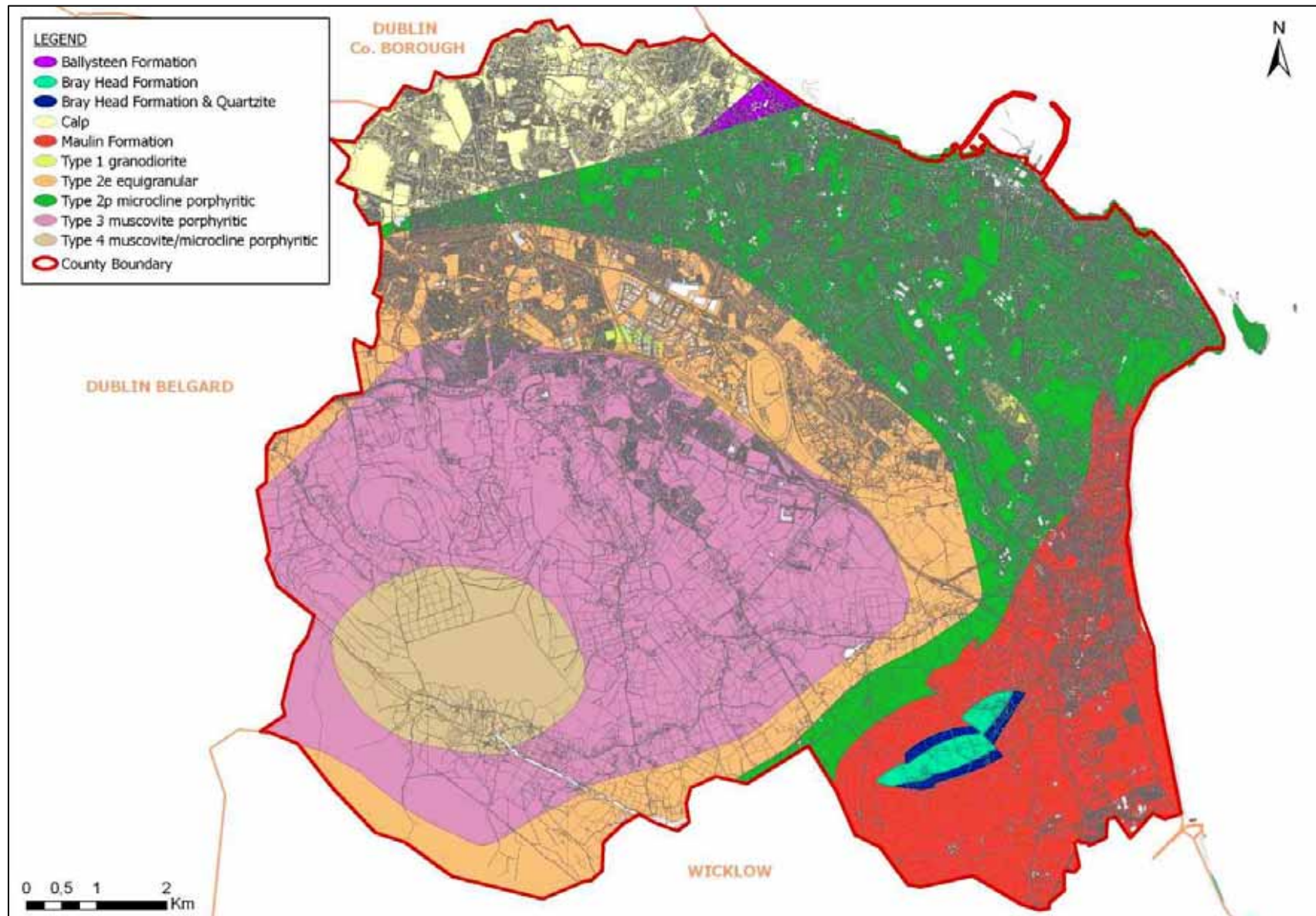


Figure 3.14 Geology



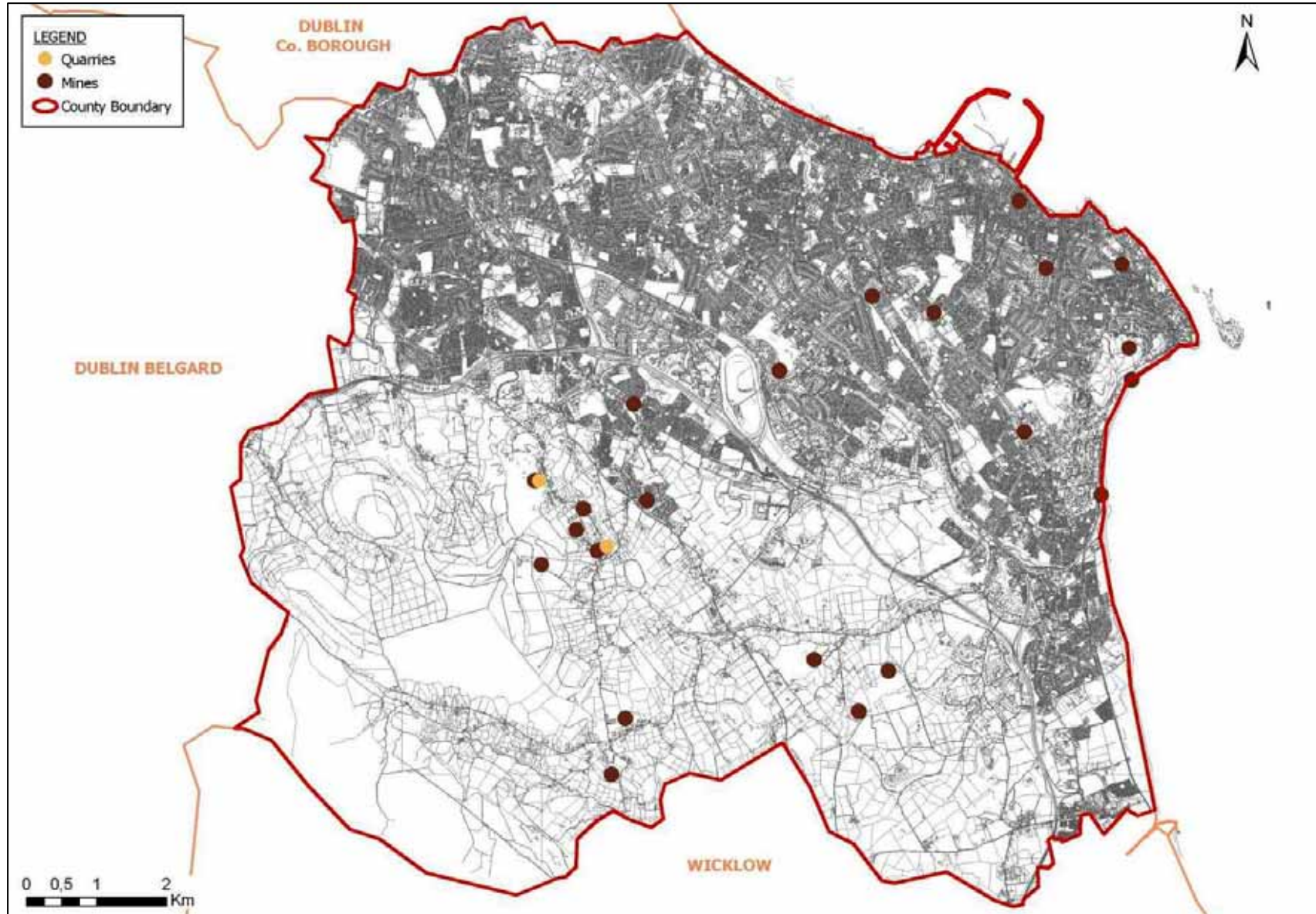


Figure 3.15 Mines and Quarries

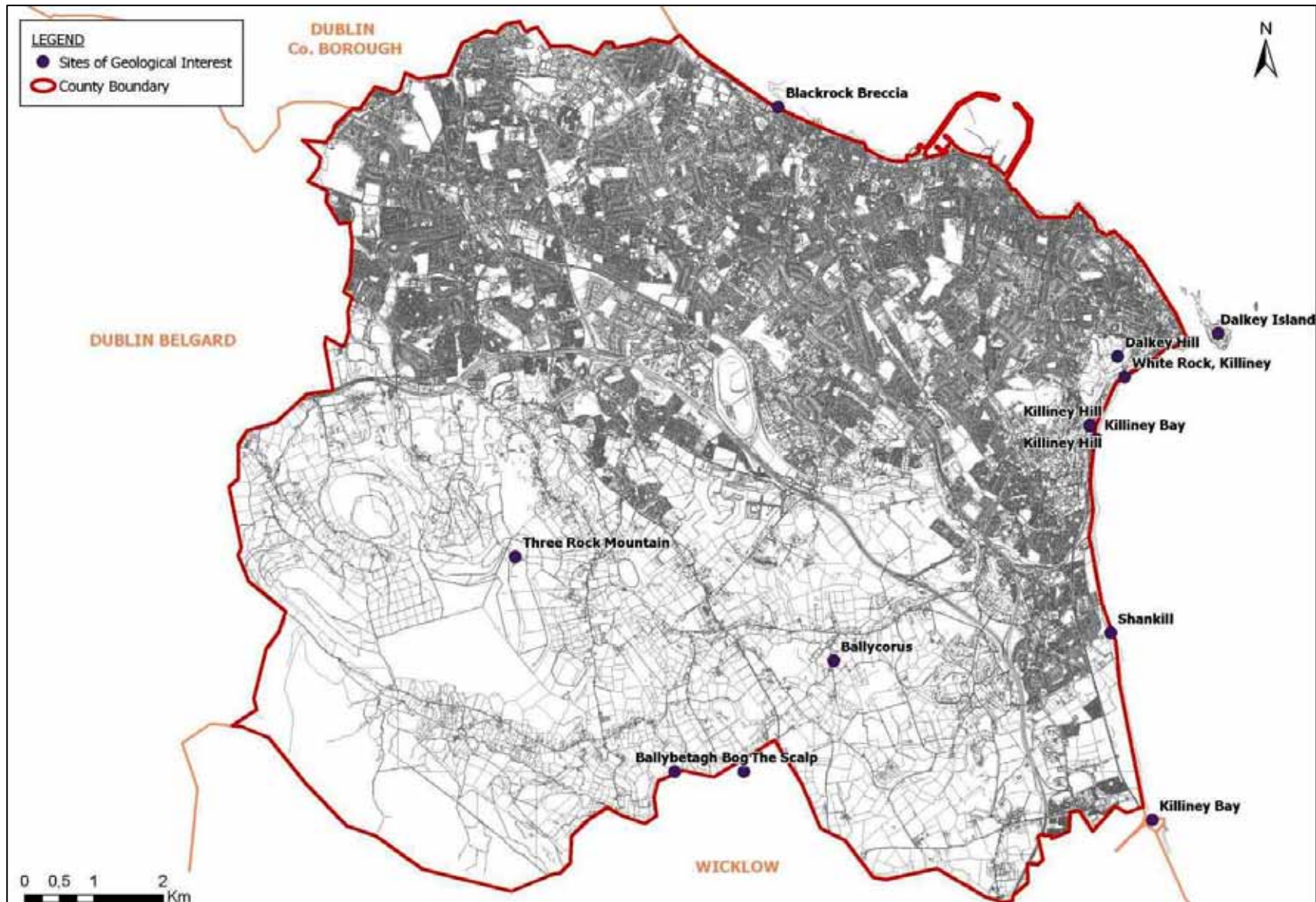


Figure 3.16 Sites of Geological Interest

## 3.5 Water

### 3.5.1 Introduction

Water within and surrounding Dún Laoghaire-Rathdown has many functions: it provides drinking water to the area's population; it sustains the biodiversity and flora and fauna described under Section 3.2; and it is an integral part of the landscape.

### 3.5.2 Potential Pressures on Water Quality

Human activities, if not properly managed, can cause deterioration in water quality. Pressures exerted by human activities include the following:

- sewage and other effluents discharged to waters from point sources, e.g. pipes from treatment plants;
- discharges arising from diffuse or dispersed activities on land;
- abstractions from waters; and
- structural alterations to water bodies.

A point source pressure has a recognisable and specific location at which pollution may originate. Examples of significant point source pressures include direct discharges from waste water treatment plants, licensed discharges from industrial activities, landfills, contaminated lands (e.g. disused gas works) and mines.

A diffuse source pressure unlike a point source is not restricted to an individual point or location. The source of a diffuse pressure can be quite extensive. Significant examples of diffuse pressures include runoff from forestry and agricultural lands.

Excessive abstractions from surface waters and groundwater for drinking and industrial purposes can create pressures on the ability of a water body to maintain both chemical and ecological status.

Structural alterations such as river straightening; construction of embankments, weirs, dams, port facilities and dredging can create conditions such that a water body is no longer able to

support the natural ecology which would have existed prior to such modifications. These pressures are also referred to as morphological pressures.

### 3.5.3 The Water Framework Directive

#### 3.5.3.1 Introduction and Requirements

Since 2000, Water Management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). 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. All public bodies, including Dún Laoghaire-Rathdown 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.

#### 3.5.3.2 River Basin Districts and Water Bodies

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. The management of water resources will be on these river basin districts. The Plan area is located in the Eastern River Basin District (ERBD).

Within each river basin district - for the purpose of assessment, reporting and management - water has been divided into groundwater, rivers, lakes, estuarine waters and coastal waters which are in turn divided into specific, clearly defined water bodies.

#### 3.5.3.3 WFD Risk Assessments

In order to achieve the objectives of the WFD it is necessary:

- to assess the risk that water bodies may not achieve good quality status;
- to identify the pressures from human activities causing this risk; and,
- to develop strategies and management plans to minimise the risk.

Risk assessment procedures were developed at national level and applied across all River Basin Districts in order to analyse the impact of the pressures referred to under Section 3.5.2. The risk assessments were predictive, i.e. they examined each pressure and predicted the magnitude which would be likely to have a negative impact.

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. The classifications used for reporting this assessment are:

- (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) Probably Not at Significant Risk - the water body is expected to meet good status in 2015; and,
- (2b) 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.

#### 3.5.3.4 WFD Registers of Protected Areas

In addition to these assessments, 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.

The WFD requires that these RPAs contain: areas from which waters are taken for public or private water supply schemes; designated shellfish production areas; bathing waters; areas which are affected by high levels of substances most commonly found in fertilizers, animal and human wastes - these areas are considered nutrient sensitive; areas designated for the protection of habitats or species e.g. salmonid

areas; Special Areas of Conservation (SACs); and, Special Protection Areas (SPAs).

Sandymount Strand/Tolka Estuary has been listed on the RPA for Water Dependent Species. This Register includes species that are dependent on water: this includes areas already listed by the National Parks and Wildlife Service as Special Protection Areas for the protection of birds, as per the EU Birds Directive (79/409/EEC).

Wildlife habitats (as identified by the National Parks and Wildlife Service) that are dependent on water are included in the Register. This includes rivers that coincide with these habitat areas such as the River Dargle.

In Ireland, waters intended for human consumption are protected under the Drinking Water Regulations (S.I. 439/2000). The actual protected areas for drinking water are not outlined within these Regulations, so the protected area for drinking waters is represented by the water body from which the water is abstracted, be it groundwater, river or lake. In the Plan area, a stretch of the Loughlinstown River has been identified on the WFD RPA for Drinking Water.

Recreational waters (bathing waters) are included in this Register and contain all the areas listed in the Bathing Water Regulations (SI 155/1992). The length of beach that is associated with each monitoring point, as verified by the relevant Local Authorities is mapped on Figure 3.26. Seapoint, Killiney, Sandymount Strand and Merrion Strand are listed on the register.

The waters listed on the RPA are listed on Table 3.3 and are mapped on Figure 3.26.



Qualifying Value	Water Body
RPA Species SPA	Sandymount Strand/Tolka Estuary
RPA Habitat Rivers	Dargle (River)
RPA Drinking Water Rivers	Loughlinstown (River)
RPA Beaches	Seapoint
RPA Beaches	Killiney
RPA Beaches	Sandymount Strand
RPA Beaches	Merrion Strand
RPA Drinking Water Ground Water	All underlying GW

**Table 3.3 Entries to the Registers of Protected Areas**

### 3.5.3.5 River Basin Management Plan

The twelve Local Authorities located in the ERBD, including Dún Laoghaire-Rathdown County Council, have prepared a draft River Basin Management Plan which will be adopted in 2010 and implemented thereafter in order to help protect and improve all waters in the ERBD. The Management Plan will provide objectives for river basins in order to implement the requirements of the WFD.

## 3.5.4 Rivers

### 3.5.4.1 Introduction

The main rivers within the Plan area are the Loughlinstown River, the Glencullen River, the Little Dargle River and the River Dodder. These rivers are mapped on Figure 3.17.

The Loughlinstown River has a number of tributaries which merge in Loughlinstown. The most southerly of these tributaries rises in Kiltarnan near the Two Rock Mountain. The next of these tributaries rises to the north of this, near Stepside and flows through Carrickmines, a number of smaller streams merge with it on the way. Another tributary rises in Cornelscourt and flows to the south east. A final stream rises in Deansgrange and flows to the south east to meet the Loughlinstown River just before it enters the sea at Killiney Bay.

The Glencullen River rises on Glendoo Mountain in Dún Laoghaire-Rathdown and flows to the south east through Glencullen before entering

County Wicklow where it merges with the Dargle River which flows into the sea at Bray.

The Little Dargle River also rises in Three Rock Mountain. It flows to the north through Ballinteer where it merges with another stream. It continues to flow to the north where it merges with the Dodder at Rathfarnham, in the north west of the Plan area.

The River Dodder rises in the Dublin Mountains and in its upper reaches it forms a reservoir system which is an integral part of the water supply to Dublin. It flows down through Tallaght, Rathfarnham, Donnybrook and Ballsbridge before discharging into the Liffey Estuary at Ringsend. The lower section of the river is tidal up to Ballsbridge.

### 3.5.4.2 EPA Monitoring

The most recent water quality data<sup>13</sup> identifies the Dodder River as being of Poor Status (Q2-3, Q3)<sup>14</sup>. The water quality status of the Loughlinstown River changes from Good Status (Q4) at Carrickmines to Moderate (Q3-4) to Poor Status (Q2-3, Q3) as it flows through urban areas to the sea. These values are mapped on Figure 3.17.

### 3.5.4.3 Risk Assessment

Figure 3.18 shows the current risk assessment for the Loughlinstown River, the Glencullen River and the River Dodder (which follows the boundary between the administrative areas of Dún Laoghaire-Rathdown County Council and Dublin City Council).

In terms of achieving the WFD's objectives by 2015, all of these rivers are currently classified as being *(1a) at significant risk* of failing to achieve the WFD's objectives by 2015.

<sup>13</sup> EPA (2006) *Water Quality in Ireland 2005* Wexford: EPA

<sup>14</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.

Reasons for the Loughlinstown River classification include:

- Diffuse source pressures such as the EPA's diffuse sources model;
- EPA Biological Q rating; and,
- Morphological pressures including intensive landuse.

Reasons for the Glencullen River classification include:

- Diffuse source pressures such as the EPA's diffuse sources model and forestry sources - acidification; and,
- Point source pressures such as Section 4 (Local Authority licensed discharges) and Water treatment plants and other pressures.

Reasons for the River Dodder classification include:

- Abstraction pressures such as river water balance;
- Diffuse pressures such as the EPA diffuse sources model;
- Morphological pressures including intensive landuse; and
- Point Source Combined sewer and treatment plant overflows.

Figure 3.19 maps the current risk assessment for the catchments which drain into the Loughlinstown, Glencullen River and Dodder rivers. The majority of the catchments are classified as being *(1a) at significant risk* of failing to achieve the WFD's objectives by 2015. A small area at the western boundary is classified as being *(1b) probably at significant risk*. The remainder of the Plan area is unclassified. Even where groundwater beneath a river catchment is not at risk, the catchment can be classified as being at risk due to the implications which landuses within the catchment have on other water bodies such as rivers.

### 3.5.5 Coastal Waters

#### 3.5.5.1 Introduction

Coastal waters are important for tourism, for use as bathing locations and for supporting marine wildlife. The waters of Dublin Bay support a variety of birdlife which sustain a flow of nutrients into these waters.

#### 3.5.5.2 EPA Monitoring

The Assessment of Trophic Status of Estuaries and Bays in Ireland (ATSEBI) System is used by the EPA in order to classify the quality status of transitional waters. Categories of criteria for nutrient enrichment, accelerated growth, and undesirable disturbance are used by the ATSEBI in order to classify the estuarine and coastal waters. There are four classifications:

- **Eutrophic waterbodies** are those in which each of the criteria are breached, i.e. where elevated nutrient concentrations, accelerated growth of plants and undesirable water quality disturbance occur simultaneously.
- **Potentially Eutrophic waterbodies** are those in which two of the criteria are breached and a third falls within 15 per cent of the relevant threshold value/values.
- **Intermediate waterbodies** are those which do not fall into the Eutrophic or Potentially Eutrophic classes but in which breaches one or two of the criteria occur;
- **Unpolluted waterbodies** are those which do not breach any of the criteria.

It is noted that good status as defined by the Water Framework Directive can be attained by estuarine and coastal waters through the achievement of *Unpolluted* status.

Figure 3.20 maps the classification of Dublin Bay which is the only transitional water body to be rated in proximity to the Plan area. Dublin Bay has been classified as being *"Unpolluted"*.

Dublin Bay	1995-1999	1999-2003	2001-2005
	Unpolluted	Unpolluted	Unpolluted

Table 3.4 Dublin Bay Water Quality

### 3.5.5.3 WFD Risk Assessment of Coastal Waters

Figure 3.21 shows the WFD risk assessment for the coastal waters located off Dún Laoghaire-Rathdown. The waters of Dublin Bay which extend down to Dalkey Island are classified as being (1a) at significant risk of not achieving good status by 2015.

Reasons for this classification include:

- Morphological pressures such as built structures - port tonnage and an urban or industrial shoreline and coastal defences have lead to this classification; and
- Point sources such as combined sewer and treatment plant overflows and waste water treatment plants.

An area of water surrounding Dalkey Island is classified as (2b) not at significant risk of meeting the WFD objectives by 2015.

Coastal waters to the south at Killiney Bay of this are (1a) at significant risk of not achieving good status by 2015.

Reasons for this classification include:

- Morphological pressures such as built structures - port tonnage and an urban or industrial shoreline and coastal defences have lead to this classification.

### 3.5.5.4 Quality of Bathing Waters

In Ireland, monitoring of water quality at designated bathing areas is undertaken by Local Authorities in accordance with Bathing Water Regulations (S.I. 155 of 1992). The EPA reports the compliance results of these 131 sites annually.

There are three compliance categories:

- **Non compliant** sites fail to meet the necessary quality criteria;
- Sites compliant with **Mandatory Values** meet the minimum quality criteria and are considered to be of acceptable quality; and,
- Sites compliant with **Guide Values** meet all the recommended quality criteria and are considered to be of good quality.

Quality of bathing water in the Plan area is classified by year on Table 3.5. These classifications for the year 2007 are mapped on Figure 3.22.

Water Quality at Merrion Strand and Bray (in adjacent County Wicklow) has decreased from complying with the Guide Values (good quality) in 2006 to only complying with Mandatory Values (acceptable quality) in 2007.

Water Quality at Seapoint and Killiney has complied with Guide Values (good quality) for the past 7 years.

	2007	2006	2005	2004	2003	2002
Merrion Strand	Mandatory Values	Guide Values	Non Compliant	Mandatory Values	Guide Values	Mandatory Values
Seapoint	Guide Values	Guide Values	Guide Values	Guide Values	Guide Values	Guide Values
Killiney	Guide Values	Guide Values	Guide Values	Guide Values	Guide Values	Guide Values
Bray	Mandatory Values	Guide Values	Guide Values	Mandatory Values	Non Compliant	Guide Values

Table 3.5 Bathing Water Quality by Year

### 3.5.6 Groundwater

#### 3.5.6.1 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 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.

#### 3.5.6.2 Source Protection Plan

Dún Laoghaire-Rathdown County Council commissioned Eugene Daly Associates to undertake a Source Protection Plan for the Two Wellfields at Glencullen in November 2005.

The Plan includes a description of the aquifer in Glencullen, its role in supplying water to Glencullen, its level of vulnerability in relation to current and future development in the area and the protection measures required to safeguard the potable water supply.

Potential pollution sources were identified including domestic effluent (nitrogen and phosphorous) from malfunctioning or poorly maintained septic tanks and treatment plants, the application of nutrients from low intensity agriculture throughout the area or the golf courses and run-off from the road surface in the catchment.

#### 3.5.6.3 WFD Risk Assessment of Groundwaters

Figure 3.23 maps the current risk assessment for groundwater in the Dún Laoghaire-Rathdown area. Groundwater underlying the northern half of the Plan area is classified as being *(1a) at significant risk* of not achieving good status. Groundwater underlying the southern half of the Plan area is *(2b) not at significant risk*. An area of land in south eastern corner of the Plan area near to Bray is classified as *(1b) probably at significant risk*.

Reasons for this include diffuse pressures including clustered onsite systems and leaking

urban sewerage systems and point source pressures such as contaminated land<sup>15</sup>.

#### 3.5.6.4 Groundwater Vulnerability

The Geological Survey of Ireland (GSI) rates aquifers according to their vulnerability to pollution. Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter underground water.

Figure 3.24 shows that only an interim study has taken place for most of the Plan area. There is no ongoing or requested work being undertaken by GSI in that area at present.

Some patches of the area, particularly in the uplands are rated as Extreme, with areas of Extreme (rock near surface or Karst) identified within these regions.

The groundwater contained in aquifers rated as Extreme<sup>16</sup> in the south of the County is classified under the WFD Risk Assessment as being *(2b) not at significant risk*. This suggests that land uses over these aquifers are currently not

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<sup>15</sup> On a national scale, leaking sewer systems are regarded as having the highest impact potential on the basis of their geographic spread, however, whether or not they leak depends on a variety of site-specific factors which are difficult to map and quantify. Urban pressures are location-specific, depending on such factors as land use patterns, degree and nature of industrial activity, sewer systems, and local hydrogeology. Urban pressure types generally fall into just a few categories: industrial manufacture, waste disposal, transport activities, road and building runoff, amenity land uses, and sewerage. Groundwater quality in urban settings may be impacted by multiple sources - both diffuse and point -, and fingerprinting specific pollutants to specific sources is very difficult. Urban groundwater pollution sources and pathways are complex, and sources of pollution are difficult to control. Because of the complexities involved, urban groundwater pollution is considered to be a significant water management issue on a national scale as: Irish towns are growing rapidly; and, the financial costs of returning affected groundwater bodies to WFD status objectives will likely be significant, requiring extensive monitoring and management measures. The EPA is currently undertaking an urban pressure assessment on groundwater. When completed, this assessment will be used by the EPA to define a national network of monitoring wells in urban areas that will provide additional information on groundwater within urban areas.

<sup>16</sup> Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter underground water.

compromising their ability to achieve the objectives of the Water Framework.

### **3.5.6.5 Groundwater Productivity**

The GSI rates aquifers based on the hydrogeological characteristics and on the value of the groundwater resource. Ireland's entire land surface is divided into nine aquifer categories.

The Plan area is divided into two main classifications as seen on Figure 3.25. The north west and south east portions of the Plan area are underlain by a locally important sand/gravel aquifers this aquifer is capable of yielding enough water to boreholes or springs to supply villages, small towns or factories. The remainder of the Plan area is underlain by poor bedrock aquifers, which are generally unproductive except for local zones.

## **3.5.7 Flooding**

### **3.5.7.1 Introduction**

Flooding is an environmental phenomenon which, as well have causing economic and social impacts, could in certain circumstances pose a risk to human health.

Dún Laoghaire-Rathdown is vulnerable to adverse effects from changes in the occurrence of severe rainfall events and associated flooding of the County's rivers combined with small changes in sea level.

Much of the flooding in the County occurs during adverse weather conditions whereby heavy rainfall causes high river flows. Local conditions within the County including bridges

and culverts - which restrict high flows -, debris - which cause blockages - and land use changes can also increase the risk of flooding.

### **3.5.7.2 OPW's National Flood Hazard Mapping**

The locations of the most significant recent flooding events in the Plan area - accessible from the OPW's National Flood Hazard Mapping website - are identified on Figure 3.27.

Clusters of flood events occur at the mouth of the Loughlinstown River at Ballybrack. Flood events at the south east of the Plan area occur along a tributary of the River Dargle. There are only four flood events recorded in the uplands at the Enniskerry Road, Ballybrack Road, Glencullen Road and Glenamuck Road. Many flood events are recorded at other various locations in the lower-lying parts of the Plan area.

### **3.5.7.3 Carrickmines/Shanganagh River Catchment Study**

The Carrickmines/Shanganagh River Catchment Study reviews and updates the model that was created for the South Eastern Motorway project in 1999. The model was updated by incorporating recent developments in the catchment and by surveying the primary tributaries upstream of the South Eastern Motorway project in future development lands. Predicted floodplains and vulnerable areas have been reviewed and outline solutions developed.

The catchment has been divided in to five areas and there are twelve predicted flooding locations within the catchment area as shown on Table 3.6.



Sub-catchment	Area at risk of flooding	Reasons
Ballyogan and Kilgobbin Area	Kilgobbin Road Bridge	Bridge and Culvert restrictions
	Clay Farm, Ballyogan Road	Low-Lying Lands
Glenamuck and Golf Course Stream Area	Beside Carrickmines Retail Park	Culvert restriction on the main Glenamuck Stream
Cheerwood LAP Area	Carrickmines Interchange	Culvert limitation on Glenamuck Road
	Carrickmines Great	Low-Lying Lands
	Carrickmines Great	Low-Lying Lands
	Laughanstown Bridge	Unknown
	Foxfoc Stream Confluence	Unknown
	Cherrywood Valley	Unknown
	"Big Tree" Laughlinstown	Unknown
Loughlinstown River	Ballycorus Bridge Heronford Lane	Back-up of river flow
Commons Road	No flooding predicted	Not applicable

**Table 3.6 Carrickmines/Shanganagh River Catchment Study Areas at Risk of Flooding**

#### 3.5.7.4 DEHLG Flood Risk Management Guidelines

In November 2009 the DEHLG issued *The Planning System and Flood Risk Management Guidelines* for Planning Authorities. These are aimed at ensuring a more consistent, rigorous and systematic approach which will fully incorporate flood risk assessment and management into the planning system.

The Guidelines require the planning system to, among other things:

- Avoid development in areas at risk of flooding, particularly flood plains, unless there are proven sustainability grounds that justify appropriate development and where flood risk can be reduced or managed to an acceptable level, without increasing flood risk elsewhere;
- Adopt a sequential approach to flood risk management when assessing the location for new development based on avoidance, reduction and mitigation of flood risk; and,
- Incorporate flood risk assessment into the process of making decisions on planning applications and planning appeals.

Regard to these Guidelines has been had when drawing up the mitigation measures included in Section 9.

#### 3.5.7.5 Future influences of flood risk

Large scale changes in the County over the next 50 to 100 years which could significantly influence flood risk and increase the magnitude and occurrence of flooding may include:

- Climate changes resulting in increased river flows and rising sea levels (see Section 3.6);
- Large scale land use changes such as increased afforestation and associated clear-cutting, changes in agricultural land use and drainage of upland wetlands;
- Urban development increasing the speed and volume of run-off; and
- Changes to geomorphological processes such as sediment transport, siltation and erosion.

### 3.5.8 Existing Problems

The above descriptions identify a number of sensitivities with regard to the status of water bodies within the Dún Laoghaire-Rathdown Plan area. By virtue of how they are used by people and by wildlife, a number of beaches, rivers, all underlying groundwater and an SPA are all listed on the Registers of Protected Areas under the Water Framework Directive.

The vast majority of surface waters and coastal waters and half of the ground waters underlying the Plan area are at significant risk of failing to achieve the WFD's objectives of good status by 2015.

The pressures which have been identified by the ERBD in the characterisation of the water bodies within and surrounding the Plan area include:

- Diffuse source pressures such as the EPA's diffuse sources model;
- Morphological pressures including intensive landuse, coastal defences, built structures - port tonnage and an urban or industrial shoreline; and,
- Point sources such as combined sewer and treatment plant overflows and waste water treatment plants.

Changes in sea level and/or changes in the occurrence of severe rainfall events as a result of climate change would be likely to increase the occurrence and magnitude of flooding events and inundation - this could result in damage and loss to houses and infrastructure.

### 3.5.9 Evolution of Water in the absence of a Development Plan

Based on the current risk assessments the identified surface and ground water bodies are either at significant risk or probably at significant risk of failing to meet the objectives of the Water Framework Directive by 2015.

If new development was not accompanied by appropriate waste water infrastructure /capacity then it is likely that:

- Certain river, ground and coastal water bodies would fail to meet the objectives of the WFD by 2015; and,
- Significant adverse impacts upon the biodiversity and flora and fauna of Dún Laoghaire-Rathdown area could potentially arise.

The replacing of semi-natural land cover types with artificial, more impervious surfaces is likely to lead to cumulative increases in run-off and peak flow conditions in the County's river bodies. These cumulative increases have the potential to - especially in combination with the occurrence of severe rainfall events - result in flooding.

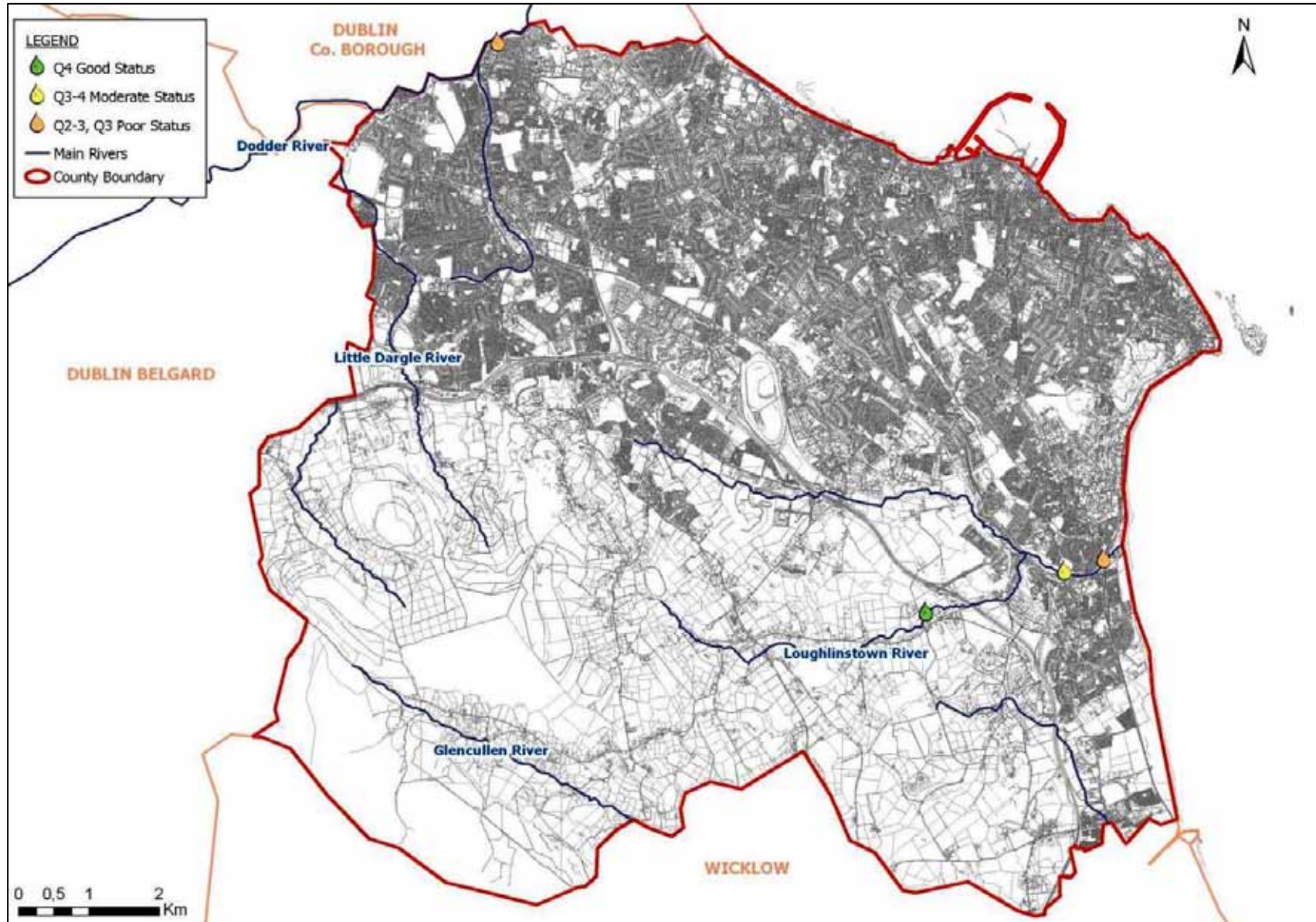


Figure 3.17 Q-Values (Biotic Index Ratings) at Points on Rivers

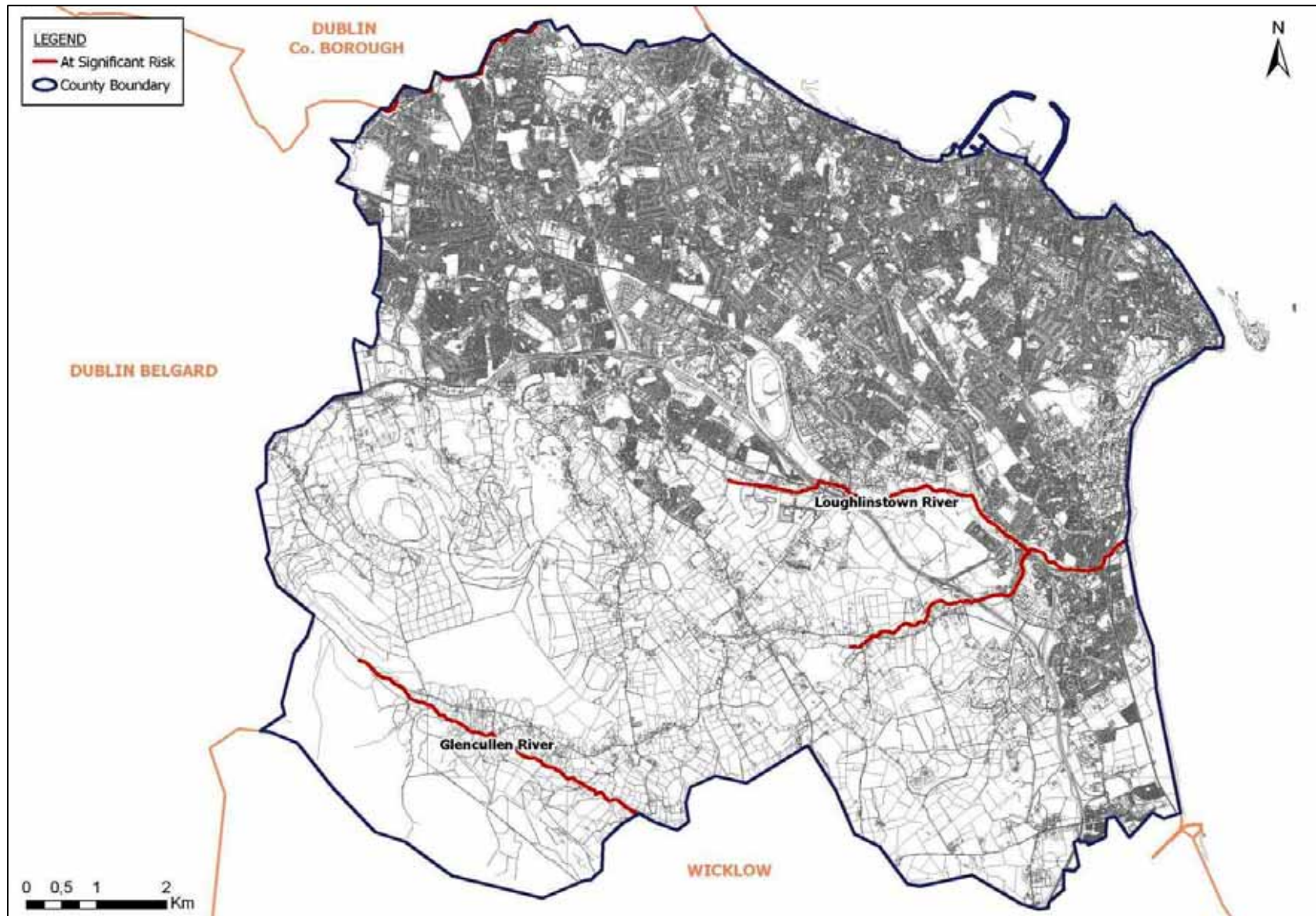


Figure 3.18 Risk Assessment of Rivers



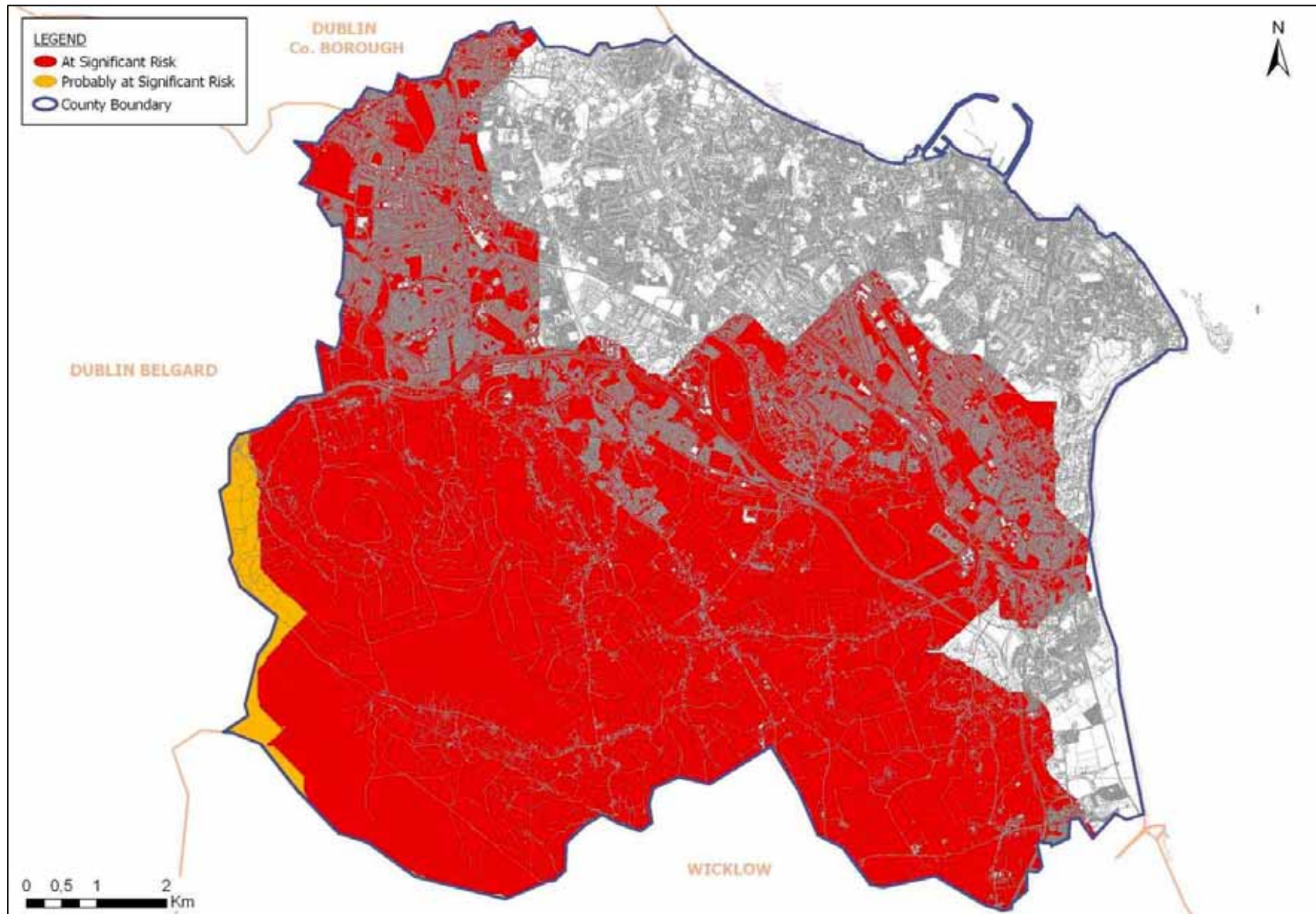


Figure 3.19 Risk Assessment of River Catchments



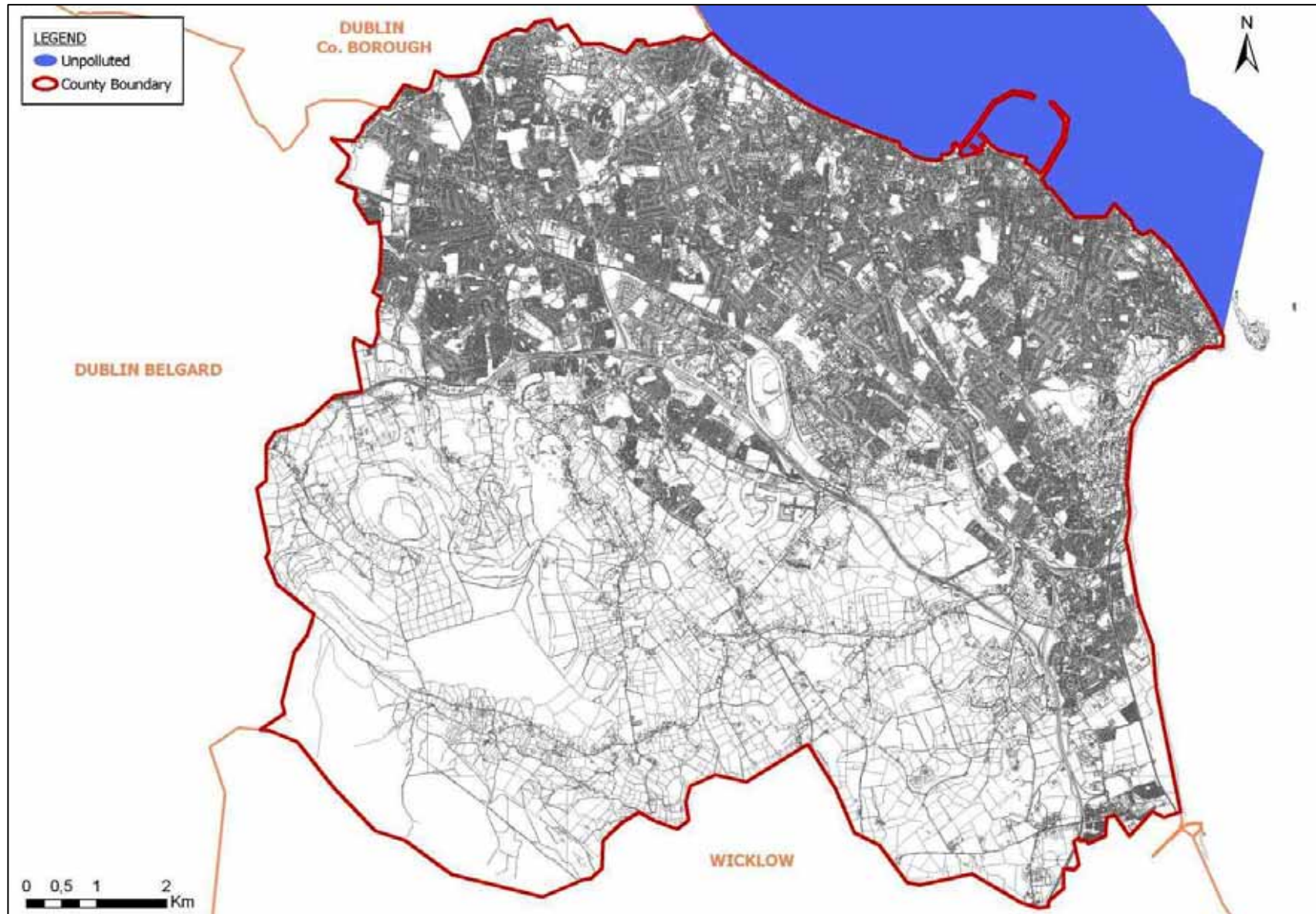


Figure 3.20 ATSEBI Quality of Dublin Bay

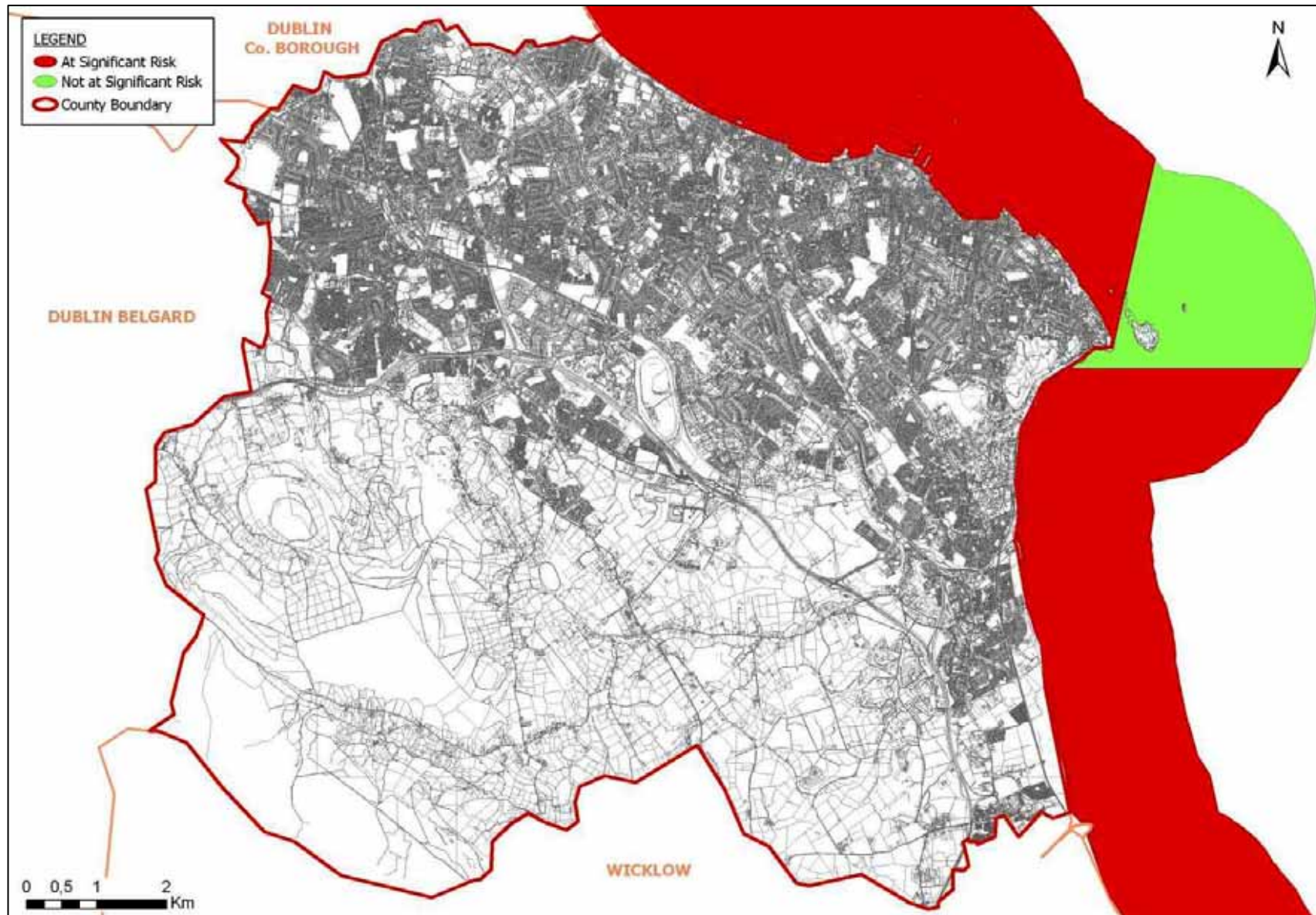


Figure 3.21 Risk Assessment of Coastal Waters



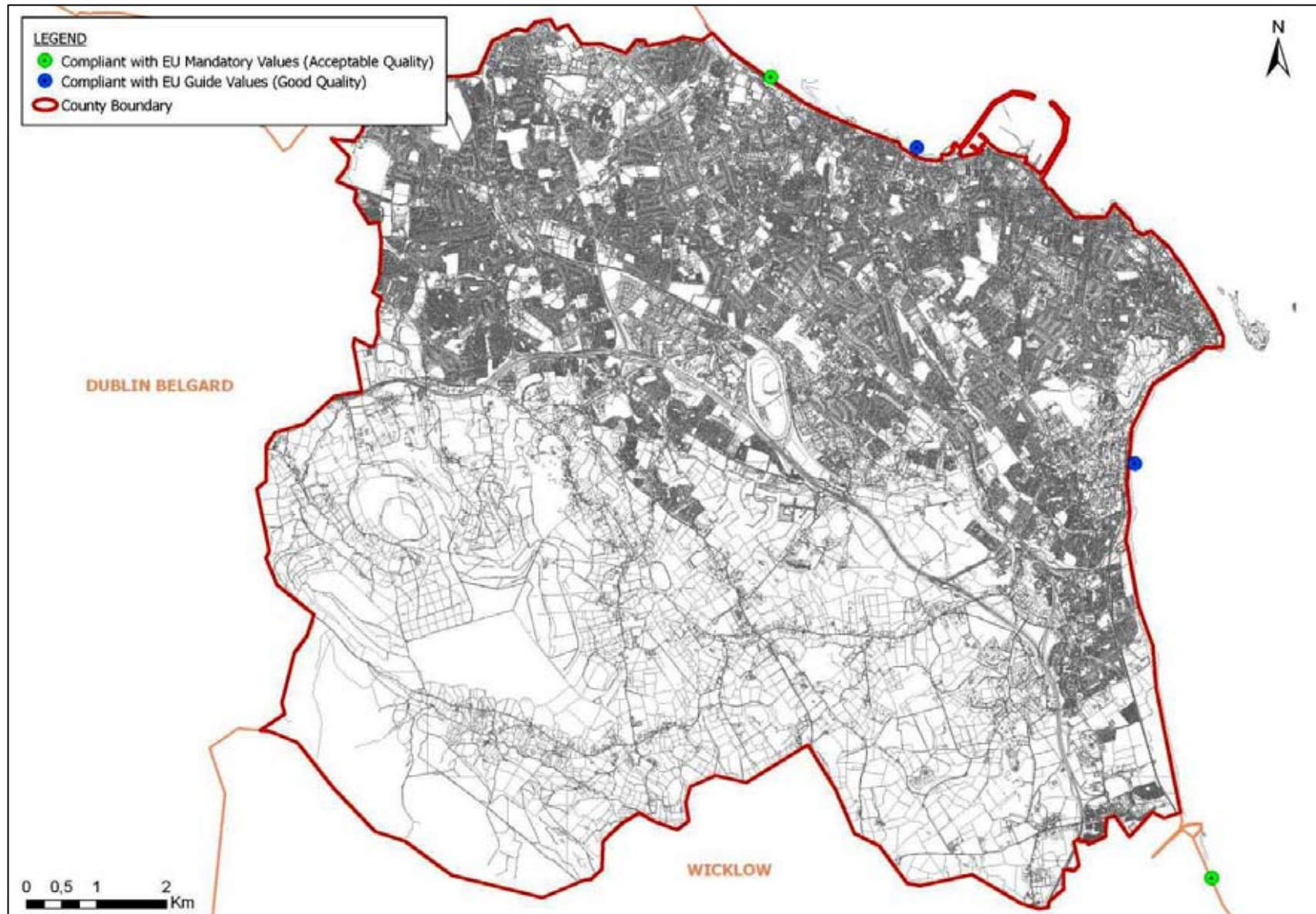


Figure 3.22 Bathing Water Quality

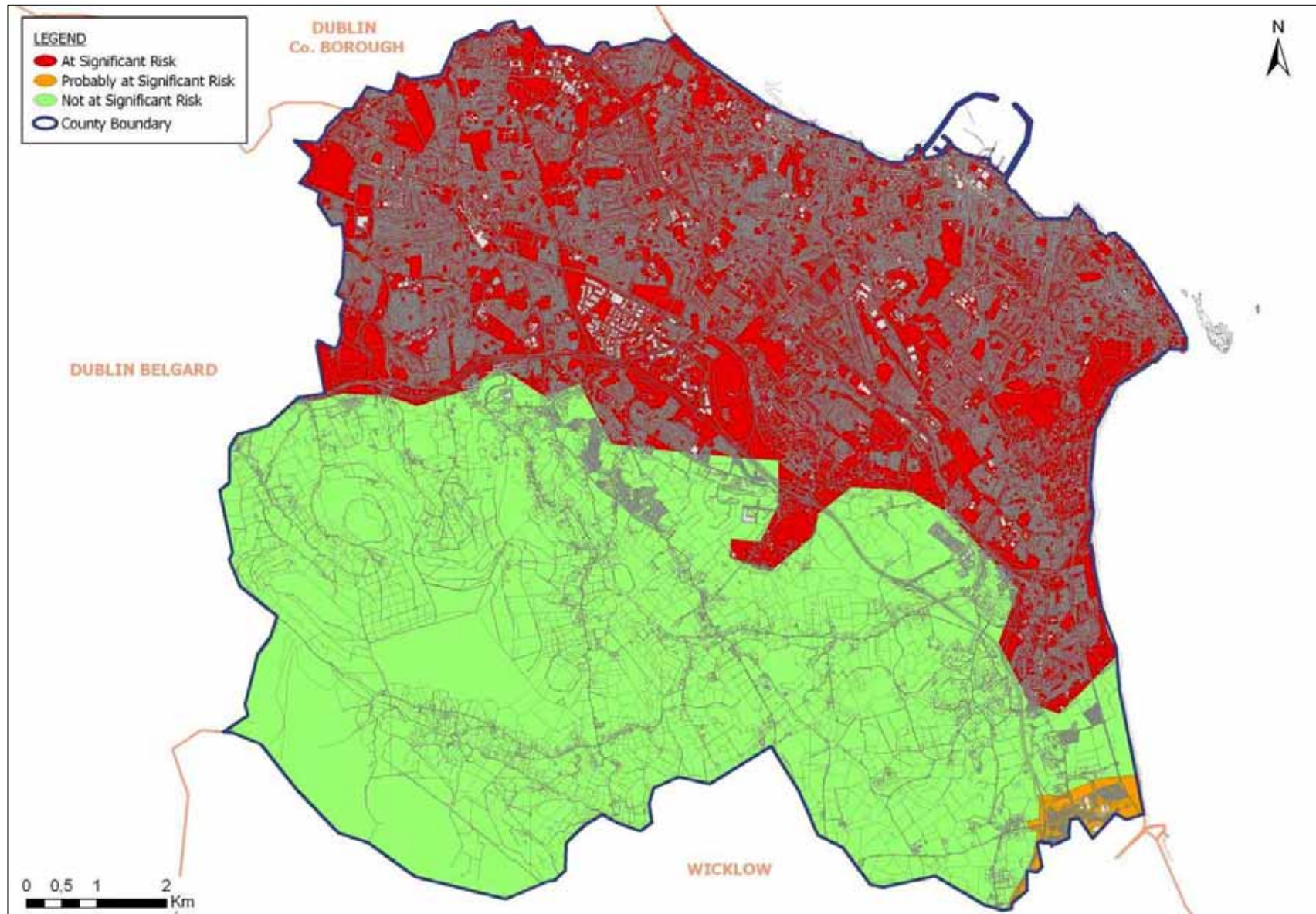


Figure 3.23 Risk Assessment of Groundwater



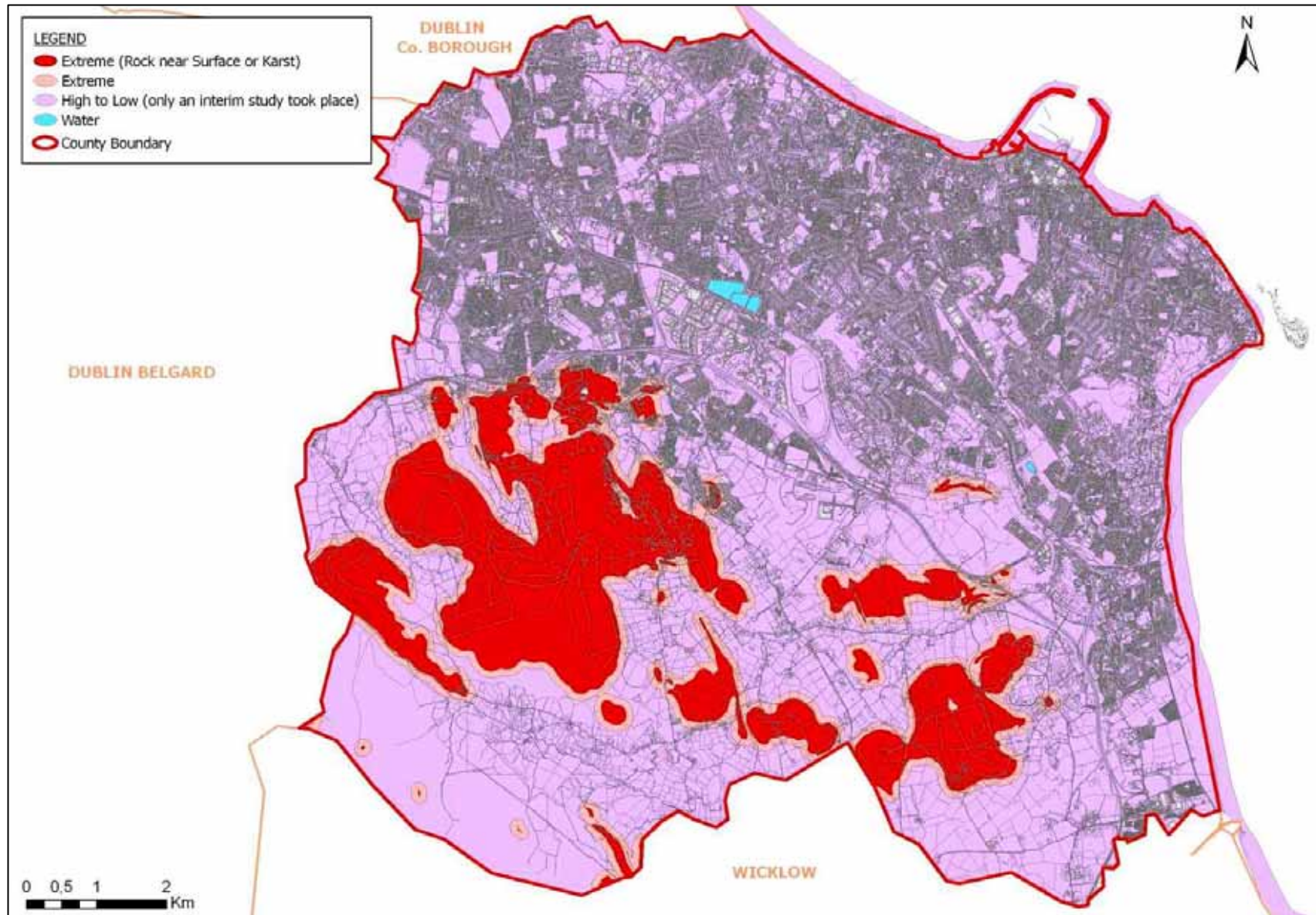
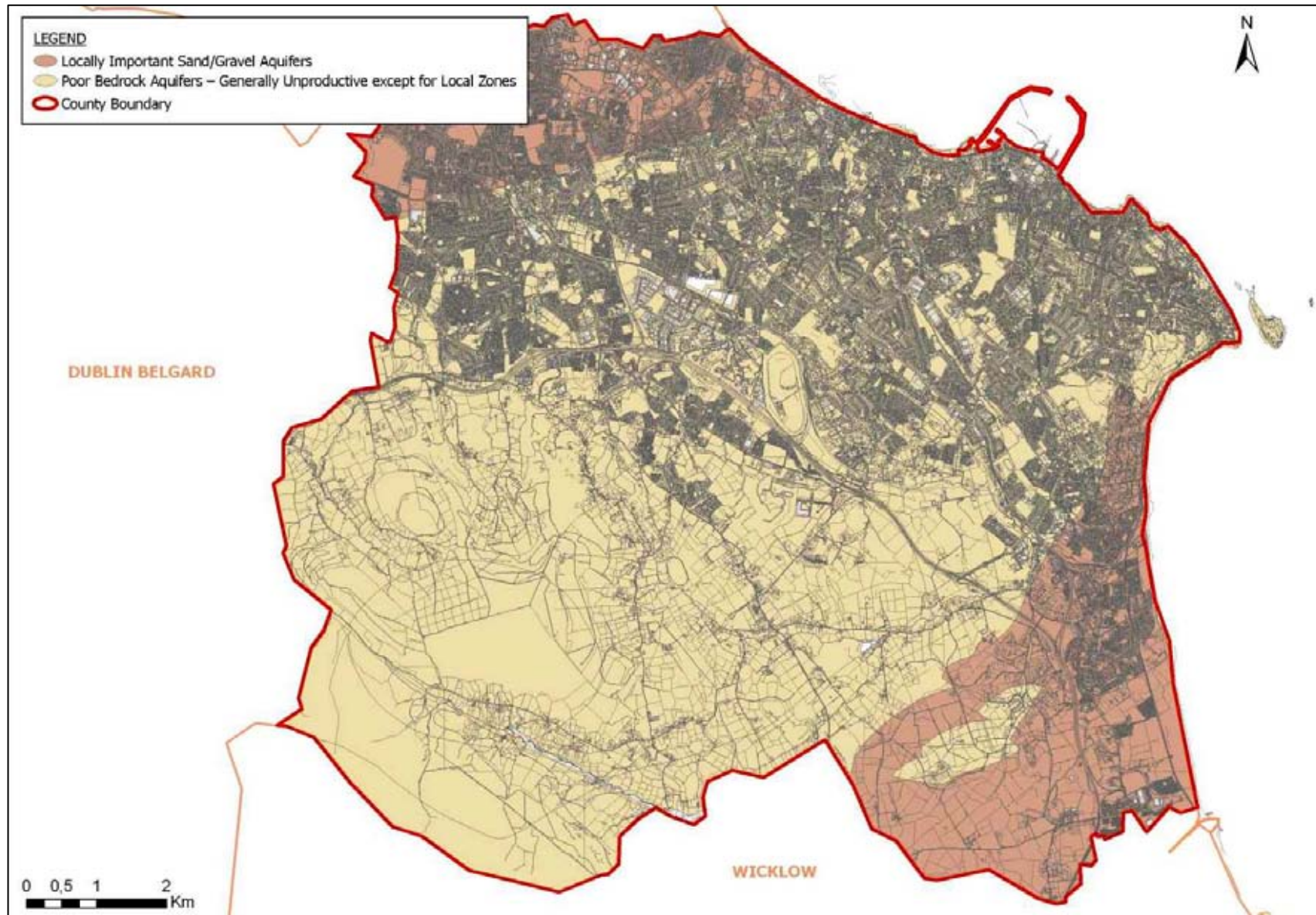


Figure 3.24 GSI Groundwater Vulnerability





**Figure 3.25 GSI Groundwater Productivity**

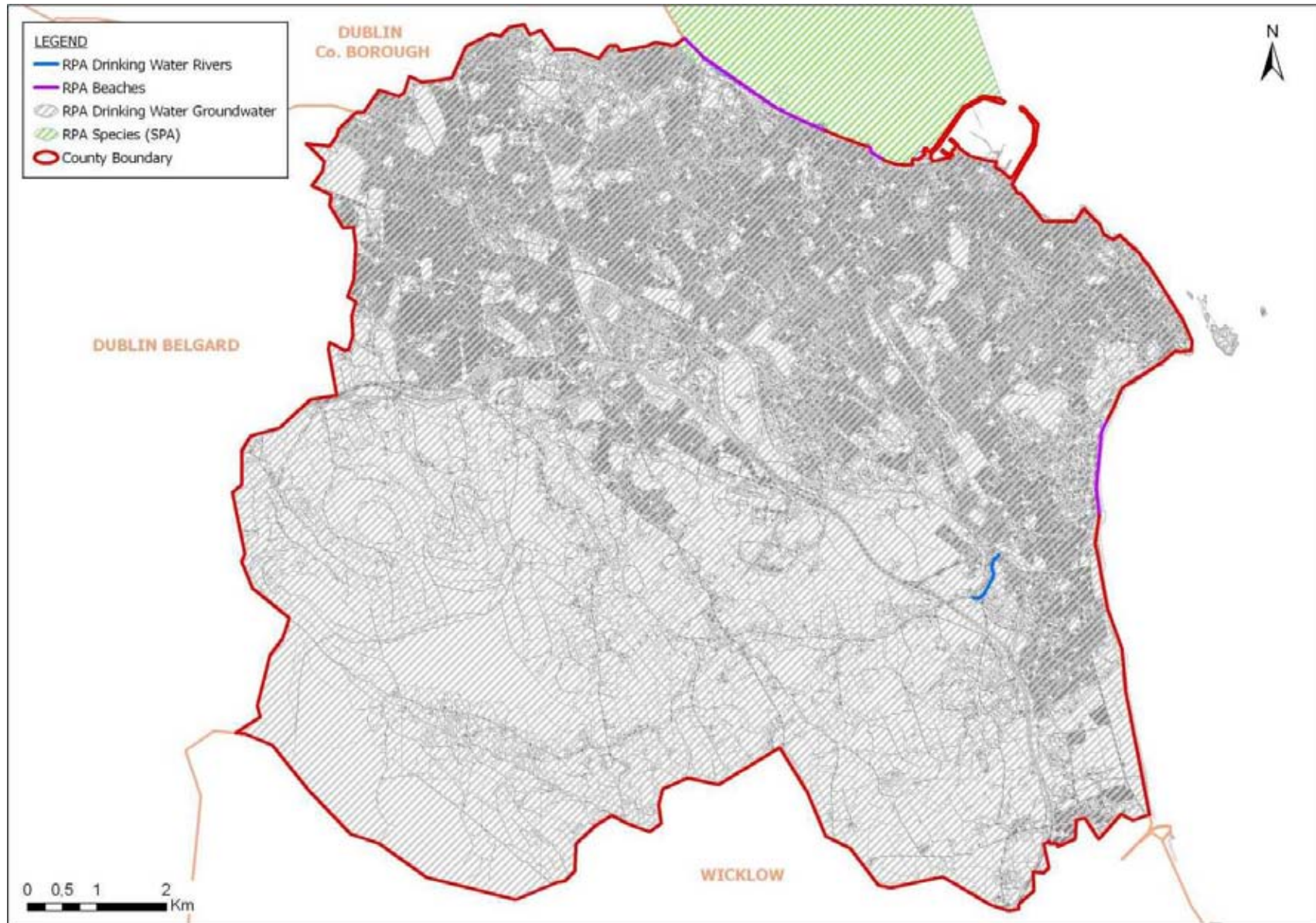


Figure 3.26 WFD Register of Protected Areas



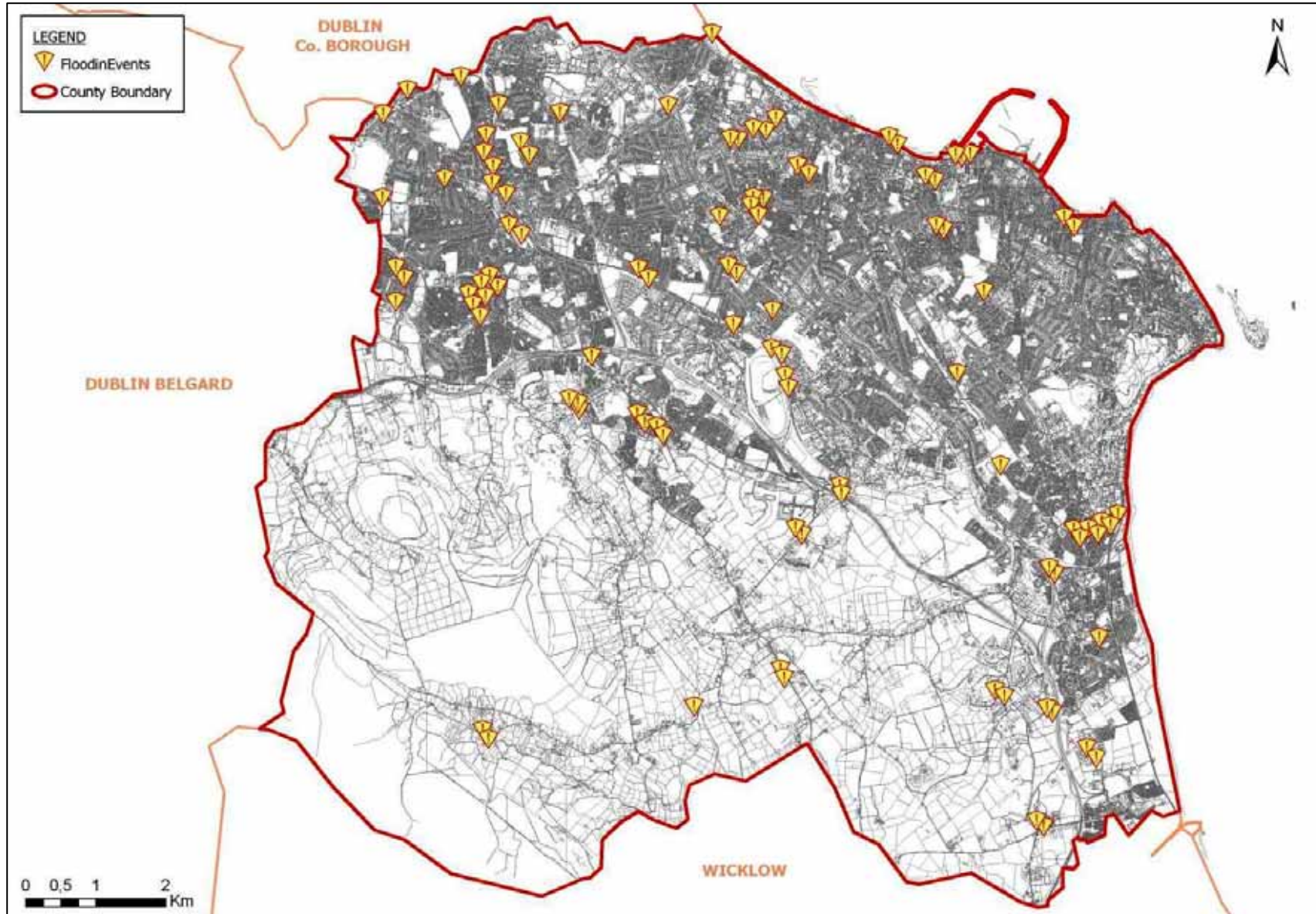


Figure 3.27 Flood events in the Plan area as identified by the Office of Public Works

## 3.6 Air and Climatic Factors

### 3.6.1 Ambient Air Quality

#### 3.6.1.1 Introduction and Legislation

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 pollutants are generated through fuel combustion, in space heating, traffic, electricity generation and industry and, in sufficient amounts, could affect the well being of the areas inhabitants. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

The principles to this European 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 Standards Regulations 2002 (SI No. 271 of 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, Dún Laoghaire-Rathdown, Naas, Carlow, Tralee and Dúndalk.

- 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.

Dún Laoghaire-Rathdown falls into zone A. Current air quality in Zone A is "good". The index is calculated based on the latest available measurements of PM10, sulphur dioxide, nitrogen dioxide and ozone in Zone A.

Dún Laoghaire-Rathdown County Council recently adopted 'The Air Quality Management Plan for the Dublin Region, 2008-2012' under the provisions of the Air Pollution Act 1987.

#### 3.6.1.2 Current Monitoring Sites

There are two current air quality monitoring sites in Dún Laoghaire-Rathdown.

The site on the Glenegeary Road in Dún Laoghaire measures oxides of nitrogen. This site is operated by Fingal County Council on behalf of Dún Laoghaire-Rathdown County Council. Monitoring is done using continuous monitors for nitrogen oxides. Emissions from traffic are the main source of nitrogen oxides in Ireland along with electricity generating stations and industry. Levels in Ireland are moderate but have increased due to the growth in traffic numbers.

The site at the EPA Inspectorate, Richview, Clonskeagh monitors ozone levels. Monitoring is carried out using a continuous monitor for ozone. Ozone is a natural component of the atmosphere. Most ozone is found in the stratosphere, between 12km and 50km above sea level, and in the troposphere, just above the surface of the Earth. Levels of ozone in Ireland are moderate.

### 3.6.2 Potential Point Sources of Emissions to Air

#### 3.6.2.1 IPPC Licensed Facilities

The EPA has been licensing certain large-scale industrial and agriculture activities since 1994. Originally the licensing system was known as Integrated Pollution Control (IPC) licensing, governed by the Environmental Protection Agency Act, 1992. The Act was amended in 2003 by the Protection of the Environment Act, 2003 which gave effect to the Integrated Pollution Prevention Control (IPPC) Directive. Detailed procedures concerning the IPPC

licensing process are set out in the EPA Acts 1992 to 2007 and the associated licensing regulations.

IPPC licences aim to prevent or reduce emissions to air, water and land, reduce waste and use energy/resources efficiently. An IPPC license is a single integrated license which covers all emissions from the facility and its environmental management. All related operations that the license holder carries in connection with the activity are controlled by this license. Before a license is granted, the EPA must be satisfied that emissions from the activity do not cause a significant adverse environmental impact.

There are five IPPC licensed facilities in the Plan area.

The following facilities are licensed for the manufacture or use of coating materials in processes with a capacity to make or use at least 10 tonnes per year of organic solvents, and powder coating manufacture with a capacity to produce at least 50 tonnes per year:

- Nypro Limited (Registration number P0567-02) located on the Corke Abbey, Bray;
- Flight Group Limited (Registration number P0674-01) based at 65 Heather Road, Sandyford Industrial Estate; and,
- Becton Dickinson Insulin Syringe Limited (Registration number P0648-01) on the Pottery Road, Dún Laoghaire,

International Coatings Limited (Registration number P0122-01) - located in Ballycorus, Kiltarnan - is licensed for the manufacture or use of coating materials in processes with a capacity to make or use at least 10 tonnes per year of organic solvents, and powder coating manufacture with a capacity to produce at least 50 tonnes per year.

Pfizer Ireland Pharmaceuticals (Registration number P0019-02) - located on the Pottery Road, Dún Laoghaire - is licensed for the use of a chemical or biological process for the production of basic pharmaceutical products.

Figure 3.28 maps the location of these facilities.

### 3.6.2.2 Waste Licensed Facilities

In 1996 the EPA began licensing certain activities in the waste sector. These include landfills, transfer stations, hazardous waste disposal and other significant waste disposal and recovery activities.

A waste license is a single integrated license dealing with emissions to all environmental media and the environmental management of the facility. All related waste operations connected to the activity are considered in determining a license application. The EPA must be satisfied that the activity will not cause environmental pollution when carried on in accordance with the license conditions. Detailed procedures on processing waste license applications are set out in the Waste Management Act, 1996 which was amended by the Protection of the Environment Act, 2003 and associated regulations.

The Recycling facility at Ballyogan Park, Ballyogan Road, Jamestown Townland, Carrickmines, Dublin 18 (Registration number W0015-01) has been issued with a waste licence. A landfill site which existed previously at this site is currently the subject of a restoration Plan to be implemented by Dún Laoghaire-Rathdown County Council in accordance with EPA licence requirements.

The Recycling facility at Ballyogan Park is mapped on Figure 3.28.

### 3.6.3 Noise

Noise is unwanted sound. It can seriously harm human health and interfere with daily activities at school, at work, at home and during leisure time.

Traffic noise alone is harming today the health of almost every third European<sup>17</sup>.

The main health risks of noise identified by the WHO include: pain and hearing fatigue; hearing impairment; annoyance; interferences with social behaviour; interference with speech communication; sleep disturbance and all its consequences; and performance at work and school.

<sup>17</sup> World Health Organization Regional Office for Europe (2003) *Technical meeting on exposure-response relationships of noise on health 19-21 September 2002* Bonn, Germany Bonn: WHO



The over-riding noise source in Dún Laoghaire-Rathdown is from traffic. Streets in low lying areas that have high traffic counts as well as enclosing taller buildings are likely to have harsh sensory environments with regard to noise levels with regard to this source. As mentioned below, traffic hotspots, such as intersections, are likely to have higher noise levels.

In addition, there are localised noise sources which include air conditioning equipment, marine traffic, port activities, train movements and night clubs.

In accordance with the requirements of EU Directive 2002/49/EC the Council, in collaboration with the three other Dublin Local Authorities, recently produced an Action Plan relating to the '*Assessment of Environmental Noise for the Dublin Agglomeration 2008-2013*'.

*Traffic hotspots* within some of the County's towns are likely to have elevated levels of air pollution and noise due to traffic congestion. These hotspots are located along the main road routes - especially at intersections - and provide for a harsh sensory environment which may impact upon human health.

### 3.6.4 Climatic Factors

#### 3.6.4.1 Greenhouse Gases

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 inventory figures for 2006<sup>18</sup>, the EPA estimates that Ireland's emissions in 2006 were 25.5 per cent higher than the baseline estimate that underlies Ireland's allowable emissions for the period 2008-2012, as agreed in the peer review of Ireland's 2006 submission to the United Nations Framework Convention on Climate Change.

With regard to overall emissions, *Agriculture* is the single largest contributor, at 27.7% of the total, followed by *Energy* (power generation & oil refining) at 22.3% and *Transport* at 19.7%.

The remaining 30% is made up by the Residential sector at 10.4%, *Industry and Commercial* at 17.2%, and *Waste* at 2.6%.

Transport continues to be the dominant growth sector with emissions at 682,000 tonnes higher in 2006 than in 2005. This represents a 5.2% increase on 2005 levels and 165% increase on the 1990 transport emissions. Road transport accounts for 97% of the transport sector emissions. The increase in the GHG emissions from the transport sector reflects sustained increases in fuel consumption with petrol usage up 3.4% and diesel consumption up 7.9% from the previous year.

#### 3.6.4.2 Climate Change

Climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity.

The release of greenhouse gases into the atmosphere as a result of human activities adds to natural climate variability by increasing the naturally occurring greenhouse effect. This greenhouse effect occurs in the atmosphere and is caused by greenhouse gases which exist naturally in the atmosphere. The greenhouse gases retain the radiation which is released from the earth as a result of heating by the sun. This retention maintains a global temperature which is suitable for ecosystems and life.

Climate change is not limited to changes in temperatures or weather - it can also mean changes in the occurrence of extreme and unstable weather conditions, storms and floods, droughts and coastal erosion.

<sup>18</sup> EPA (2008) *Ireland's Emissions of Greenhouse Gases for the period 1990-2006* Wexford: EPA

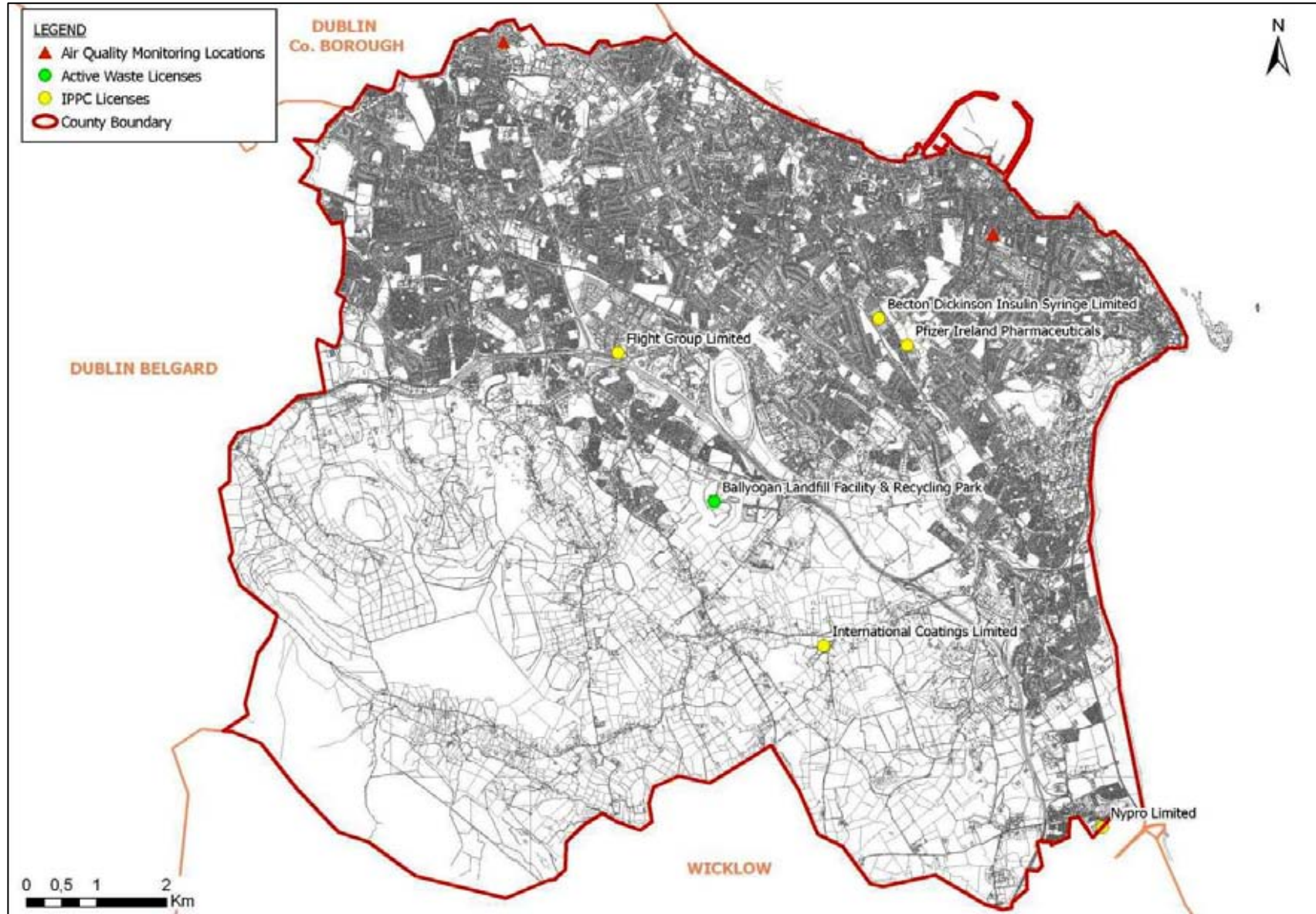


Figure 3.28 Location of IPPC Licensed Facilities

### 3.6.4.3 Climate Model Predictions and Sea Level Rise Scenarios

The EPA's 'Climate Change: Regional Climate Model Predictions for Ireland' (2005)<sup>19</sup> report provides an analysis of future Irish climate conditions for the period 2021–2060 based on the outputs from a new regional climate modelling facility located in Met Éireann.

Projected temperature changes from the model output show a general warming in the future period with mean monthly temperatures increasing typically between 1.25 and 1.5°C. The largest increases are seen in the southeast and east, with the greatest warming occurring in July.

For precipitation, the most significant changes occur in the months of June and December; June values show a decrease of about 10% compared with the current climate, noticeably in the southern half of the country; December values show increases ranging between 10% in the south-east and 25% in the north-west.

In the future scenario, the frequency of intense cyclones or storms over the North Atlantic area in the vicinity of Ireland is increased by about 15% compared with the current climate. This is related to the projected general rise in sea surface temperatures.

Sea level changes result from changes that occur in external forcing mechanisms, such as changes in the redistribution of heat between the equator and the poles and other atmospheric changes. The EPA's 'Climate Change: Scenarios and Impacts for Ireland' (2003)<sup>20</sup> report chose three sea level rise scenarios in order to assess 6 selected areas (one of which is Dublin Bay) along the Irish coastline at risk from an increase in sea level: 0.09 m, 0.48 m and 0.88 m in conjunction with a digital elevation model to project probabilities of inundation. The maps presented in the publication were not of sufficient quality to use

<sup>19</sup> Community Climate Change Consortium for Ireland (2005) *Environmental RTDI Programme 2000–2006 Climate Change: Regional Climate Model Predictions for Ireland (2001-CD-C4-M2) Final Report* Wexford: Environmental Protection Agency

<sup>20</sup> Department of Geography, National University of Ireland, Maynooth (2003) *Environmental RTDI Programme 2000–2006 Climate Change: Scenarios and Impacts for Ireland (2000-LS-5.2.1-M1) Final Report* Wexford: Environmental Protection Agency

in this report and the GIS layers used to create the maps were not available from either the EPA or the authors of the report. It is noted however, the maps indicate that rising sea levels could place certain areas of land at Dublin Bay - including lands in Dún Laoghaire-Rathdown - at risk.

At the time the report was written, sea level at Dublin was rising by 0.23 mm per year.

At Killiney, coastal erosion was measured from 1837-1975 where it was found that the average rate of erosion was 0.39 meters per year.

A Coastal Protection Strategy Study is currently underway in the County. This will identify coastal areas at risk of flooding/erosion and prioritise any recommended remedial works.

### 3.6.4.4 Potential Effects of Changed Climate and Rising Sea Levels

The EPA's 'Climate Change: Scenarios and Impacts for Ireland' (2003) report identifies where vulnerability to climate change exists in Ireland and what adjustments are likely in the operation of environmental systems in response to such changes. The following potential effects are cited from this report.

It is noted that the major cities of Dublin, Cork, Limerick and Galway were seen to be most vulnerable from an economic perspective, with the Shannon Estuary and the rias of the south and west coasts also at risk.

- **Flooding and Erosion**

At the regional scale, the major effects of a sea level rise are loss of land as a consequence of increased erosion (due to changes in coastal currents and sedimentation rates) and inundation and increased risk of flooding (both at the coast and inland along major river networks during storm surge events). Flooding risk would also be enhanced if a storm surge is coupled with intense or long duration precipitation events.

Areas in the south of the country are likely to feel the effects of climate change first, particularly low-lying coastal locations with little or no natural protection, located on 'soft' or easily eroded material. Coastal floodplains are especially at risk on occasions when a high tide and storm surge couple with a period of intense rainfall lead to a breach in the carrying capacity

of the drainage network, a situation in Ireland which has become evident over the last decade. Sea level rise presents itself as a serious problem where there is infrastructure at risk of inundation. In Ireland, the EPA report identifies, the impacts of sea level rise will be most apparent in the major cities of Cork, Limerick, Dublin and Galway. The inability of the shoreline to adjust naturally to a change in conditions in areas of dense infrastructure may enhance any impacts as the system tries to attain a new equilibrium between erosion, transportation and deposition.

As increased temperatures will lead to greater amounts of water vapour in the atmosphere and an accelerated global water cycle, it is reasonable to expect that river catchment areas will be exposed to a greater risk of flooding. The increase in winter precipitation will be likely to produce a significant increase in the more intense discharge episodes, raising the risk of future flooding.

The report identifies that although it is not possible to comment on changes in flood magnitude and frequency, the increase in winter runoff indicated for many parts of the west, especially under the scenario for the period 2061–2090, is likely to have significant implications. River flooding tends to be more common during the wetter winter months when soils are near saturation and can be exacerbated in coastal areas when interactions occur between high tides and high flows. Many of the rivers draining upland areas have a rapid or 'flashy' response to rainfall enhanced by rising topography. Steep slopes and thin soils favour rapid flow pathways and water is rapidly transmitted to the channel network especially in urbanised catchments with extensive areas of impermeable surfaces.

The effect of a sea level rise on estuaries will tend to enlarge their vertical and horizontal extent, resulting in the penetration of tides further upstream. The outflow from rivers would be impeded as a consequence, which, in a high intensity rainfall event where runoff is high, would increase the risk of flooding.

- **Biodiversity**

Salt marshes and sand dunes are ecological strongholds providing a variety of habitats for a range of different species. Many of the marsh systems in Ireland provide over-wintering

feeding grounds for many species of migratory birds. The loss of these habitats could present major problems for species numbers and diversity, aspects dealt with in the previous chapter.

Rising sea levels could lead to the covering of some of the County's habitats which are important to bird populations. As much of the County's coastal areas are developed, the potential for habitats to migrate inland is limited. This could impact in certain areas on waterfowl roosting as well as feeding areas, by reducing or eliminating roosting areas, or making them more liable to human disturbance.

### 3.6.5 Existing Problems

*Traffic hotspots* within the urban parts of the Plan area are likely to have elevated levels of air pollution and noise due to traffic congestion.

Localised air pollution incidences with regard to PM10 and PM2.5 and noise pollution are both likely to occur when demolition/construction takes place - especially in relation to PM10 if suppression techniques are not introduced - and when traffic is queuing for long periods of time.

The presence of radon gas, a naturally occurring radioactive gas that originates from the decay of uranium in rocks and soils, has been detected in 6% of houses within the Plan area. See section 3.3.2 for more details.

Ireland's current emissions are exceeding targets agreed in the peer review of Ireland's 2006 submission to the United Nations Framework Convention on Climate Change. It is unlikely that Ireland will meet these targets and it is likely therefore that financial penalties will be incurred. Transport related emissions continue to be the dominant growth sector.

Changes in sea level and/or changes in the occurrence of severe rainfall events as a result of climate change could adversely impact upon the County's human beings, its biodiversity and its economy (see also Section 3.5.7 *Flooding*).

### **3.6.6 Evolution of Air and Climatic Factors in the absence of a Development Plan**

Increases in the use of catalytic converters, cleaner fuels, better engine technology and maintenance is generally reducing the pollution omitted per motor vehicle however this reduction is probably being offset by the increase in the number of cars as well as the increase in the volume and incidences of traffic congestion. Increases in the number of cars as well as the increase in the volume and incidences of traffic congestion may lead to increases in air and noise pollution in the future.

If new development or an intensification of existing land uses were to occur in the Plan area adverse impacts upon air quality and noise levels, and resultant impacts upon human health, would be likely to arise if unmitigated.

In the absence of a Development Plan, the realisation of objectives relating to energy efficiency, renewable energy and a reduction in transport related emissions contained within the Development Plan would be made more difficult.

The Development Plan provides an opportunity to provide for the regeneration of certain urban and inner suburban areas within Dún Laoghaire-Rathdown which are close to existing and proposed high quality public transport linkages. This regeneration would provide for an increased population which would be less dependent upon private modes for transportation and would therefore be likely to generate less transport related greenhouse gas emissions than populations located further away from the urban areas. In the absence of a Development Plan regeneration of the areas provided under the Development Plan would not be achieved and an opportunity to prevent the generation of future transport related greenhouse gas emissions would be missed.

## **3.7 Material Assets**

### **3.7.1 Waste Water**

#### **3.7.1.1 Relevant Legislation**

The Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive

98/15/EEC) 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. Such treatment is essential in order to meet the requirements of the Water Framework Directive (see Section 3.5).

#### **3.7.1.2 Current Provision of Waste Water Treatment Infrastructure**

Waste water arising from Dún Laoghaire-Rathdown is collected by the waste water collection network and pumped to the waste water treatment plant at Shanganagh where it undergoes preliminary treatment. The primary discharge point is at the end of a 1.7km long sea outfall which discharges into Killiney Bay.

The other catchments in the Plan area - West Pier West, Dodder Valley, UCD and West Pier East - flow to the West Pier pumping station and on to Ringsend Waste Water Treatment Plant - the remainder of the County (with the exception of the small Corke Abbey Catchment north of Bray - which flows to Bray) is unserviced and utilises septic tank treatment.

The waste water treatment plant, pumping station and the wastewater catchment areas within the Plan area are mapped on Figure 3.29.

#### **3.7.1.3 Upgrading Existing Infrastructure**

A major investment program is currently underway to upgrade existing, and construct new, wastewater infrastructure. Schemes already underway or at design stage, which will address already identified deficiencies, include the Shanganagh-Bray Main Drainage Scheme, the Old Conna/Woodbrook Sewerage Scheme and the Dún Laoghaire Catchment Study.

Improvements to the Glenamuck / Kiltarnan drainage scheme included the replacement of septic tanks and connection to main drainage network.

Upgrading of the Collimore Drainage Scheme included replacing sea outfalls and connection to main drainage network. By means of an underground pumping station located at the viewing platform at Colliemore Harbour, drainage flows are conveyed via a rising main and gravity sewer on Collimore Road to a second pumping station in the grounds of the Loreto Convent. From this pumping station all the flows are then directed to the existing Pumping Station located



at Bulloch Harbour for transfer to West Pier and onward to Ringsend for treatment. This Project has now eliminated public sewage discharges directly to the bay at Collimore.

A Design, Build and Operate contract to upgrade the Shanganagh Waste Water Treatment Plant (WWTP) to provide full secondary treatment for wastewater from Shanganagh and Bray has been signed. It is hoped that works will be complete by 2011/2012.

The upgrading of the Wastewater Infrastructure outlined above will improve coastal water quality and will meet the requirements of the EU Urban Wastewater Treatment Directive as mentioned above. It will also contribute to fulfilling Dún Laoghaire-Rathdown County Council's obligations under the Water Framework Directive.

#### 3.7.1.4 Capacity and Demand

Current (2002) loading at the Shanganagh Waste Water Treatment Plant is 106,930 population equivalent (PE)<sup>21</sup>. The expected future loading is 180,000 PE and the ultimate loading is 240,000 PE.

It is predicted that the future Shanganagh Wastewater Treatment Works will reach capacity in approximately 2018 (subject to the rate of development). Provision has been made in the layout to further extend the plant if and when necessary.

### 3.7.2 Drinking Water

#### 3.7.2.1 Water Supply

Over 98% of water distributed in Dún Laoghaire-Rathdown is purchased from Dublin City Council. This water is sourced from catchments outside DLRCC, primarily Blessington Lakes, the Vartry River and Bohernabreena.

There are two small surface water (river / stream) abstraction points in Kiltarnan and Ballyedmonduff serving c. 500 households in total and a small groundwater source in Glencullen serving c. 200 households.

<sup>21</sup> Population equivalent (in waste-water monitoring and treatment) refers to the amount of oxygen-demanding substances whose oxygen consumption during biodegradation equals the average oxygen demand of the waste water produced by one person.

These abstraction points can be seen on Figure 3.29.

#### 3.7.2.2 Capacity and Demand

Total daily demand in August 2008 averaged 56 MI/d (Megalitres per day). Water production capacity in the Dublin region is barely adequate and is currently unable to meet demand in the event of adverse weather cycles or significant system failure.

Regionally, some minor water production capacity enhancement is underway. However, this will be inadequate to supply increased demand in the region unless a major new water source is in place by 2015.

#### 3.7.2.3 Upgrading Existing Infrastructure

Within Dún Laoghaire-Rathdown, two major schemes are required to provide storage and distribution capacity to development areas:

1. The Sandyford High Level Water Scheme will be completed in 2009 and will provide adequate storage for development from Sandyford Industrial Estate to Kiltarnan, including Ballyogan, Stepside and Glenamuck. Additional enlargement of distribution mains to Sandyford Industrial Estate will be required to enable additional development there. Work on the Sandyford High Level Water Supply Scheme, commissioned to alleviate water supply deficiencies in the Sandyford/Stepaside area, is reasonably well advanced and programmed for completion towards the end of 2009.
2. The Old Connaught Woodbrook WSS is a major scheme required to provide storage and distribution capacity from Cherrywood to the Bray border, including Woodbrook, Old Conna, Ballyman and Ferndale. A preliminary report for this scheme has been submitted to the DEHLG and an outline programme prepared showing completion of the scheme by the latter half of 2012. Other than Cherrywood, very little additional development in these areas can be supplied until the major elements of this scheme are in place.

Smaller scale network enhancement may be required in other areas to supply increased demand.

The anticipated effects of climate change may affect policies over the period of the Development Plan as information becomes available.

Under normal circumstances, water supply is currently adequate throughout the County. System limitations in Dublin City Council treatment plants and major delivery mains occasionally result in temporary local supply inadequacies.

Adverse weather cycles (e.g. draught or frost) are expected to cause more widespread shortfalls throughout the region until a new major source is in place.

The Dublin Region Storage Study is a strategic study aiming to: determine the projected water demands for the Greater Dublin Area up to the year 2031; and, identify future drinking water storage requirements for the Region.

The two specific recommendations on water storage at Rathmichael/Cherrywood and Ballyman - together with the required ancillary infrastructure - are critical to the development of lands which were newly zoned in the 2004 Development Plan. The report also recommends the:

- Upgrading of pumps at Ballyboden;
- Replacement of the 18 inch main from Woodtown to Sandyford; and,
- Provision of a link from the Rathmichael supply area to the Church Road supply area.

These specific schemes replace the previously approved scheme to examine the Water infrastructure deficiencies in the south part of the county.

#### **3.7.2.4 Drinking Water Quality**

Drinking water must be clean and wholesome. That means it must meet the relevant water quality standards and must not contain any other substance or micro-organism in concentrations or numbers that constitute a potential danger to human health.

Compliance with the drinking water requirements is determined by comparing the

results of analyses submitted by water suppliers to the standard for 48 parameters specified in the European Communities (Drinking Water) Regulations (No. 2), 2007. To ensure that these standards are met, each water supply must be monitored on a regular basis.

Under Section 58 of the Environmental Protection Agency Act 1992 the EPA is required to collect and verify monitoring results for all water supplies in Ireland covered by the European Communities (Drinking Water) Regulations, 2000. The EPA publishes their results in annual reports.

Dún Laoghaire-Rathdown County Council carried out analysis on 408 check and 30 audit samples during 2006, exceeding the minimum monitoring requirements as outlined in the Regulations. The overall rate of compliance in Dun Laoghaire-Rathdown, 98.4%, was above the national average and the quality of water in Dun Laoghaire-Rathdown was in general good. Compliance with the microbiological (99.8%) and chemical (99.5%) parametric values was good while compliance with the indicator parametric values (98.1%), while less than the microbiological and chemical, was satisfactory<sup>22</sup>.

### **3.7.3 Waste Management**

The Council currently has no landfill site or any active waste treatment facilities in its functional area. Hence the vast bulk of waste that arises in the County is collected locally and transferred to facilities outside the County at Kill and KTK Landfill at Kilcullen, Co. Kildare.

Occasionally a time-limited or volume-limited waste permit is granted to a landowner for the acceptance of waste material suitable for land reclamation purposes. Such waste is classed as inert e.g. soil and/rock and may be sourced within or outside Dún Laoghaire-Rathdown. Additionally home composting of organic waste is also encouraged.

Ballyogan Landfill was decommissioned in 2005. There is a transfer/baling station there along with a major recycling civic amenity site. The old landfill is undergoing remediation under EPA license. Plans for a regional scale public park at the site exist.

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<sup>22</sup> EPA (2007) *The Provision and Quality of Drinking Water in Ireland: A Report for the Years 2006-2007* Wexford: EPA

Dún Laoghaire-Rathdown is a signatory to the Waste Management Plan for the Dublin Region 2005-2010.

There are currently a number of “bring centres” for recyclables available for public use in Dún Laoghaire-Rathdown.

### 3.7.4 Vehicular Circulation

Vehicular circulation in Dún Laoghaire-Rathdown is provided through primary and secondary routes, main streets and roads.

Main roads within the Plan area include the M50, N11, N31, R112, R113, R116, R117, R118, R119 and R761.

*Traffic hotspots* are found within the area, particularly in the urban parts, along the main road routes - especially at intersections - and provide for a harsh sensory environment which may impact upon human health.

The urban regions of the Plan area is well served by public transport with the DART, Luas and buses all providing transport services.

Figure 3.30 illustrates transport proposals under the Plan. These proposals include cycle routes, roads and motorways, quality bus corridors and the Luas route. Progress is being made on the proposal for the extension of the Luas. A Draft EIS Scoping Report has been carried out for the B2 line<sup>23</sup>.

### 3.7.5 Existing Problems

Certain regions of the Plan area are not within the catchment of the waste water treatment network and consequently development in these areas use septic tanks to treat waste water arising.

Waste water arising in the Shanganagh catchment undergoes preliminary treatment before being discharged into Killiney Bay. The level of treatment is insufficient and needs to be improved as the majority of coastal waters in the Plan area are at significant of failing to meet the objectives of the Water Framework Directive by 2015. The proposed upgrades to wastewater infrastructure should alleviate this problem.

<sup>23</sup> RPA Luas Line B2, Cherrywood to Bray Area, Environmental Draft Scoping Report, April 2008.

It is noted that there are development pressures relating to sewage discharge, water, capacity and demand in terms of current and projected need as identified in the sub sections above.

### 3.7.6 Evolution of Material Assets in the absence of a Development Plan

In the absence of an Development Plan, it is likely that dispersed development would occur. This would make it more difficult to provide the necessary infrastructure 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.

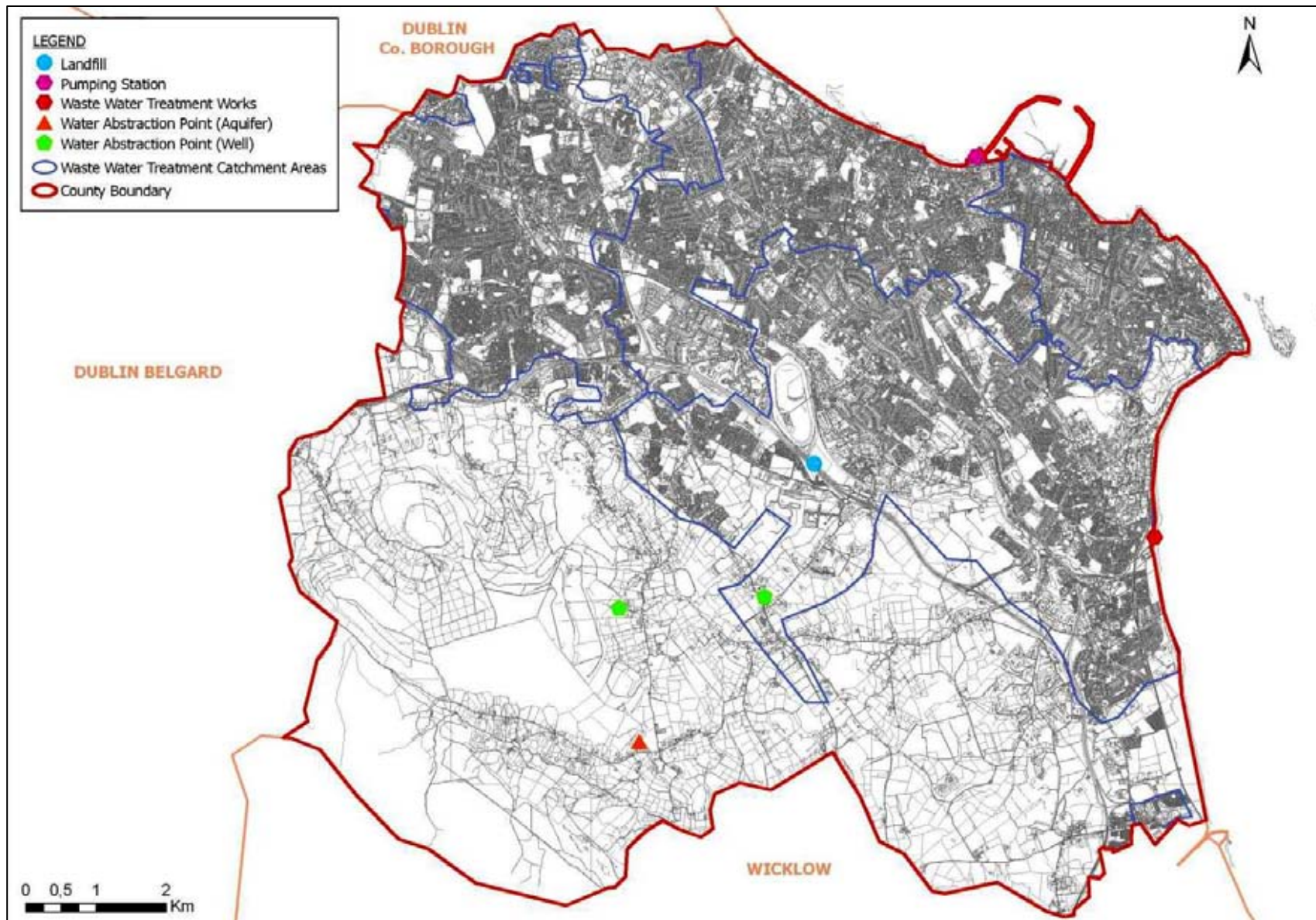


Figure 3.29 Water Abstraction Points, Waste Water Treatment Works, Pumping Station and Landfill



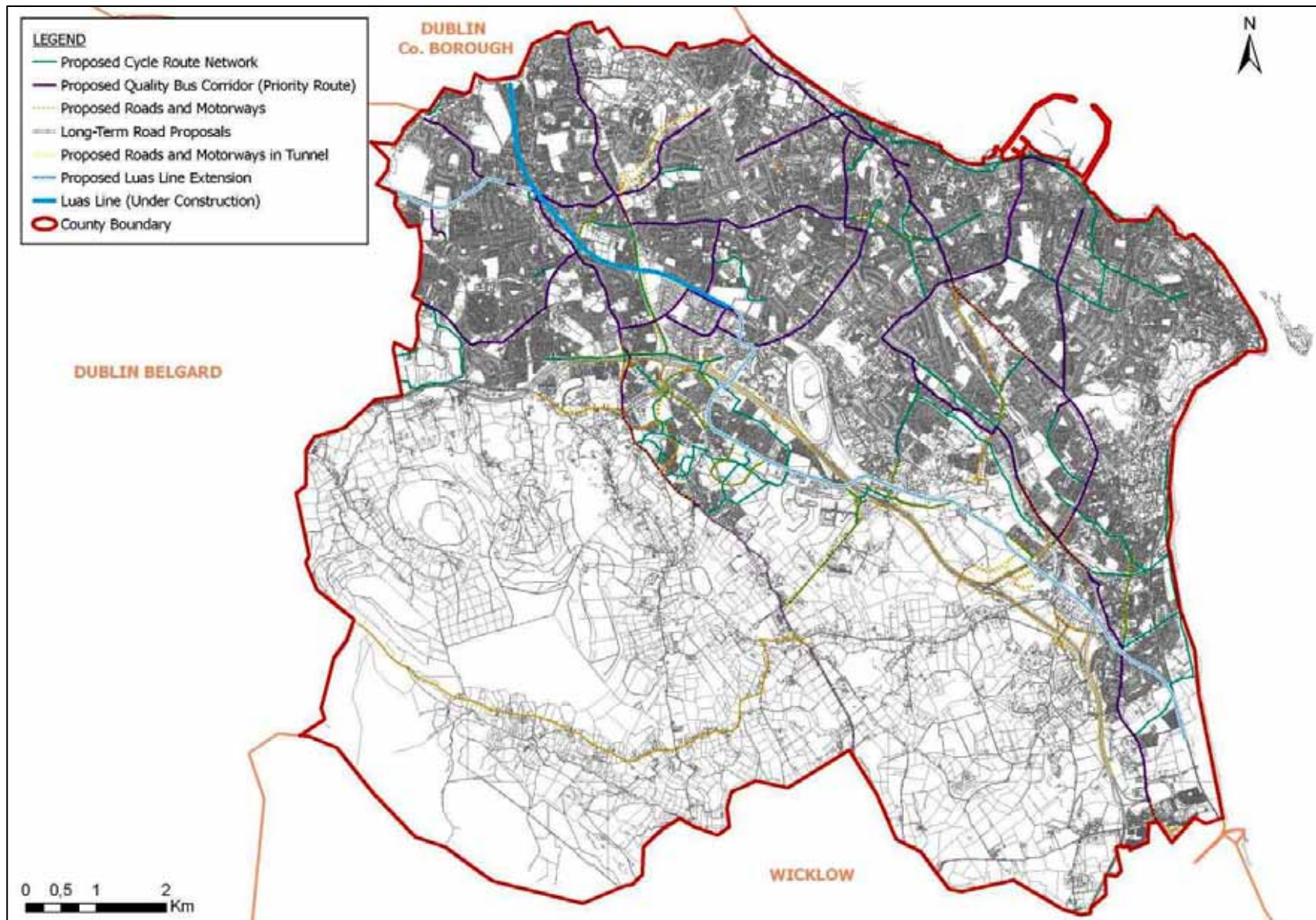


Figure 3.30 Transport Proposals

## 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 Dún Laoghaire-Rathdown 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 localities and communities within the County 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.

Human interaction with the land and sea is evident from the earliest of times up to the present in Dún Laoghaire-Rathdown, from agricultural landscapes to archaeological remains to growing urban centres.

### 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.

Dún Laoghaire-Rathdown contains various types of archaeological heritage which are protected as monuments.

#### 3.8.2.2 Record of Monuments and Places

Dún Laoghaire-Rathdown's archaeological heritage is protected under the National Monuments Acts (1930-2004), Natural Cultural Institutions Act 1997 and the Planning Acts.

The Record of Monuments and Places (RMP) is an inventory, put on a statutory basis by amendment to the National Monuments Act 1994, of sites and areas of archaeological significance, numbered and mapped.

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 Acts. Monuments of architectural and historical interest also come within the scope of the Acts. Monuments include: any artificial or partly artificial building, structure or erection or group of such buildings, structures or erections; any cave, stone or other natural product, whether or not forming part of the ground, that has been artificially carved, sculptured or worked upon or which (where it does not form part of the place where it is) appears to have been purposely put or arranged in position; any, or any part of any, prehistoric or ancient tomb, grave or burial deposit, or, ritual, industrial or habitation site; and any place comprising the remains or traces of any such building, structure or erection, any such cave, stone or natural product or any such tomb, grave, burial deposit or ritual, industrial or habitation site, situated on land or in the territorial waters of the State', but excludes 'any building or part of any building, that is habitually used for ecclesiastical purposes'.

A recorded monument is a monument included in the list and marked on the map which comprises the Record of Monuments and Places (RMP) 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.

In Dún Laoghaire-Rathdown, there are around 400 items on the Record of Monuments and Places (RMP), with a Zone of Archaeological Potential shown around each monument. There are more entries to the Record of Monuments and Places in the rural, south eastern parts of the Plan area though clusters exist at Dalkey Island and at Dalkey. Clusters also exist west of Loughlinstown and at Glencullen and also at Kilmashogue Mountain in the west of the Plan area.

Figure 3.31 shows the spatial distribution of entries to the RMP in Dún Laoghaire-Rathdown.

Enclosures, Fulacht Fias, Castles, Churches and Grave Yards are amongst the most popular recorded monuments in the Plan area.

Enclosures include areas defined by an enclosing element and occurring in a variety of shapes and sizes, possessing no diagnostic features which would allow classification within another monument category. These may date to any period from prehistory onwards.

A Fulacht Fia is a horseshoe-shaped or kidney-shaped mound consisting of fire-cracked stone and charcoal-enriched soil built up around a sunken trough located near or adjacent to a water supply, such as a stream or spring, or in wet marshy areas. The first recorded use of the Irish term 'fulacht fiadh/fia' (cooking pit of the deer or of the wild) as relating to ancient cooking sites was in the 17th century. These are generally interpreted to have been associated with cooking and date primarily to the Bronze Age (c. 2400-500 BC).

Castles can date from the late 12th to the 16th century AD. Castles in the Plan area include Anglo-Norman masonry castles, hall-houses and tower houses.

Churches are used for public Christian worship. These can be of any date from c. 500 AD onwards.

Grave yards include the burial area around a church. These date from the medieval period (5th-16th centuries) onwards.

### **3.8.2.3 Zone of Archaeological Potential**

Dalkey, an historic town, has been designated by the Department of the Environment, Heritage and Local Government as a Zone of Archaeological Potential, and is an area where intense archaeology is present.

The historic core of Dalkey has also been designated as an Architectural Conservation Area, with specific policy recommendations formulated to protect its special character and guide its future development, see Section 3.8.3.3.

### **3.8.2.4 Industrial Heritage**

The industrial heritage of Dún Laoghaire-Rathdown includes some very important sites such as the Dublin and Kingstown Railway, the Atmospheric Railway, the chimney flue at Ballycorus lead mines and Dún Laoghaire-Rathdown Harbour.

The industrial heritage of Dún Laoghaire-Rathdown also contains a wide range of elements, including transportation systems, such as, railway infrastructure, engineering structures such as bridges and viaducts, and small local items such as milestones and post boxes.

## **3.8.3 Architectural heritage**

### **3.8.3.1 Introduction**

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.

### **3.8.3.2 Record of Protected Structures**

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.

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.

In relation to a protected structure or proposed protected structure, the following are encompassed:

- (i) the interior of the structure;
- (ii) the land lying within the curtilage<sup>24</sup> of the structure;
- (iii) any other structures lying within that curtilage and their interiors; and,
- (iv) all fixtures and features which form part of the interior or exterior of any structure or structures referred to in subparagraph (i) or (iii).

There are currently in excess of 2,000 Protected Structures within the County.

These structures include harbours, piers, boat slips, bridges, quarries, Martello Towers, Victorian terraces, Georgian houses, public buildings, street furniture, churches, castles, schools, yacht clubs and a range of domestic architecture.

Figure 3.32 maps the location of entries to the Record of Protected Structures within the Plan area. These are mainly located along the coastline from Blackrock to Dalkey.

A National Inventory of Architectural Heritage (NIAH) Survey for the Dún Laoghaire-Rathdown area has yet to be published.

### 3.8.3.3 Architectural Conservation Areas

In addition to these Protected Structures, there are eleven Architectural Conservation Areas adopted in the current County Development Plan including those at:

- Foxrock
- Dalky
- Killiney
- Dundrum

<sup>24</sup> Curtilage is normally taken to be the parcel of ground immediately associated with the Protected Structure, or in use for the purposes of the structure. Protection extends to the buildings and land lying within the curtilage. While the curtilage sometimes coincides with the present property boundary, it can originally have included lands, features or even buildings now in separate ownership, e.g. the lodge of a former country house, or the garden features located in land subsequently sold off. Such lands are described as being attendant grounds, and the protection extends to them just as if they were still within the curtilage of the Protected Structure.

- Booterstown
- Dún Laoghaire

The Planning and Development Act, 2000 provides the legislative basis for the protection of such areas, known as Architectural Conservation Areas (ACAs). An ACA is a place, area or group of structures or townscape which is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value, or contributes to the appreciation of protected structures, whose character it is an objective to preserve in a development plan. The ACA designation requires that planning permission must be obtained before significant works can be carried out to the exterior of a structure in the ACA which might alter the character of the structure or the ACA.

ACAs enable the protection of the existing character of areas within the settlements listed above throughout the County. This character is a combination of the various layers of development from earliest times to the present. Though often not individually very important, vernacular buildings contribute to the acknowledged distinctive character of many of the County's built up areas. Collectively, if properly used and maintained, they can make a significant impact on the retention and enhancement of that character which is important in maintaining local distinctiveness for both inhabitants and visitors.

A number of Conservation Areas are identified in the current County Development Plan 2004-2010. These areas will be assessed to determine if they meet the requirements and criteria for re-designation as Architectural Conservation Areas as set out in the Planning and Development Act, 2000 and the Department of the Environment, Heritage and Local Government, *Architectural Heritage Protection Guidelines for Planning Authorities*.

Architectural Conservation Areas and Conservation Areas are mapped on Figure 3.33.

### 3.8.4 Existing Environmental Problems

The cumulative accommodation of large scale development in Dún Laoghaire-Rathdown has the potential to cumulatively impact upon cultural heritage of the Plan area.



Archaeology can be previously unknown but can be damaged through development causing 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. Development on sites adjoining protected monuments, places or structures can also impact upon the setting of these cultural heritage items.

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.

### **3.8.5 Evolution of Cultural Heritage in the absence of a Development Plan**

In the absence of Development Plan, the evolution of cultural heritage would be dependent on developments which take place. Such development would have no guidance as to where to be directed and planning applications would be assessed on an individual basis with cultural heritage protected under a number of strategic actions relating to archaeological and architectural protection.

Beneficial impacts upon the protection of cultural heritage which would be likely to arise as a result of the Plan provisions would not necessarily occur.

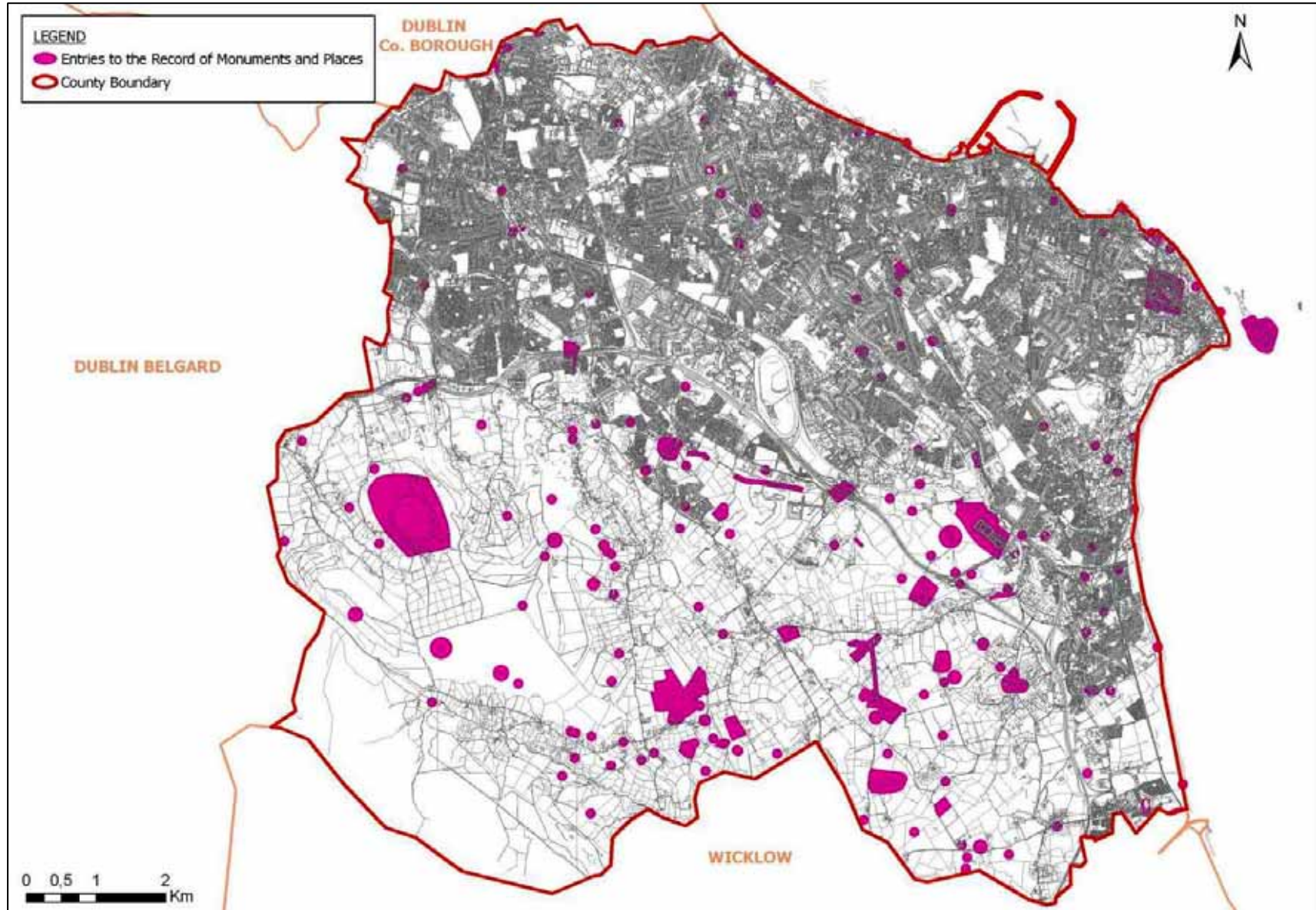
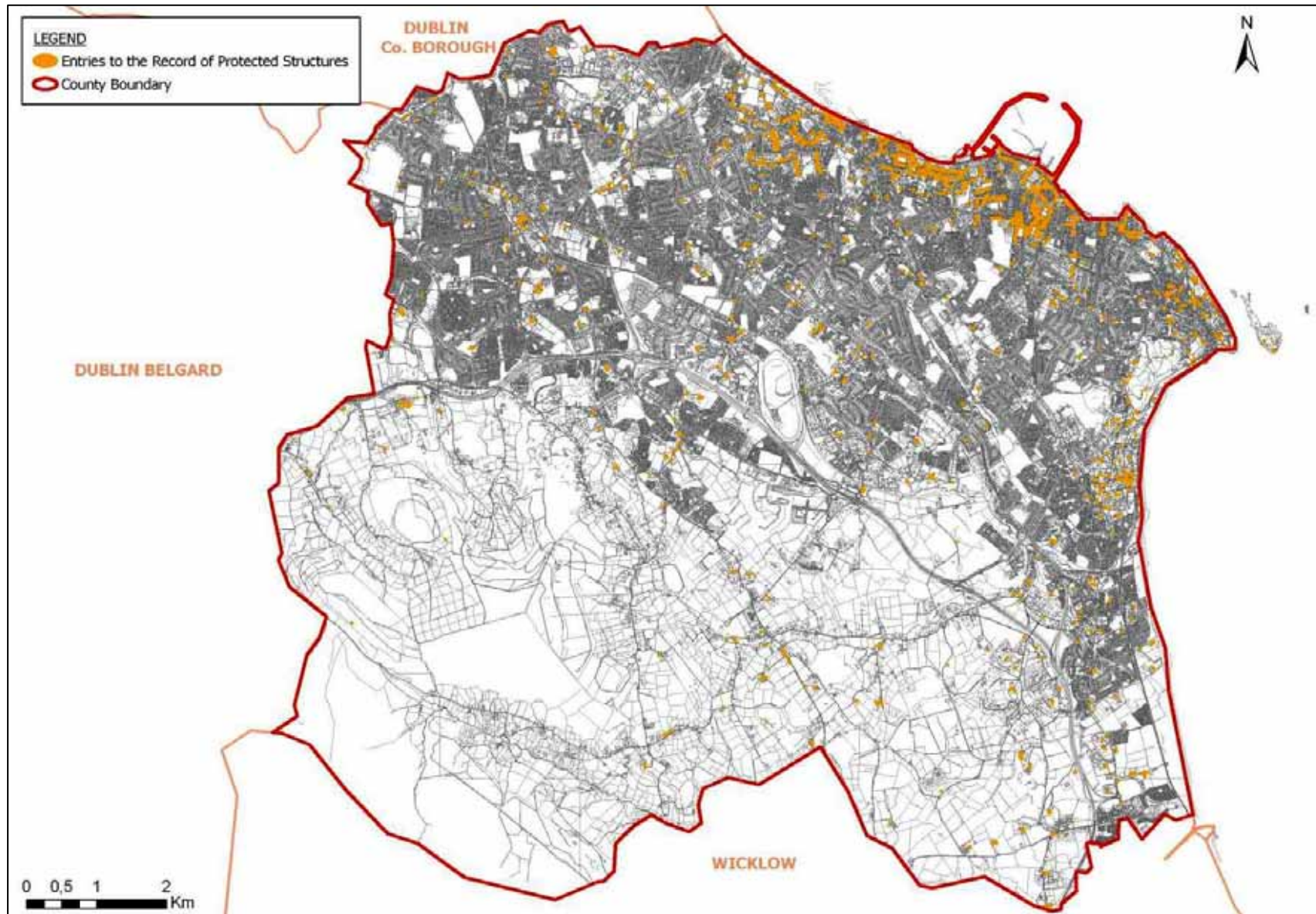
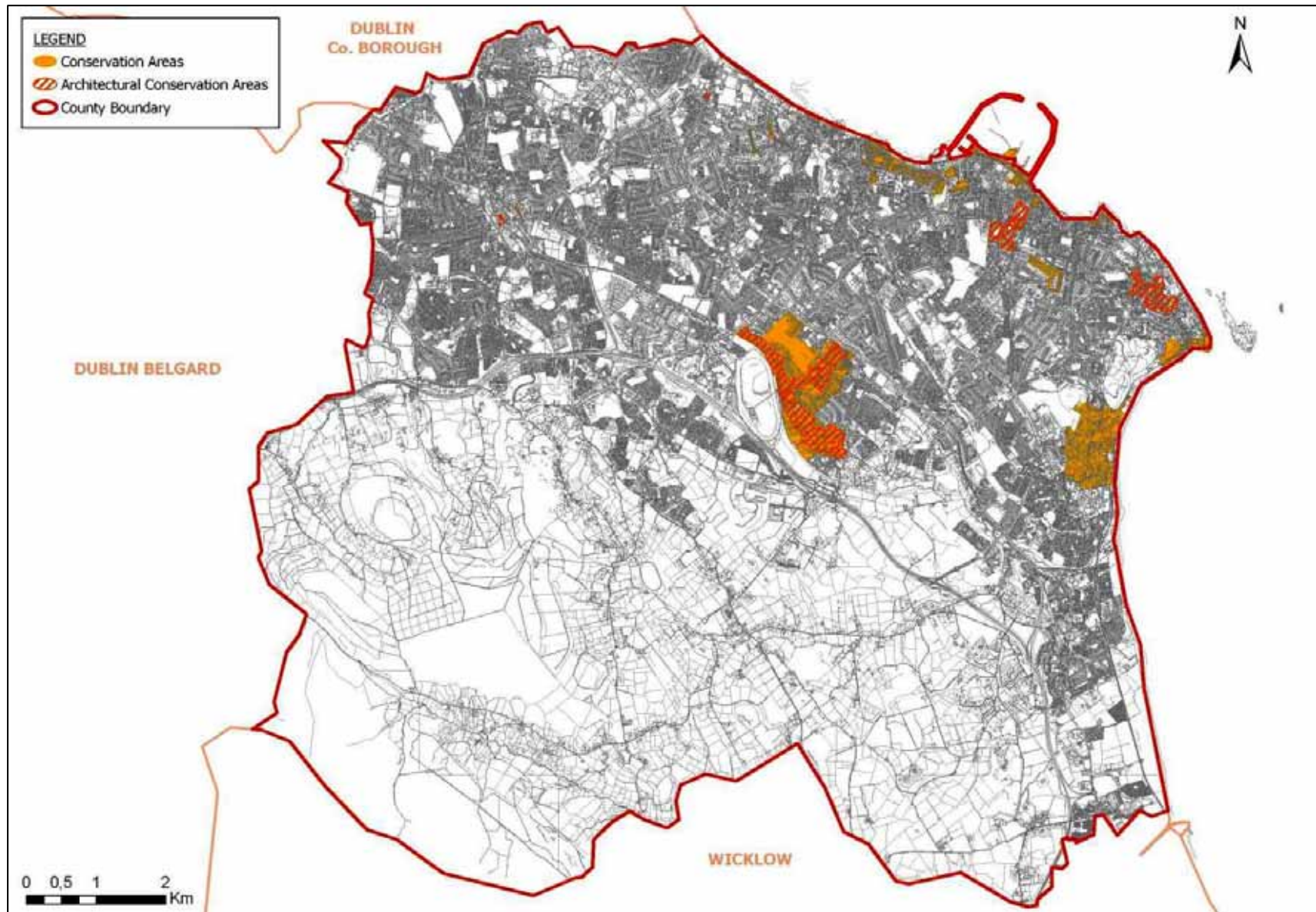


Figure 3.31 Entries to the Record of Monuments and Places



**Figure 3.32 Entries to the Record of Protected Structures**





**Figure 3.33 Architectural Conservation Areas and Conservation Areas**



## 3.9 Landscape<sup>25</sup>

### 3.9.1 Introduction

Landscapes are areas which are perceived by people and are made up of a number of layers: landform, which results from geological and geomorphological history; land cover, which includes vegetation, water, human settlements, and; human values which are a result of historical, cultural, religious and other understandings and interactions with landform and land cover.

### 3.9.2 Landscape Character Assessment

Landscape Character Assessment (LCA) attempts to describe landscapes in terms of their character in an objective way. This can be used to inform decision making in relation to the protection of the environment, natural resources and heritage; it can be used to monitor change and can be used to guide development.

In accordance with the DEHLG's Landscape and Landscape Assessment Guidelines (2000), Dún Laoghaire-Rathdown County Council prepared an LCA for the County in 2002, during the preparation of the 2004-2010 County Development Plan. The LCA focuses on the primarily rural areas of the County which lie in the south west. It 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.

14 Landscape Character Areas were identified by the assessment. These are listed below and mapped on Figure 3.35:

1. Kilmashogue Valley
2. Western Half of Kellystown Road
3. Ticknock Road
4. Marlay Park
5. Kiltarnan Plain
6. Ballycorus
7. Glencullen Valley
8. Glendoo Valley
9. Barnacullia
10. Rathmichael

11. Ballyman
12. Shanganagh
13. Carrickmines
14. Cherrywood Rathmichael

### 3.9.3 High Amenity Zones

The current County Development Plan and the draft Plan designate High Amenity Zones in the southern portion of the County. These areas consist of landscapes of special value where inappropriate development would contribute to a significant diminution of the landscape setting of the County.

It is the policy of the Council to conserve and enhance existing High Amenity Zones and to seek to manage these and other areas to absorb further recreational uses and activity without damaging the amenities that affords them their special character.

Areas covered by the High Amenity Zoning include the Glencullen Valley, Glendoo Valley and Kilmashogue Valley.

The areas adjacent to the High Amenity areas are also sensitive landscapes as development in these areas may affect directly or indirectly the quality of the High Amenity areas.

High Amenity Zones are mapped on Figure 3.36.

### 3.9.4 Historic Landscape Character Areas

An Historic Landscape Character Assessment is a detailed holistic study of the historical development and environmental significance of an area. Such assessments present an overview of the physical, natural, human, and cultural heritage of an area with specific reference to the interaction between the various elements.

Six Historic Landscape Character Assessment have been carried out in the County at Barnacullia, Kiltarnan, Glencullen, Ballycorus and Rathmichael and Old Connaught. The assessments cover areas generally on the urban-rural fringe and are thus most likely to come under development pressure during the course of the Plan.

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<sup>25</sup> Text in this section is taken from the draft County Development Plan

### 3.9.5 Views and Prospects

The County contains many sites, areas and vantage points from which views over areas of great natural beauty, local landmarks, historic landscapes, adjoining Counties and the City of Dublin may be obtained. In addition to scenic views, the County also contains important prospects i.e. prominent landscapes or areas of special amenity value or special interest which are visible from the surrounding area.

A list of Prospects which will be protected under the proposed Plan are listed below.

1. Dublin City and Bay from Deerpark, Mount Merrion
2. Carrickgollogan from Ballybrack (e.g. Church Road and Churchview Road)
3. Carrickgollogan from Bray Road (Shankill to Bray area)
4. Carrickgollogan from Ballyman Road
5. Carrickgollogan from the Enniskerry Road (south of Kiltiernan Village)
6. The Scalp from Ballyman Road and part of the Enniskerry Road
7. Three Rock Mountain and Two Rock Mountain from the Enniskerry Road (Sandyford -Kiltiernan area) and Sandyford Village
8. Three Rock Mountain and Two Rock Mountain from the Ballybrack Road
9. Three Rock Mountain and Kilmashogue Mountain from Marlay Park
10. Tibbradden Mountain and Kilmashogue Mountain from Kilmashogue Lane
11. Glencullen Mountain and Valley from the Ballybrack Road
12. Glendoo Mountain from the Ballybrack Road
13. Dalkey Hill from Ulverton Road, Station Road and the East Pier
14. Killiney Hill from Vico Road, Station Road and the East Pier

Views and prospects in the Plan area are mapped on Figure 3.34.

### 3.9.6 Existing Environmental Problems

A problem with regard to the environmental component of landscape is the cumulative visual impact which occurs 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 sensitive landscapes. This is particularly applicable to the uplands in the south east of the Plan area.

The creation of precedents by, for example, the granting of telecom masts, is a landscape issue.

### 3.9.7 Evolution of Landscape in the absence of a Development Plan

In the absence of a Development Plan, development would be likely to occur on a one-off, dispersed basis. As outlined above, this would have cumulative impacts on the landscape.

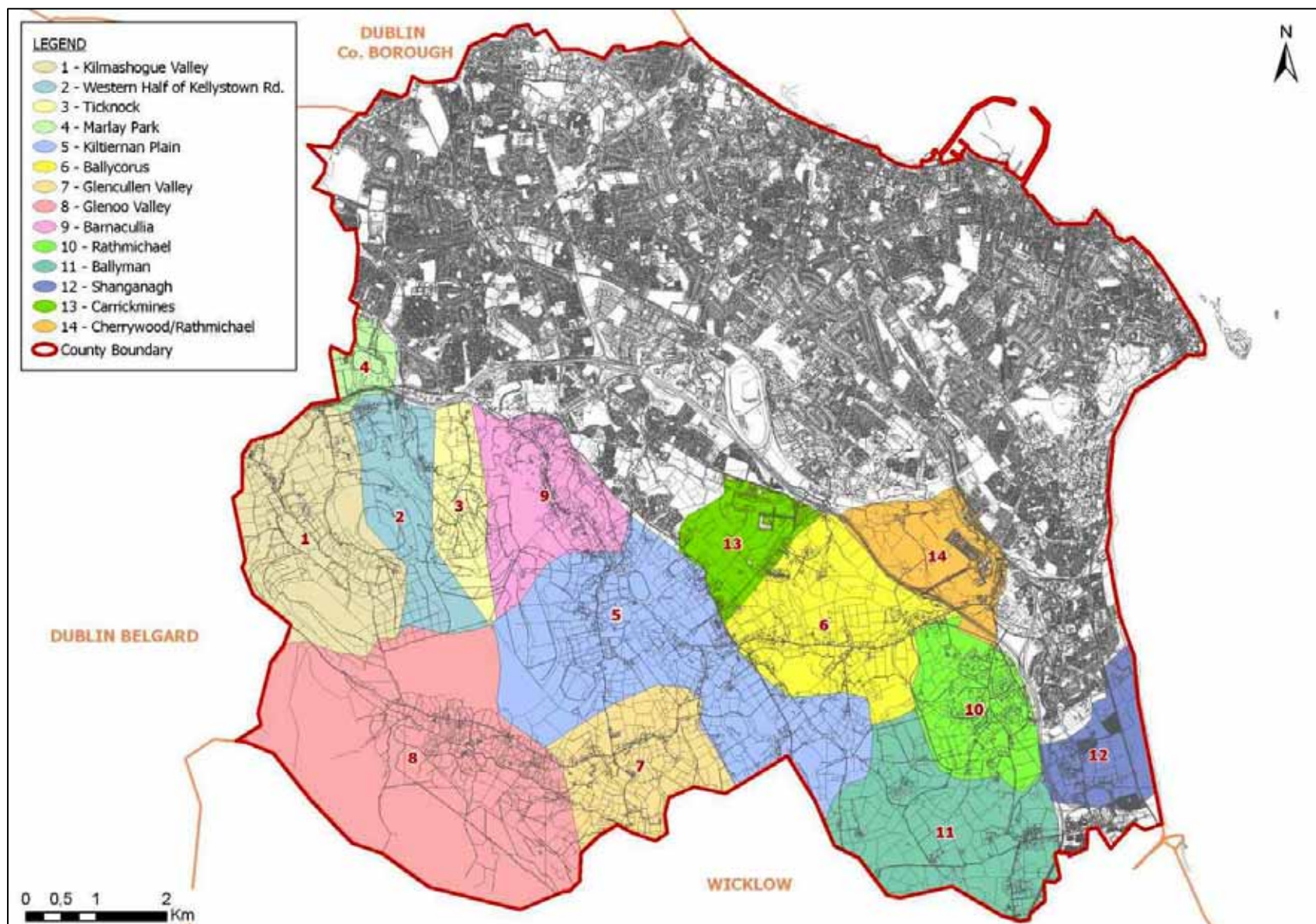


Figure 3.34 Landscape Character Areas



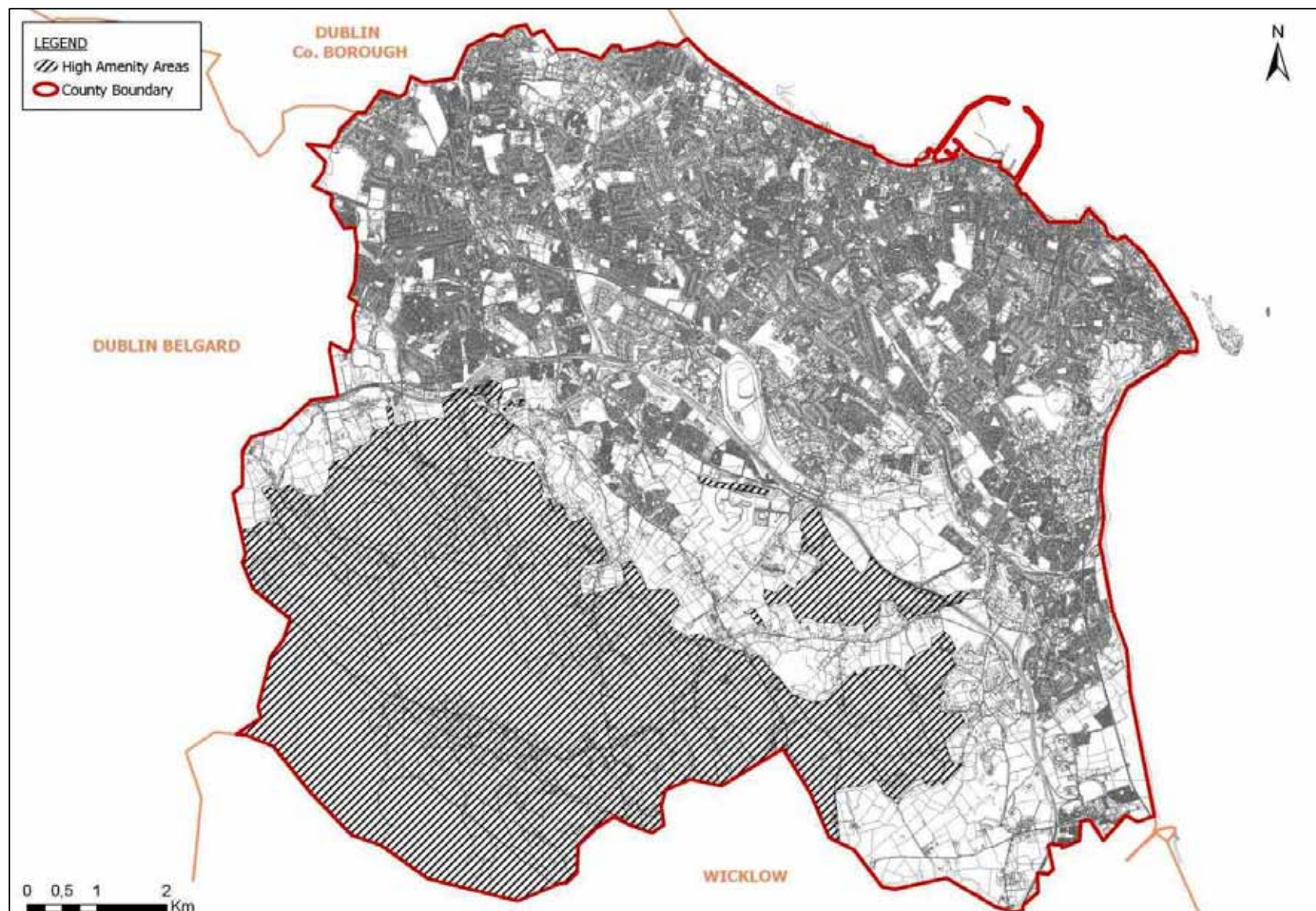
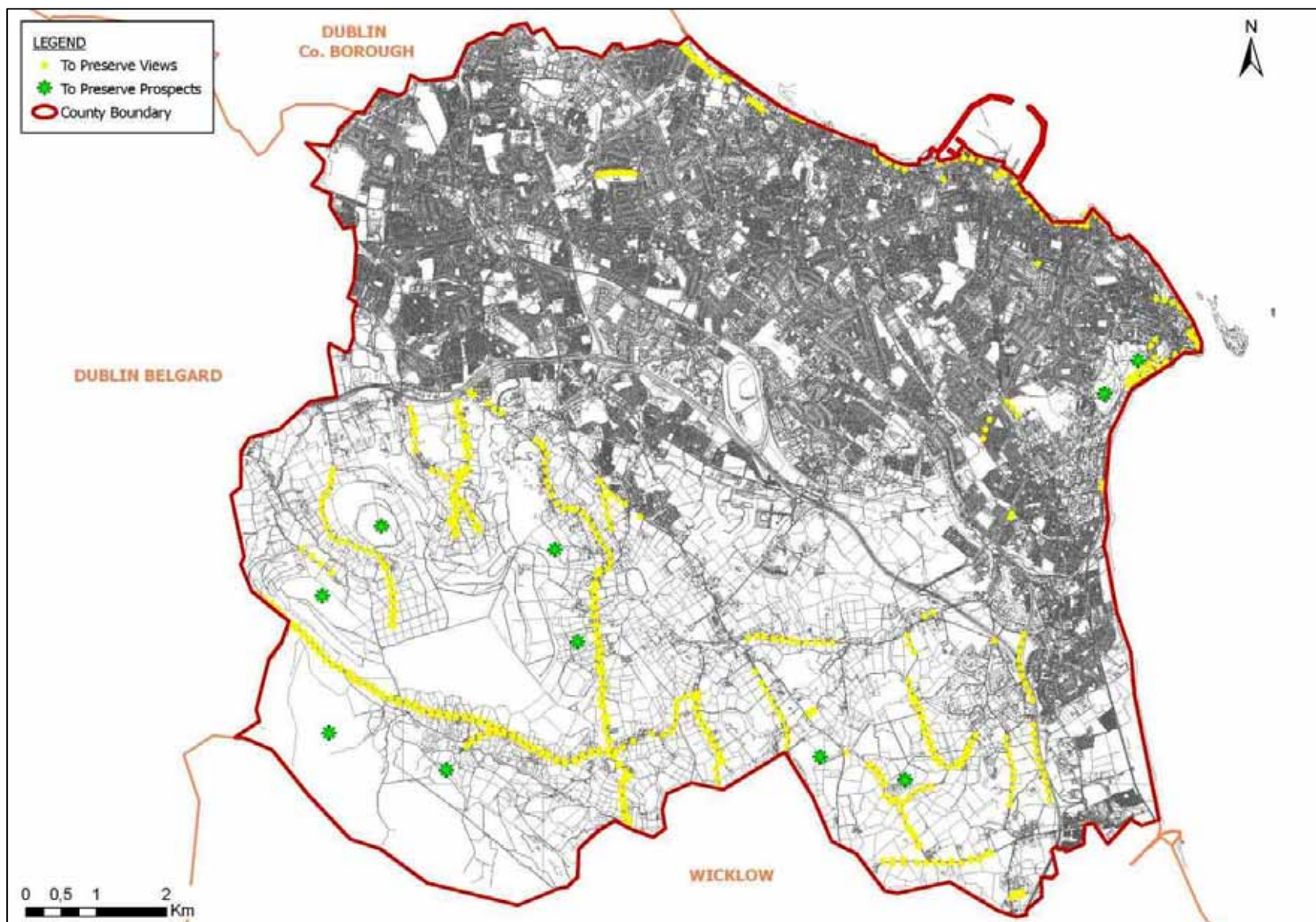


Figure 3.35 High Amenity Area Zoning





**Figure 3.36 Protected Views and Prospects**

### 3.10 Overlay Mapping of Environmental Sensitivities

#### 3.10.1 Introduction

In order to identify where most sensitivities within 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 extreme vulnerability (red) to 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.

Figure 3.37 provides an overlay of environmental sensitivities in Dún Laoghaire-Rathdown.

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

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 3.7.

Score	Vulnerability Class
5-15	Low
20-25	Moderate
30-35	Elevated
40-45	High
50-55	Extreme
>60	Acute

Table 3.7 Overall Vulnerability Classes

#### 3.10.3 Use of the Overlay Mapping

Although there are limitations and elements of subjectivity to the overlaying of sensitivities the overlay mapping was used in order to speedily identify the areas where conflicts between development within the Plan area and environmental sensitivities would be likely to occur if unmitigated.

#### 3.10.4 Quantification of Sensitivities

Table 3.8 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.

### 3.10.5 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 3.37 each factor was given an equal weighting depending on whether it is a *highly* or a *moderately* sensitive factor.

### 3.10.6 Conclusions

Most of the Plan area is identified as being of Low to Moderate Vulnerability. Some areas, especially in the south west, are identified as

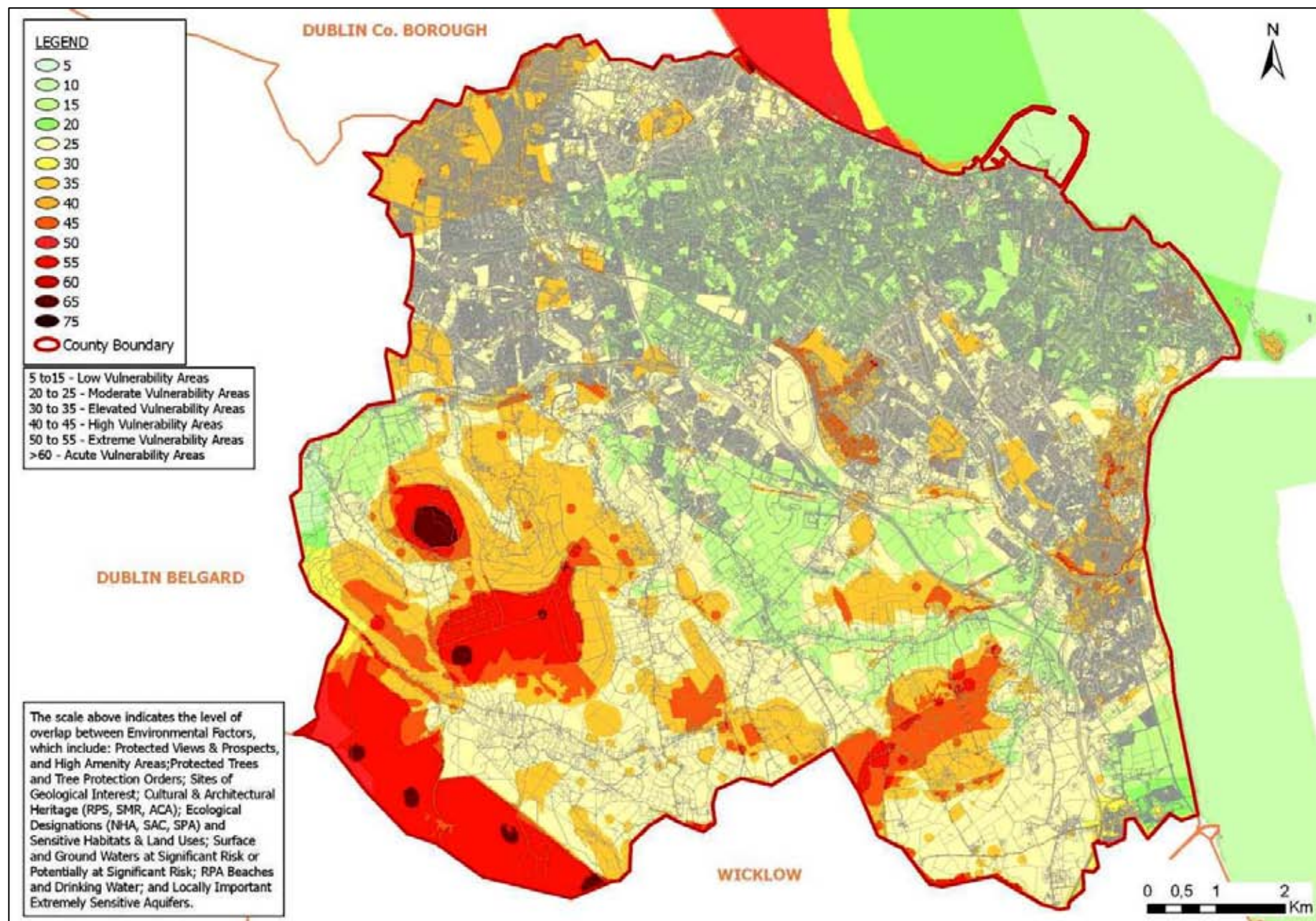
being of a High Vulnerability while a small number of sites are identified as being of Extreme Vulnerability. There are seven areas which are classified as being of Acute Vulnerability; these areas occur in the Uplands. A large site at Kilmashogue Mountain is also classified as being Acutely Vulnerable.

Areas identified as being of high vulnerability include Architectural Areas, South Dublin Bay and River Tolka Estuary SPA, cluster of entries to the Record of Monuments and Places, areas of extreme aquifer vulnerability, Wicklow Uplands SAC, Ballyman Glen SAC and sensitive land uses such as peat bogs.

Vulnerability Area	Area (km <sup>2</sup> )	% of County Vulnerability Class Total
Low	32.39	25.64
Moderate	50.71	40.14
Elevated	27.74	21.96
High	7.09	5.61
Extreme	7.77	6.15
Acute	0.63	0.50
Total	126.34	100%

**Table 3.8 Quantification of vulnerability areas**





**Figure 3.37 Overlay of Environmental Sensitivities**

CAAS for Dún Laoghaire-Rathdown County Council



## 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 provisions 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, all of which are intended to be implemented at county level in Dún Laoghaire-Rathdown 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 monitoring the implementation of the Plan, 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 (DEHLG, 2004)<sup>26</sup>. This list has been amended to give affect to objectives that are considered

<sup>26</sup> DEHLG (2004) *Implementation of SEA Directive (2001/42/EC): Guidelines for Regional Authorities and Planning Authorities* Dublin: Government of Ireland.

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>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 DEHLG 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.

#### **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. Salmonid Water designation imposes an obligation to maintain specific water quality standards and control pollution.

## 4.2.2 SEOs, Indicators and Targets

The following SEOs, Indicators and Targets 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 water bodies which relate to SEOs W1, W2 and W3.

## 4.3 Population and Human Health

### 4.3.1 Population

In order to promote sustainable development and allow for public transport systems to function more effectively - as promoted by the National Spatial Strategy and other high level land use strategic actions - it is essential to consolidate the physical growth of the County. Within the County 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.

The DEHLG's Residential Density Guidelines 1999 and the DEHLG's Sustainable Residential Development in Urban Areas Draft Guidelines 2008 recommend planning authorities to promote higher residential densities, particularly in redeveloping 'brownfield' sites and in proximity to town centres and public transport corridors.

The impacts of implementing the County Development Plan on both the spatial distribution of population and the nature of development (with regard to greenfield and brownfield development) within South Dublin and across the wider region relates to SEO S1 which aims to maximise sustainable brownfield development and minimise the loss of highly productive agricultural soils.

### 4.3.2 Human Health

#### 4.3.2.1 Introduction

The impact of implementing the CDP on human health is determined by the impacts which the CDP has upon environmental vectors. Impacts which the CDP has upon these vectors are influenced by:

- The extent to which new development is accompanied by appropriate infrastructure - this relates to SEO M1;
- Impacts upon the quality of water bodies - this relates to SEOs W1, W2 and W3;
- The extent of development provided by the Plan which would increase flood risk - this relates to SEO W4; and,

- The interaction between the County's population and the noise generated by the landuses provided for by the Plan.

#### 4.3.2.2 Emission Limits

Emission limits for discharges to air, soil and water are set with regards to internationally recognised exposure limit values. These are generally set to be many times the safe exposure limit - in order to provide protection. In the event that a land-use began to have adverse health effects on surrounding populations it is likely that it would have been identified as being in breach of such emission standards at a very early stage - and long before the manifestation of any adverse health effects in the population. Nonetheless for the sake of consistency with the requirements of the SEA Regulations this section includes objectives, indicators and targets for health.

#### 4.3.2.3 Noise

Noise is unwanted sound. It can seriously harm human health and interfere with daily activities at school, at work, at home and during leisure time. Traffic noise alone is harming today the health of almost every third European<sup>28</sup>.

The main health risks of noise identified by the WHO include: pain and hearing fatigue; hearing impairment; annoyance; interferences with social behaviour; interference with speech communication; sleep disturbance and all its consequences; and performance at work and school.

The Noise Directive - Directive 2002/49/EC relating to the assessment and management of environmental noise - Is part of an EU strategy setting out to reduce the number of people affected by noise in the longer term and to provide a framework for developing existing Community policy on noise reduction from source.

The Directive requires competent authorities in Member States to:

- draw up *strategic noise maps* for major roads, railways, airports and agglomerations, using harmonised noise

<sup>28</sup> World Health Organization Regional Office for Europe (2003) *Technical meeting on exposure-response relationships of noise on health 19-21 September 2002* Bonn, Germany Bonn: WHO



indicators<sup>29</sup> and use these maps to assess the number of people which may be impacted upon as a result of excessive noise levels;

- draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good; and,
- inform and consult the public about noise exposure, its effects, and the measures considered to address noise.

The Directive does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities.

### 4.3.3 SEOs, Indicators and Targets

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) within the County and across the wider area 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.

<sup>29</sup> [ $L_{den}$  (day-evening-night equivalent level) and  $L_{night}$  (night equivalent level)]

## 4.4.2 SEOs, Indicators and Targets

The following SEO, Indicator and Target 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>30</sup>
Indicator S1:	Area of brownfield land developed over the plan period
Target 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

Note: the impact of implementing the CDP on soil quality is influenced by impacts upon the quality of river and ground water bodies which relate to SEOs W1 and W3.

## 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.

<sup>30</sup> SEO S1 was identified as conflicting with SEOs CH1 and CH2

#### 4.5.1.2 Good Status for Surface Waters

Good status as defined by the WFD 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 Good Status for Transitional Waters

Good status as defined by the Water Framework Directive can be attained by transitional waters through the achievement of *unpolluted* status in the Assessment of Trophic Status of Estuaries and Bays in Ireland (ATSEBI) System which is used by the EPA in order to classify the quality status of transitional waters.

#### 4.5.1.4 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>31</sup>, including their relevant metabolites, degradation and

<sup>31</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.

reaction products - 0,1 µg/l and 0,5 µg/l (total<sup>32</sup>).

Irish groundwater threshold values<sup>33</sup> are currently in the process of being set by the EPA.

## 4.5.2 Bathing Water

EU Mandatory and Guide levels for bathing waters are set out in the 1976 Bathing Water Directive (76/160/EEC) as implemented into Irish law by the Quality of Bathing Water Regulations (SI No. 155 of 1992).

Mandatory Values are values which must be observed if the bathing area is to be deemed compliant with the Directive. Compliance with guide values exceeds guidance with mandatory values and can be regarded as quality objectives which bathing sites should endeavour to achieve.

A new Bathing Water Directive (2006/7/EC) - which entered into force in March 2008 - revises the 1976 Directive with the purpose of: preserving, protecting and improving the quality of the environment and protecting human health by complementing the Water Framework Directive (2000/60/EC). The 2006 Bathing Water Directive is implemented by the Bathing Water Quality Regulations 2008 (SI No. 79) of 2008.

## 4.5.3 Flooding

### 4.5.3.1 Introduction

The replacing of semi-natural land cover types with artificial, more impervious surfaces is likely to lead to cumulative increases in run-off and peak flow conditions in the County's river bodies. These cumulative increases have the

<sup>32</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>33</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 with regard to waters used for the abstraction of drinking water - are not being met.

potential to - especially in combination with the occurrence of severe rainfall events - result in flooding.

Flooding is an environmental phenomenon which, as well have causing economic and social impacts, could in certain circumstances pose a risk to human health.

### 4.5.3.2 EU Floods Directive

European Directive 2007/60/EC on the assessment and management of flood risks aims to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. The Directive applies to inland waters as well as all coastal waters across the whole territory of the EU.

The Directive requires Member States to carry out a preliminary assessment by 2011 in order to identify the river basins and associated coastal areas at risk of flooding. For such zones flood risk maps are required to be drawn up by 2013. By 2015 flood risk management plans focused on prevention, protection and preparedness must be established by 2015.

The Directive is to be carried out in coordination with the Water Framework Directive and flood risk management plans and river basin management plans being coordinated.

### 4.5.3.3 DEHLG Flood Risk Management Guidelines

In November 2009 the DEHLG issued *The Planning System and Flood Risk Management Guidelines* for Planning Authorities. These are aimed at ensuring a more consistent, rigorous and systematic approach which will fully incorporate flood risk assessment and management into the planning system.

The Guidelines require the planning system to, among other things:

- Avoid development in areas at risk of flooding, particularly flood plains, unless there are proven sustainability grounds that justify appropriate development and where flood risk can be reduced or managed to an acceptable level, without increasing flood risk elsewhere;
- Adopt a sequential approach to flood risk management when assessing the location for new development based on

avoidance, reduction and mitigation of flood risk; and,

- Incorporate flood risk assessment into the process of making decisions on planning applications and planning appeals.

#### 4.5.4 SEOs, Indicators and Targets

The following SEOs, Indicators and Targets have been developed with regard to Dún Laoghaire-Rathdown'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
Indicator W1i:	Biotic Quality Rating (Q Value)
Target W1ia:	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
Target W1ib:	To improve biotic quality ratings, where possible, to Q5

<b>SEO W2:</b>	To maintain and improve, where possible, the quality of transitional and coastal waters and to prevent pollution and contamination of bathing water
Indicator W2i:	Trophic Status (ATSEBI)
Target W2i:	To maintain or to improve trophic status, where relevant, to unpolluted in line with the requirement to achieve good water status under the Water Framework Directive, by 2015
Indicator W2ii:	Mandatory and Guide values as set by Directive (76/160/EEC)
Target W2ii:	To achieve - as a minimum - Mandatory values, and where possible to achieve Guide values as set by Directive (76/160/EEC)

<b>SEO W3:</b>	To prevent pollution and contamination of ground water
Indicator W3:	Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC
Target W3:	Compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC

<b>SEO W4:</b>	To prevent development on lands which pose - or are likely to pose in the future - a significant flood risk
Indicator W4:	Number of developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk
Target W4:	Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk

#### 4.6 Air and Climatic Factors

Monitored air quality in Dún Laoghaire-Rathdown meets current standards and is good relative to built up areas located in other European countries. However, the occurrence of traffic congestion and new development means that it is likely that *traffic hotspots* within the County are likely to have elevated levels of air pollution and noise levels due to traffic congestion. Traffic hotspots are located along the main road routes - especially at intersections - and provide for a harsh sensory environment which may impact upon human health.

It is noted that in addition to being addressed as part of this assessment traffic issues will also be addressed at the level of individual projects by the development management process and, for certain projects, by EIA.

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.

The impact of implementing the Draft Plan on air quality and climatic factors will be determined by the impacts which the Plan has upon the traffic levels which relate to SEOs C1 and C2.

#### 4.6.1 SEOs, Indicators and Targets

The following SEOs, Indicators and Targets have been developed with regard to the environmental baseline description and the objectives of the above strategic action.

<b>SEO C1:</b>	To minimise increases in travel related greenhouse emissions to air
Indicator C1i <sup>34</sup> :	Percentage of population within the plan area travelling to work or school by public transport or non-mechanical means
Target C1i:	An increase in the percentage of the population travelling to work or school by public transport or non-mechanical means
Indicator C1ii <sup>35</sup> :	Average distance travelled to work or school by the population of the County
Target C1ii:	A decrease in the average distance travelled to work or school by the population of the County

**SEO C2:** To reduce car dependency within the County by way of, inter alia, encouraging modal change from car to more sustainable forms of public transport and encouraging development which will not be dependent on private transport

The use of the SEO C2 provides a qualitative directional measure which is used to evaluate the effects of implementing the CDP.

## 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. The Regulations stipulate that sewage treatment facilities are in place in all towns by 2005.

Appropriate treatment is essential in order to meet the requirements of the Water Framework Directive (see Section 4.5.1).

### 4.7.2 Drinking Water

The environmental effects of abstracting, transporting and treating water from a major new source in order to meet the long term drinking water needs of the Greater Dublin Area - including those of future populations to be provided for in Dún Laoghaire-Rathdown - is currently being considered by a Strategic Environmental Assessment. Having regard to the EU principle of subsidiarity, the environmental effects which are being identified and evaluated by that SEA are not identified or evaluated by this SEA.

However, the environmental baseline with regard to drinking water demand and supply is identified in Section 3 and measures have been integrated into the Plan in order to help ensure a clean and wholesome water supply.

<sup>34</sup> As measured by the Central Statistics Office

<sup>35</sup> As measured by the Central Statistics Office

### 4.7.3 SEO, Indicator and Target

The following SEO, Indicator and Target have been developed with regard to Dún Laoghaire-Rathdown'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

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 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 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>36</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.

<sup>36</sup> Department of Arts, Heritage, Gaeltacht and the Islands (2002) *National Heritage Plan for Ireland* Dublin: Government of Ireland

### 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.

#### 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 DEHLG 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 have been developed with regard to Dún Laoghaire-Rathdown's environmental baseline and the above strategic actions.

<b>SEO CH1:</b>	To protect the archaeological heritage of Dún Laoghaire-Rathdown 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 Dún Laoghaire-Rathdown'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 of 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 of 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 have been developed with regard to Dún Laoghaire-Rathdown environmental baseline and the above strategic action.

<b>SEO L1:</b>	To avoid significant adverse impacts on the landscape - especially with regard to the County's landscapes attributed with a High Amenity zoning objective and protected views and prospects.
Indicator L1:	Number of complaints received from statutory consultees regarding avoidable impacts on the landscape - especially with regard to the County's landscapes attributed with a High Amenity zoning objective and protected views and prospects - resulting from development which is granted permission under the CDP
Target L1:	No developments permitted which result in avoidable impacts on the landscape - especially with regard to the County's landscapes attributed with a High Amenity zoning objective and protected views and prospects - resulting from development which is granted permission under the CDP



## Section 5 Context for a Development Plan for Dún Laoghaire-Rathdown

### 5.1 Introduction

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 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 Dún Laoghaire-Rathdown County Council - the planning authority for the administrative area within the Dún Laoghaire-Rathdown County boundary - has adopted the County Development Plan 2010 - 2016 (CDP).

The CDP replaces the current 2004-2010 CDP and it is intended to provide for the proper planning and sustainable development for Dún Laoghaire-Rathdown for a duration of six years, unless amended.

The CDP has been prepared in accordance with the requirements and the various provisions of the Planning and Development Act 2000 as amended and the Planning and Development (Strategic Environmental Assessment Regulations) 2004 and sets out Dún Laoghaire-Rathdown County Council's policies for the sustainable development of the County to 2016 and beyond.

### 5.2 Structure and Content

The CDP consists of:

- The Written Statement;
- A volume of Appendices; and,
- Maps.

*The Written Statement* contains the following chapters:

- Chapters 1 and 2 set out the goals and overall strategy for the proper planning

and sustainable development of the County.

- Chapters 3 to 15 set out detailed policies and objectives under a range of specific topic headings which the County Council seeks to achieve over the six-year life of the Plan e.g. infrastructure, conservation, renewal, community facilities, biodiversity.
- Chapter 16 sets out Development Management objectives and standards to be applied to future development proposals in the County. Their purpose is to help guide and assist the formulation of development proposals and to regulate the impact of development on the environment in pursuance of delivered policies.
- Chapter 17 identifies Specific Local Objectives which relate either to particular buildings, structures, areas or sites, or to particular development works the County Council itself is proposing
- Chapter 18 sets out a series of Land Use Zoning Objectives - and accompanying definitions - which are given graphic representation on the fourteen Development Plan Maps. The purpose of zoning is to indicate the land use objectives for all the lands within the County. Zoning aspires to promote the orderly development of the County by eliminating potential conflicts between incompatible land uses and to establish a rational and considered basis for future investment in public infrastructure and facilities.

The *Maps* give a graphic representation of the proposals of the Plan, indicating land use zoning and other control standards together with various objectives of the Council.

The *Volume of Appendices* contains supporting and background data/documents that help inform and clarify the broad context of the Written Statement.

The Appendices include:

- A. National/Regional/Local – Context and Guidance Documentation
- B. Housing Strategy 2010—2016
- C. Record Protected Structures/Record of Monuments and Places/Architectural Conservation Areas/Candidate Architectural Conservation Areas
- D. Industrial Heritage Survey
- E. Wind Energy Assessment
- F. Landscape Character Areas
- G. Rights-of-Way/Recreation Access Routes
- H. Section 49 Contributions Scheme Maps
- I. Building Heights Strategy

(e.g. social housing) or by facilitating other agencies and stakeholders to provide the service (e.g. education and health services).

Goal 3

To provide for a high quality natural and built environment and improved quality of life for those living and working in Dún Laoghaire-Rathdown and for those visiting the County.

## 5.3 Vision and Goals

The Vision of the CPD is:

‘To plan for and facilitate appropriate levels of sustainable development in Dún Laoghaire-Rathdown based on high quality residential, employment and recreational environments allied to the delivery of enhanced sustainable transportation patterns. To create a high-quality physical environment that meets the growing needs of those living, working or visiting the County in an inclusive, balanced and integrated way to ensure communities can thrive in a socially, economically and environmentally sustainable manner – all within the parameters of the strategic framework laid down by the Regional Planning Guidelines for the Greater Dublin Area.’

The CDP is based on three fundamental goals that underpin both the overall strategy and individual policies contained within the Plan. These goals are as follows:

Goal 1

To promote and provide for the sustainable development of Dún Laoghaire-Rathdown to enable it to fulfil its role as an important player in the wider Greater Dublin Area.

Goal 2

To promote social inclusion and to facilitate equality of access to employment, education, transport, suitable housing and social and cultural activities, whether by direct provision

## 5.4 Alternatives

Sections 6 and 7 of this report identify, describe and evaluate different alternative scenarios for the future development of the Plan area, taking into account the relevant land use strategic actions (see Section 5.5), the SEOs identified in Section 4 as well as the geographical scope of the Dún Laoghaire-Rathdown County boundary.

The evaluation of the alternatives results in the identification of potential impacts and led to the emergence of a preferred alternative for the Draft Plan.

## 5.5 Interactions with Relevant Planning Policy

### 5.5.1 Introduction

The CDP is nested in a hierarchy of land use forward planning strategic actions. The Plan must comply with higher level strategic actions and will, in turn, constrain lower level strategic actions.

### 5.5.2 National Development Plan 2007-2013

The National Development Plan 2007-2013 (NDP) is designed to underpin the development of a dynamic competitive economy over the period 2007 - 2013. It envisages a total investment of €184 billion over 7 years to ‘secure the further transformation of our country socially and economically within an environmentally sustainable framework’.

The NDP includes a number of strategic objectives for the Southern and Eastern Regions within which Dún Laoghaire-Rathdown is located.

The need for a National Spatial Strategy was formally recognised by the Government with the publication of the 2000-2006 NDP.

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

The National Spatial Strategy 2000-2020 (NSS) is a 20-year planning framework for the entire Country to guide policies, programmes and investment. It seeks to promote a better balance of social, economic and physical development between the Regions.

The focus of the NSS is on fostering a closer match between where people live with where they work. The NSS established a detailed sustainable planning framework for strategic spatial planning to ensure development is targeted at the most appropriate locations. The NSS places emphasis on the creation of high quality living environments through urban design and the integration of social and community amenities.

In order to promote sustainable development and allow for the public transport system to function more effectively - as promoted by the NSS - it is essential to consolidate the physical growth of Dún Laoghaire-Rathdown. Within the County this can be achieved through the development of greenfield lands and vacant, derelict and underutilised lands, in particular where they are in close proximity to public transport routes.

### **5.5.4 Sustainable Development: A Strategy for Ireland 1997**

Sustainable Development: A Strategy for Ireland 1997 provides a framework for the achievement of sustainable development at local level. It identifies 4 key ways Development Plans can contribute to the achievement of sustainability:

- Encourage efficient use of energy, transport and natural resources through careful selection of development locations;
- Promote the most effective use of already developed areas;

- Secure protection and enhancement of the natural environment; and,
- Accommodate new development needs in an environmentally sustainable way.

The Strategy calls on planning authorities to incorporate the principles of sustainability into Development Plans.

### **5.5.5 Regional Planning Guidelines for the Greater Dublin Area 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 (SI No. 175 of 2003), to draw up regional planning guidelines (RPGs), long term strategic planning frameworks, for their relevant region. RPGs must have regard to the National Spatial Strategy.

Dún Laoghaire-Rathdown is located within the Dublin Regional Planning Authority area for which the Regional Planning Guidelines for the Greater Dublin Area (RPGs) have been prepared.

The RPGs provide for the implementation of the National Spatial Strategy at a Regional level in the Greater Dublin Area (GDA). The principle objective of the RPG is to develop a broad spatially-oriented planning framework to the GDA which comprises Dublin City and the Counties of Dún Laoghaire-Rathdown, South Dublin, Fingal, Kildare, Meath and Wicklow.

Within the GDA, a distinction is made in the Guidelines between the existing built-up area of Dublin and its immediate environs (*the Metropolitan Area*) and the remaining extensive areas of countryside containing a range of designated development centres specifically located on transportation corridors (*the Hinterland Area*).

The Guidelines provide an overall strategic context for the Development Plans of each local authority in the GDA, and also provide a framework for future investment in

environmental services, transportation and other infrastructure.

The Guidelines propose that the strategy follows a development path that will:

- consolidate development and increase overall densities of development which will lead to a more compact urban form, relative to the size of the population; and,
- facilitate the provision and use of a considerably enhanced public transport system.

The projected additional population and households in the Metropolitan Area will be accommodated through measures including:

- Consolidation of the established urban area; and,
- The development of a limited number of new areas contiguous to existing centres and to public transport corridors.
- Re-development of brownfield sites and infill development within the existing built-up area.
- Increasing occupancy rates within established residential areas.

### **5.5.6 Dublin Transport Office: A Platform for Change 2000-2016**

The Dublin Transportation Office (DTO) Strategy 'A Platform for Change', outlines an integrated transportation strategy for the Greater Dublin Area for the period 2000-2016. It was prepared to support and complement the strategic land planning framework outlined in the Regional Planning Guidelines.

The Strategy envisages a wide range of benefits being achieved by 2016. These include: improved accessibility to work, leisure and retail opportunities, an improved transport system, people living within 10 minutes walking distance of public transport, reduced road congestion levels, reduced average journey times, improved environmental benefits, safer and more pleasant

urban residential areas, reduced accident levels and more convenient cycling facilities.

'A Platform for Change' is currently under review by the DTO.

## **5.6 Environmental Protection Objectives**

The CDP is subject to a number of high level national, international and regional environmental protection policies and objectives, including those which have been identified as Strategic Environmental Objectives in Section 4.

Examples of Environmental Protection Objectives include the aim of the EU Habitats Directive - which is to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of Member States - and the purpose of the Water Framework Directive - which is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater.

The CDP must be consistent with these objectives and implement them at County and local level in Dún Laoghaire-Rathdown.



## Section 6 Description of Alternative Plan Scenarios

### 6.1 Introduction

One of the critical roles of the SEA was to facilitate an evaluation of the likely environmental consequences of a range of alternative strategies for accommodating future development in Dún Laoghaire-Rathdown.

These alternative strategies must be realistic, capable of implementation, and should represent a range of different approaches within statutory and operational requirements of the particular plan. In some cases the preferred strategy will combine elements from the various alternatives considered.

This section identifies and describes different plan scenarios, taking into account higher level strategic actions as well as the geographical scope of the County.

The alternative scenarios are evaluated in Section 7 resulting in the identification of potential impacts and informing the selection of a preferred alternative for the County Development Plan (CDP). The policies and objectives which are required to realise the preferred alternative are evaluated in Section 8.

Mitigation measures which attempt to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the preferred alternative which have been integrated into the CDP are identified in Section 9.

### 6.2 Excluding the 'Do-Nothing' Scenario

As the current CDP is required to be reviewed and replaced by a new CDP under legislation a 'do-nothing' alternative is not considered, nor is it required to be by the SEA Directive.

Annex I of the SEA Directive specifies that information should be provided in the environmental report on *inter alia* 'the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme'. Section 3 identifies the evolution of each

component of the environment in the absence of implementing the CDP.

### 6.3 Identification and Description of Alternative Scenarios

#### 6.3.1 Introduction

The following summarises a series of 'Scenarios' which provide alternative visions of how the future development of Dún Laoghaire-Rathdown 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.

#### 6.3.2 Alternative Scenario 1: *Market-Led Growth*

Alternative Scenario 1: *Market-led Approach* (see Figure 6.1) involves allowing growth to follow the demands of the development industry as expressed through rezoning submissions to the Development Plan Review process, regardless of conformity with planning guidelines, infrastructure capacity or environmental constraints.

The location and nature of development would be completely dependent upon market demand and applications would be evaluated on a case by- case basis by the Council. The demand for rezonings has focussed largely on areas that are presently unserved, with no provision for foul drainage or water supply and are relatively remote from existing or planned public transport.

The quantum of land proposed for rezoning is not consistent with any clearly defined housing need within the County and the development patterns that would arise in this scenario would be unrelated to national or regional planning

strategies. The substantial untapped development capacity of the existing Local Area Plan lands has not been considered in this approach, with a drive to rezone further lands, prior to the development of the current substantial greenfield residential landbank.

### **6.3.3 Alternative Scenario 2: Selective Concentrations along Public Transport Corridors**

In Alternative Scenario 2: *Structured Development Strategy* (see Figure 6.2) the four components of sustainable development – economic development, social well-being, environmental protection and enhancement, and resource conservation are integrated in the Plan.

This scenario also responds to the relevant national/regional planning strategies including the National Spatial Strategy and the Regional Planning Guidelines and follows on from a number of strategies carried out within the County including the Housing Strategy, Retail Strategy and Land Availability studies.

The scenario seeks to focus higher density development in suitable strategic nodes, generally in the southwestern quadrant of the County along existing or planned public transport corridors while at the same time seeking to protect the residential amenity and character of established residential areas.

The scenario also involves the proposed designation of Cherrywood as a 'Strategic Development Zone', with the intention of ensuring the coordinated delivery of a major new residential community and employment centre along with all requisite social and community infrastructure.

Under this scenario, Key Development Areas would be developed / redeveloped to accommodate a higher level of new urban development and deliver the maximum quantitative efficiency of new population density and commercial floorspace. Key Development Areas identified under this scenario include Cherrywood, Sandyford, Woodbrook/Shanganagh, Kiltiernan and Old Conna. Development within the Kiltiernan and Woodbrook/Shanganagh Key Development Areas would be likely to proceed in the short term as the site specific strategies for these

areas have been sufficiently developed at present through the mechanism of Local Area Plans.

This scenario allows for a greater degree of co-ordination of employment, public infrastructure, amenities, community facilities, schools, public transport etc. through a plan-led approach.

### **6.3.4 Alternative Scenario 3: *Minimalist Approach***

No mapping is provided on Alternative Scenario 3: *Minimalist Approach*, as it is considered to generally reflect the present Development Plan Map.

This scenario would involve the adoption of planning policies which seek to maintain the status quo as far as possible and limit the development potential of growth areas and brownfield sites to reflect the established pattern and character of development in the County.

This scenario would not involve the promotion of Cherrywood as a 'Strategic Development Zone'. Cherrywood, which is served by major public transport and road infrastructure and is the largest development area in Dún Laoghaire-Rathdown with the ability to meet the requirements of the Dún Laoghaire-Rathdown Housing Strategy and provide major employment for the Greater Dublin region. The route of an SDZ will ensure that the delivery of the overall vision for the Cherrywood area can be realised and given the size and scale of the area, a strategic plan is required for the medium to long term that gives certainty to all stakeholders, including the public and the landowners.

New development would be limited in terms of scale and would manifest itself in the form of lower density development. This would restrain Key Development Areas from attaining a sustainable mix of population and employment and providing the critical mass of activity to sustain an integrated public transport network for the County.

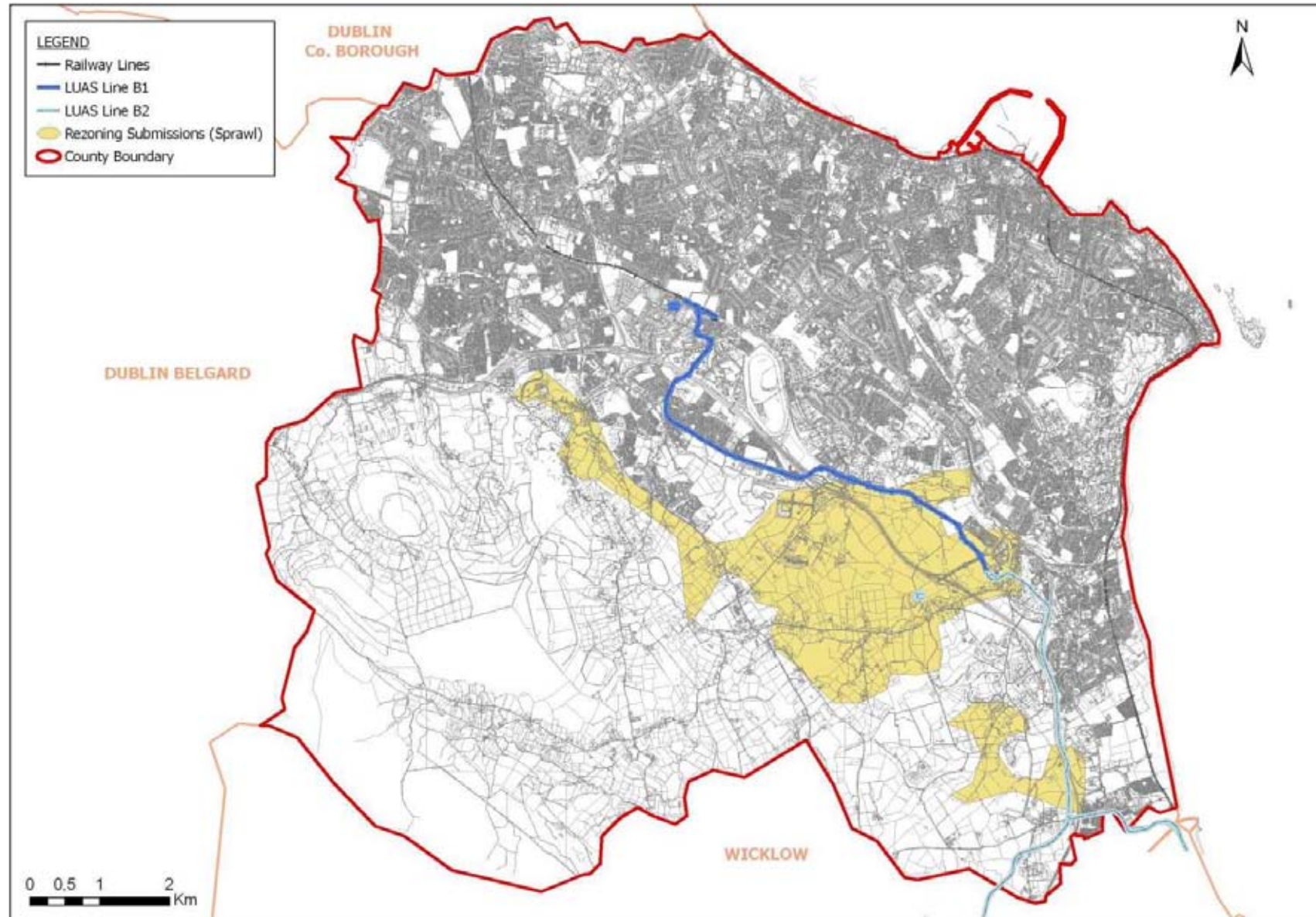


Figure 6.1 Alternative Scenario 1 - *Market-Led Growth*

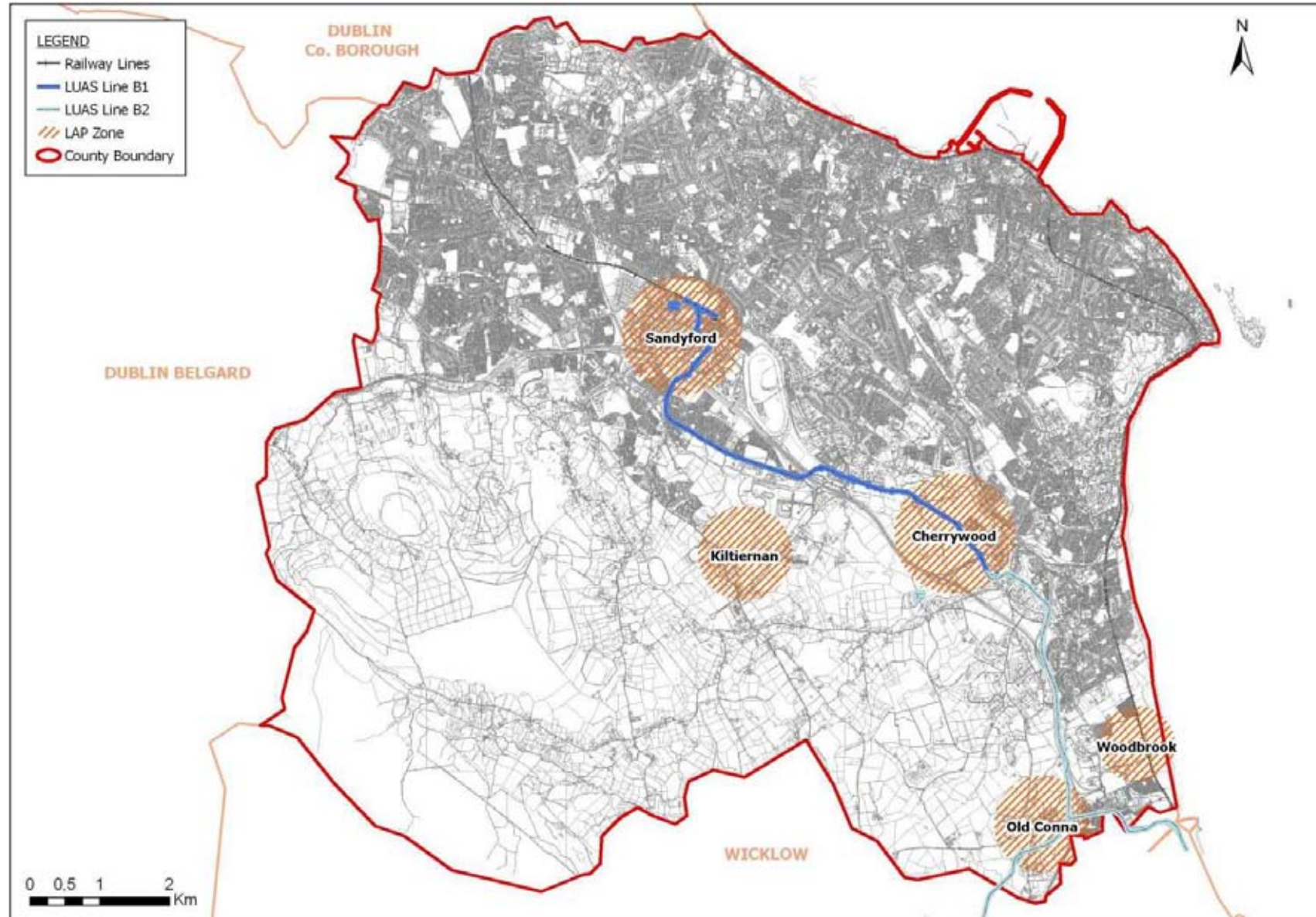


Figure 6.2 Alternative Scenario 2 - *Selective Concentrations along Public Transport Corridors*



## Section 7 Evaluation of Alternative Plan Scenarios

### 7.1 Introduction

The objective of this section was to determine the relative merits of a range of 3 alternative scenarios for the future development of Dún Laoghaire-Rathdown. This determination sought to understand whether each alternative was likely to improve, conflict with or have a neutral interaction with the County's environment.

Scenarios were evaluated in a succinct and focused way for both planning and environmental impacts against both the existing environment and the Strategic Environmental Objectives (SEOs).

In order to comply with the SEA Directive Strategic Environmental Objectives have been grouped under relevant parent components such as *water* and *landscape*.

### 7.2 Methodology

#### 7.2.1 Overlay Mapping

In order to identify the extent to which environmental sensitivities were likely to be impacted upon by implementation of the two mapped alternatives (Alternative Scenarios 1 and 2), overlay mapping (which weighs environmental sensitivities and maps them overlapping each other as shown at Figure 3.37) was used for this purpose.

#### 7.2.2 Existing Environment

In order to identify the extent to which environmental sensitivities are likely to be

impacted upon by implementation of the Plan, use was made of the description of the environmental baseline, including the maps which spatially represent components of the environmental baseline, provided within Section 3.

#### 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 3 alternative scenarios described 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, national and regional 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	<b>Uncertain</b> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> 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
<b>W1</b>	To maintain and improve, where possible, the quality of rivers
<b>W2</b>	To maintain and improve, where possible, the quality of transitional and coastal waters and to prevent pollution and contamination of bathing water
<b>W3</b>	To prevent pollution and contamination of ground water
<b>W4</b>	To prevent development on lands which pose - or are likely to pose in the future - a significant flood risk
<b>C1</b>	To minimise increases in travel related greenhouse emissions to air
<b>C2</b>	To reduce car dependency within the County by way of, inter alia, encouraging modal change from car to more sustainable forms of public transport and encouraging development which will not be dependent on private transport
<b>M1</b>	To serve new development with appropriate waste water treatment
<b>CH1</b>	To protect the archaeological heritage of Dún Laoghaire-Rathdown 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 Dún Laoghaire-Rathdown'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 avoid significant adverse impacts on the landscape - especially with regard to the County's landscapes attributed with a High Amenity zoning objective and protected views and prospects.

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

<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 were tested. The SEOs are used as standards against which the development strategies, policies and objectives of the Plan were evaluated in order to help identify areas in which significant adverse impacts would be likely to occur, if unmitigated against.

### 7.3 Evaluation against Overlay Mapping

Vulnerability Area	Area (km <sup>2</sup> )	% of Alternative Scenario 1's Sprawl covering each Vulnerability Area	% of County Vulnerability Class Total covered by Alternative Scenario 1's Sprawl
Low	4.82	39.84	14.89
Moderate	4.70	38.87	9.27
Elevated	2.19	18.16	7.92
High	0.35	2.91	4.97
Extreme	0.03	0.22	0.33
Acute	<0.01	0.00	0.06
Total	12.10	100	Not applicable

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

Vulnerability Area	Area (km <sup>2</sup> )	% of Alternative Scenario 2's LAP Zones covering each Vulnerability Area	% of County Vulnerability Class Total covered by Alternative Scenario 2's LAP Zones
Low	4.48	52.24	13.83
Moderate	3.38	39.43	6.67
Elevated	0.65	7.67	2.37
High	0.06	0.65	0.79
Extreme	<0.01	0.01	0.01
Acute	0.00	0.00	0.00
Total	8.57	100	Not applicable

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

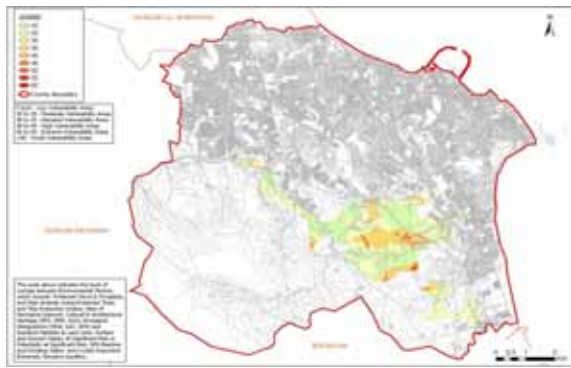
Tables 7.3 and 7.4 quantify the vulnerability areas which are likely to be impacted upon by the areas of Scenarios 1 and 2 which are most likely to come under urban pressure. These areas were mapped (see Figures 7.1 and 7.2) and calculated using GIS software.

The measurements indicate that:

- Scenario 1 would be likely to impact upon a significantly greater extent of vulnerable areas (12.10 km<sup>2</sup>) than Scenario 2 (8.57 km<sup>2</sup>);
- Scenario 1 would be likely to impact upon each individual vulnerability class to a greater extent than Scenario 2; and,
- Scenario 1 would be likely to result in significantly more adverse environmental impacts than Scenario 2.

## 7.4 Evaluation against Environmental Baseline<sup>38</sup>

### 7.4.1 Evaluation of Alternative Scenario 1: *Market-Led Growth*



Assessment of Environmental Vulnerabilities of areas likely to be affected by developments arising from Scenario 1 - a Plan based on market-led growth [See end of chapter for a larger format of map].

### 7.4.2 Planning Effects

Development would be less concentrated and spread over wider areas than would be the case in either Scenario 2 or 3. This scenario would not allow for the co-ordination and consolidation of employment, public infrastructure, amenities, community facilities, schools, public transport etc.

The relative remoteness of much of the proposed development land from existing or planned public transport would result in an unsustainable pattern of excessive private car use. Unsustainable transport patterns would escalate with associated patterns of increasing atmospheric emissions and energy consumption<sup>39</sup>. The National Routes would be compromised by becoming increasingly congested. The cumulative impact of development would impact adversely on the natural environment.

<sup>38</sup> Footnotes like this are used in this section in order to identify instances where interactions between the relevant Scenario and the relevant SEOs occur. The nature of these interactions are identified on Table 7.5.

<sup>39</sup> SEOs C1 and C2

Ad hoc dispersed mixed-use development would be likely to draw population away from the designated and serviced Local Area Plan locations. This could result in the inability of these designated areas to grow and develop and build up the necessary population base that would generate viable service provision and economic opportunities. The likely outcome is the uncoordinated development of key new residential communities in the County, which could have serious implications for both the quality of life for residents of these areas and the natural environment.

### 7.4.3 Environmental Effects

#### A. Water

This scenario poses particular challenges for water quality<sup>40</sup>.

- The majority of the area comprises the catchment of the Loughlinstown River which is noted as being at 'significant risk' of not attaining 'good water status by 2015' – as required by the provisions of the Water Framework Directive.
- Furthermore much of the lands likely to be developed lie over areas with groundwater and surface water vulnerabilities.
- Finally the unplanned and dispersed nature of the development will make it very difficult to ensure that all aspects of the supply, interception and treatment of waters within these areas will be dealt with adequately.

#### B. Ecology

This scenario will concentrate developments into two ecologically sensitive zones within the county<sup>41</sup>.

It will give rise to un-coordinated development that occurs across the two *Major Ecological Corridors*<sup>42</sup> within the County.

<sup>40</sup> SEOs W1, W2, W3 and M1

<sup>41</sup> SEOs B1, B2 and B3

<sup>42</sup> As identified at Appendix 10 of the Dun Laoghaire Rathdown County Council; *Biodiversity Study* Jan 2008]

It will give rise to development across the principal transition between the developed lowland habitats of the north-east and little or less developed upland habitats of the south-west of the County.

### **C. Landscape**

This scenario will give rise specific and localised change of the appearance and character of the areas, especially between Kiltiernan, Cherrywood and Old Conna. Much of this land is substantially undeveloped and elevated which means that developments are likely to be visually contrasting and highly conspicuous over a wide area. This will give rise to changes in the appearance and character of the landscape that are likely to be perceived as being significant and adverse over a wide area that contains the largest concentration of protected views in the County<sup>43</sup>.

### **D. Cultural Heritage**

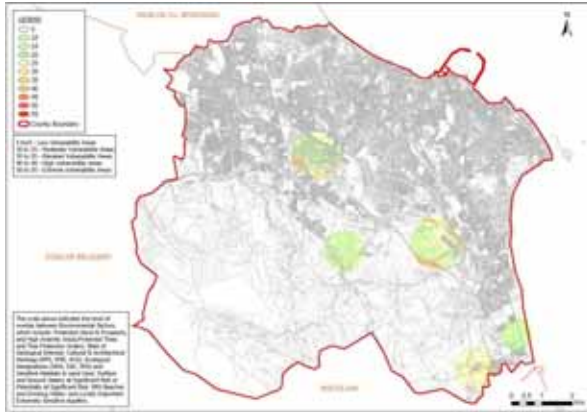
It is likely that the concentration of poorly coordinated development into the environs of protected structures – such as Old Conna - is likely to result in localised, effects on the contexts of protected structures<sup>44</sup>.

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<sup>43</sup> SEO L1

<sup>44</sup> SEO CH2

### 7.4.4 Evaluation of Alternative Scenario 2: Selective Concentrations along Public Transport Corridors



Assessment of Environmental Vulnerabilities of areas likely to be affected by developments arising from Scenario 2 - a Plan based on the concentration of development in certain zones along public transport corridors [See end of chapter for a larger format of map].

### 7.4.5 Planning Effects

The likely plan impacts of a mixed approach are to create a balanced development pattern in Dún Laoghaire-Rathdown. This approach will provide for existing levels of growth plus projected increases. The provision of physical and social infrastructure will be in accordance with projected population and housing horizons<sup>45</sup>. The rural environment will be protected as a resource, while the rural economy will be supported through diversification.

This scenario has regard to the strategic potential of different parts of the County and the realisation of this potential in a sustainable manner. It acknowledges the role of existing settlements and gives market certainty with regard to the focus of new investment on infrastructure. Of the three scenarios presented, it would appear to fit best with the NSS concept.

<sup>45</sup> SEOs C1, C2 and M1

### 7.4.6 Environmental Effects

#### A. Water

This has a positive effect on water in the following ways<sup>46</sup>;-

- Development is concentrated into areas that will be fully serviced with appropriately scaled infrastructure.
- The majority of development occurs in areas with lower groundwater vulnerability.
- The majority of development takes place outside the catchment of the Loughlinstown River – which is already stressed.

#### B. Ecology

This scenario has a number of positive effects on ecology<sup>47</sup>.

- The majority of developments [with the exception of Woodbrook and Old Conna] avoid the destruction or disturbance – either by development or proximity – of the most sensitive ecological resources of the County.
- The development of such areas – on the basis of LAPs – will provide the opportunity to avoid local direct or indirect impacts on ecological sensitivities [especially in Woodbrook and Old Conna] – through the mitigation measures incorporated into such plans. Such land will also offer the opportunities to provide specific enhancement of ecological features – such as the reinforcement of major ecological corridors<sup>48</sup> in the detail of LAPs for Cherrywood, Kiltiernan, Old Conna and Woodbrook.

#### C. Landscape

This scenario will, generally, have low impacts on the appearance and character of the area because most resultant development will be seen in the context of areas with significantly man-altered character.

<sup>46</sup> SEOs W1, W2, W3 and M1

<sup>47</sup> SEOs B1, B2 and B3

<sup>48</sup> As identified at Appendix 10 of the Dun Laoghaire Rathdown County Council; *Biodiversity Study* Jan 2008]



There will be specific and localised change of the appearance and character of the Woodbrook, Kiltiernan, and Old Conna with the latter having the potential wider areas on account of their elevated location<sup>49</sup>.

#### **D. Traffic and associated effects**

Having regard to the concentrated settlement pattern that are likely to result from this scenario there are likely to be commensurately lower levels of movements of private cars and other transport<sup>50</sup>. This will give rise to reduced volumes of traffic with associated reductions in congestion and economic losses as well as direct reductions in emissions [air, noise and water runoff]<sup>51</sup>, energy uses<sup>52</sup> and avoidance or reduction of indirect effects due to the need for new or improved road capacity - resulting in fewer impacts on ecology, landscape, cultural heritage and infrastructure<sup>53</sup>.

#### **E. Cultural Heritage<sup>54</sup>**

Notwithstanding the relatively high concentrations of protected structures and monuments within the County, this scenario is likely to have relatively low levels of effect for two reasons:-

- The development of such areas – on the basis of LAPs – will provide the opportunity to avoid local direct or indirect impacts on cultural resources though the adoption of appropriate guidelines and standards in the LAPs.
- The concentration of development into a small number of areas greatly dilutes or diverts pressure on other resources and their contexts elsewhere in the County.

Nonetheless it is likely that the concentration of development into the environs of Old Conna is likely to result in localised, residual effects on the contexts of protected structures.

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<sup>49</sup> SEO L1

<sup>50</sup> SEOs C1 and C2

<sup>51</sup> SEOs W1, W3, W4, C1 and HH1

<sup>52</sup> SEOs C1 and C2

<sup>53</sup> SEOs B3, CH1, CH2 and L1

<sup>54</sup> SEOs CH1 and CH2

### 7.4.7 Evaluation of Alternative Scenario 3: *Minimalist Approach*

#### 7.4.8 Planning Effects

The economic and social implications of this scenario would be negative. The positive regeneration benefits for the County which would be released by the development of Key Development Areas (particularly Cherrywood) for more intensive urban development could be compromised and in the longer-term problems of sustained population decline could result.

Under this scenario, the County would be unable to hold on to its natural increase in population and the population targets set out in the Regional Planning Guidelines for the Greater Dublin Area would be unattainable. Such a consequence would most likely see further development pushed out into the Mid-East Region beyond the Metropolitan core with all of the negative consequences associated with long-distance commuting and population dispersal<sup>55</sup>.

The sustained population decline that could be a consequence of this scenario could entail a significant social cost in the form of a loss of essential local services and a decline in public transport usage<sup>56</sup>.

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<sup>55</sup> SEOs W1, W3, M1, C1 and C2

<sup>56</sup> SEOs C1 and C2

### 7.4.9 Environmental Effects

#### A. Water

This scenario has two sets of opposing effects. On the one hand a cessation or significant slowing of development will reduce the generation of effects that are likely to reach waters – which is a direct localised benefit.

On the other hand such a contraction is likely to slow or stop the capitalization new or upgraded sanitary services. This is likely to retard the attainment of satisfactory discharge levels for existing effluent<sup>57</sup> from a wide area – making it more difficult to comply with the water quality objectives of the Water Framework Directive. This is likely to give rise to significant, indirect adverse effects on water quality<sup>58</sup>.

#### B. Ecology

A cessation or significant slowing of development will reduce the extent, magnitude and intensity of effects on species, habitats and many ecological resources [with the important exception of water quality, as mentioned above] which is a direct widespread benefit<sup>59</sup>.

#### C. Landscape

A cessation or significant slowing of development will reduce the extent, magnitude and intensity of landscape and visual effects which is a direct widespread benefit<sup>60</sup>.

#### D. Traffic and associated effects

This scenario has two sets of opposing effects. On the one hand a cessation or significant slowing of development will reduce the generation of traffic and associated effects - a direct benefit of this scenario.

On the other hand such a contraction is likely to slow or stop the capitalization new or upgraded traffic infrastructure and public transport services<sup>61</sup>. This is likely to retard the attainment of satisfactory services levels and make it more difficult to attain the improved modal splits required for sustainable mobility patterns – with associated effects on air emissions, energy

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<sup>57</sup> SEO M1

<sup>58</sup> SEOs W1, W2 and W3

<sup>59</sup> SEOs B1, B2 and B3

<sup>60</sup> SEO L1

<sup>61</sup> SEOs C1 and C2

utilisation and noise. This is likely to give rise to extensive, indirect adverse effects on traffic<sup>62</sup>.

### **E. Cultural Heritage**

A cessation or significant slowing of development will reduce the extent, magnitude and intensity of direct, indirect and incremental effects on cultural heritage resources which is a direct widespread benefit<sup>63</sup>.

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<sup>62</sup> SEOs C1 and C2

<sup>63</sup> SEOs CH1 and CH2

## 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 - would be mitigated	<b>Uncertain</b> 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>Market-Led Growth</i>		<b>B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH2 L1</b>	<b>B1 B2 CH1</b>			
<b>Alternative Scenario 2</b> <i>Selective Concentrations along Public Transport Corridors</i>	<b>CH2</b> (as a result of avoiding the most sensitive areas)  <b>B1 B2 B3</b> (as a result of avoiding development in sensitive areas)  <b>C1 C2 W1 W2 W3 HH1 M1</b>	<b>CH2</b> (as a result of residual impact in Old Conna)	<b>L1 S1 W4 CH1</b>  <b>B3</b> (Localised, as a result of greenfield development)			
<b>Alternative Scenario 3</b> <i>Minimalist Approach</i>	<b>B1 B2 B3 S1 L1 W4 CH1 CH2</b>  <b>C1 C2</b> (Reduction in traffic generation in Plan area)  <b>W1 W2 W3</b> (Direct Localised effects)	<b>C1 C2</b>  <b>C1 C2</b> (Generation of growth outside of Plan area with no accompanying public transport infrastructure)  <b>W1 W2 W3 M1 HH1</b> (due to retarding the attainment of satisfactory discharge levels over a wide area)				

**Table 7.5 Evaluation of Alternative Scenarios against SEOs**

Table 7.5 summarises the evaluation of Alternative Scenarios 1, 2 and 3 against the Strategic Environmental Objectives (SEOs).

## 7.6 Summary; the Alternative Scenario for the Plan

The Alternatives that were examined were produced and evaluated at an earlier - more embryonic - stage to facilitate the evaluation and selection of a plan - having regard, *inter alia* to environmental consequences.

The Draft County Development Plan that emerged from the Plan preparation process and which was adopted has a close correlation to Scenario 2 - *Selective Concentrations along Public Transport Corridors*.

In summary, Scenario 2 represents a pragmatic recognition of the need to continue to accommodate and control growth in Dún Laoghaire-Rathdown. Unlike the minimalist approach [Scenario 3], Scenario 2 does not give rise to the least level of direct, short-term beneficial environmental effects. However, in the medium to long-term Scenario 2 is more likely to bring about better environmental outcomes because of its ability to bring about both controlled growth and the necessary growth to capitalise important environmental mitigation measures.

With the integration of appropriate mitigation measures (including those identified in Section 9 of this report) potential adverse environmental effects which could arise as a result of implementing this scenario would be likely to be avoided, reduced or offset.

Alternative Scenario 2 was chosen to be developed for the Draft Development Plan by the plan-making team and was adopted by the Elected Members having regard to both:

1. The environmental effects which were identified by the Strategic Environmental Assessment; and,
2. Planning - including social and economic - effects.



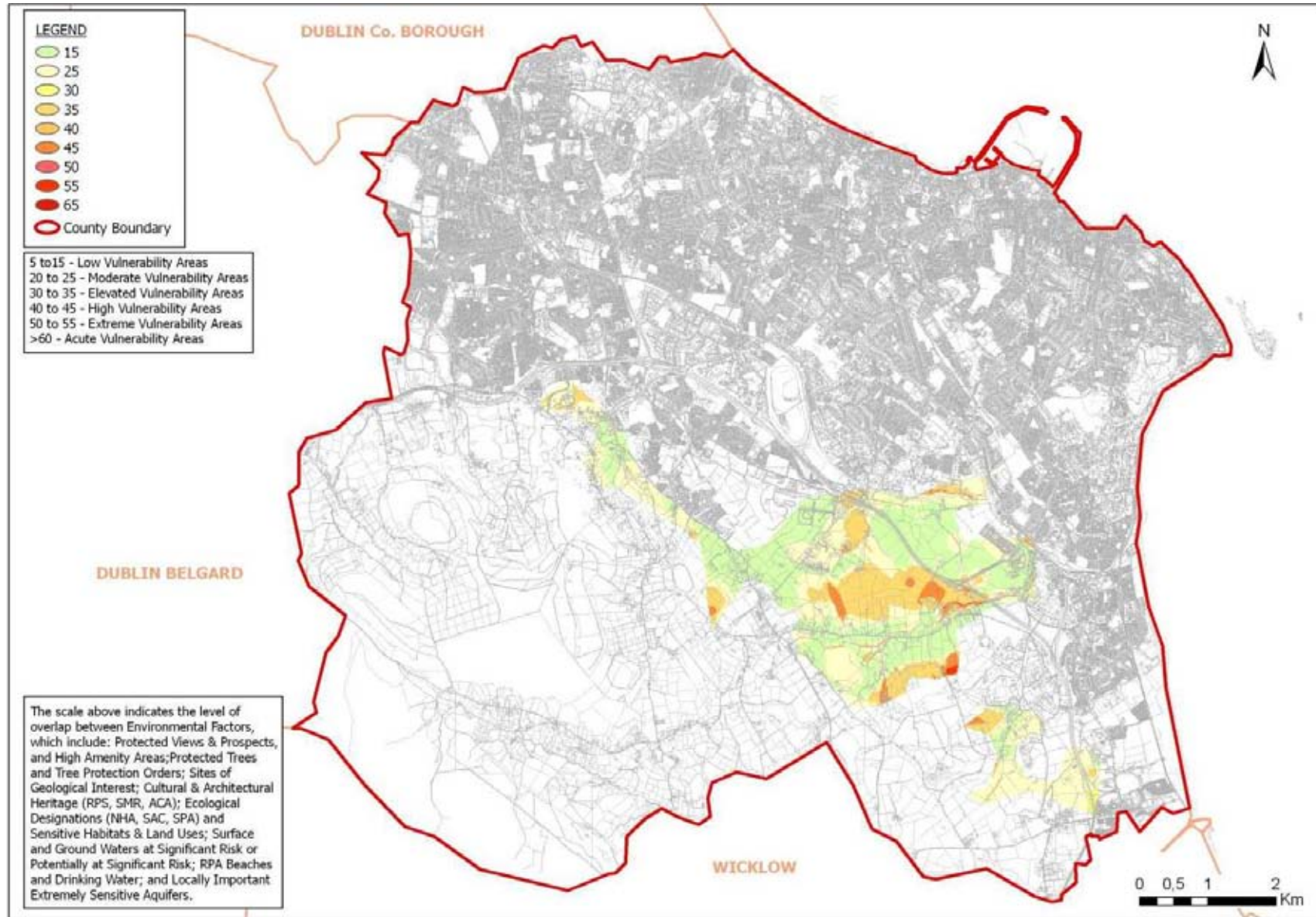


Figure 7.1 Overlay of Environmental Sensitivities Sprawl Areas of Scenario 1

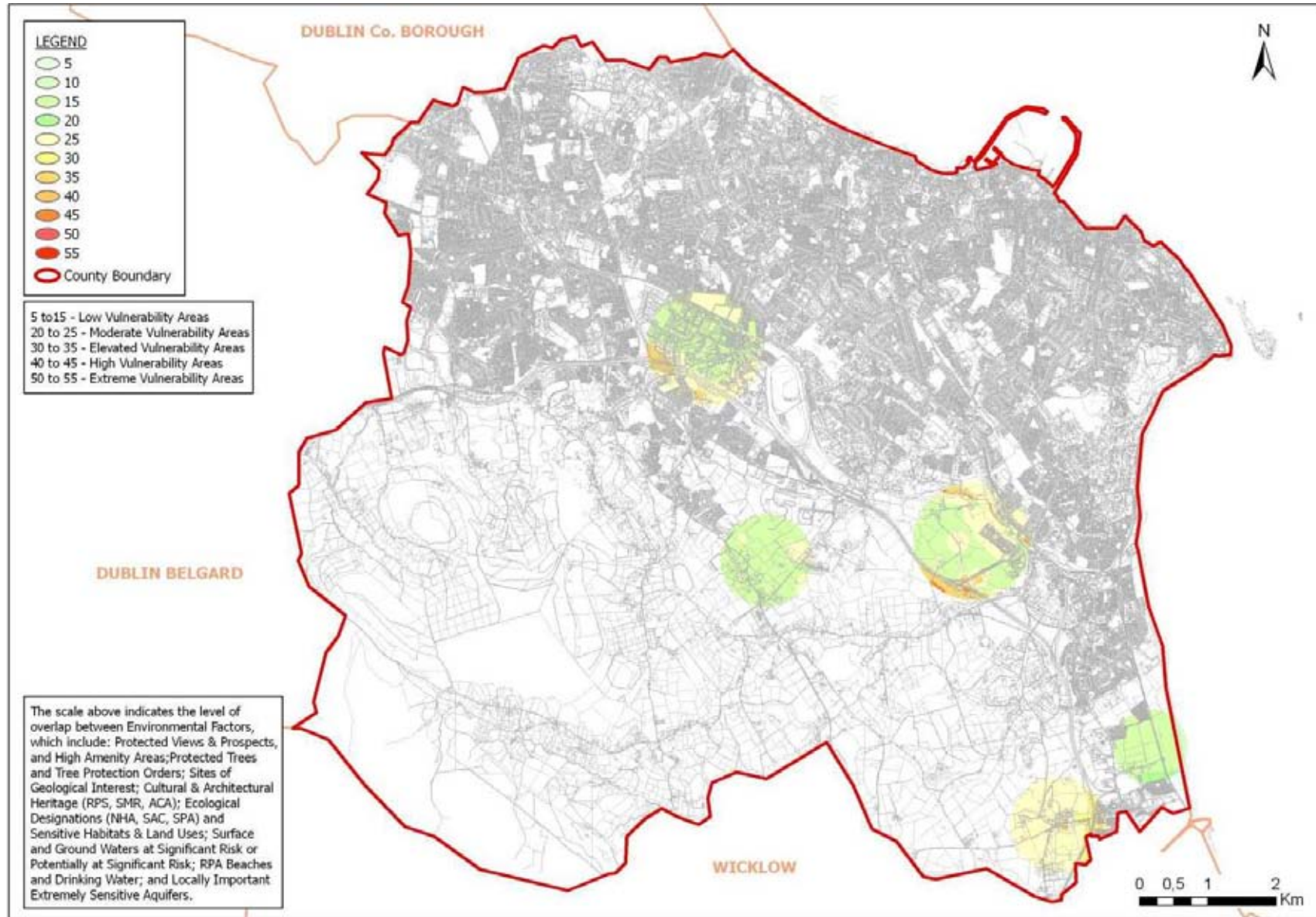


Figure 7.2 Overlay of Environmental Sensitivities and LAP Zones of Scenario 1

## Section 8 Evaluation of Plan Policies and Objectives

### 8.1 Methodology

This section evaluates the Plan's goals, aims, policies and objectives. Strategic Environmental Objectives (SEOs) are used as outlined under Section 7.2 in order to evaluate the relevant measures of the Plan. Where SEOs are omitted and there is no uncertainty involved, an interaction between SEOs and Plan provisions would be unlikely. Use has been made of the environmental baseline descriptions and the maps of the individual components provided in Section 3 for the evaluation.

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.

#### **Note on uncertainty:**

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.

<b>SEO Code</b>	<b>SEO</b>
<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
<b>W1</b>	To maintain and improve, where possible, the quality of rivers
<b>W2</b>	To maintain and improve, where possible, the quality of transitional and coastal waters and to prevent pollution and contamination of bathing water
<b>W3</b>	To prevent pollution and contamination of ground water
<b>W4</b>	To prevent development on lands which pose - or are likely to pose in the future - a significant flood risk
<b>C1</b>	To minimise increases in travel related greenhouse emissions to air
<b>C2</b>	To reduce car dependency within the County by way of, inter alia, encouraging modal change from car to more sustainable forms of public transport and encouraging development which will not be dependent on private transport
<b>M1</b>	To serve new development with appropriate waste water treatment
<b>CH1</b>	To protect the archaeological heritage of Dún Laoghaire-Rathdown 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 Dún Laoghaire-Rathdown'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 avoid significant adverse impacts on the landscape - especially with regard to the County's landscapes attributed with a High Amenity zoning objective and protected views and prospects.

**Table 8.1 Strategic Environmental Objectives (SEOs)<sup>64</sup>**

<sup>64</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 were tested. The SEOs are used as standards against which the development strategies, policies and objectives of the Plan were evaluated in order to help identify areas in which significant adverse impacts would be likely to occur, if unmitigated against.

## 8.2 Chapter 2: Overall Strategy

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs- unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	Uncertain interaction with status of SEOs	Neutral Interaction with status of SEOs	No Likely interaction with status of SEOs
<b>Vision</b>						
To plan for and facilitate appropriate levels of sustainable development in Dún Laoghaire-Rathdown based on high quality residential, employment and recreational environments allied to the delivery of enhanced sustainable transportation patterns. To create a high-quality physical environment that meets the growing needs of those living, working or visiting the County in an inclusive, balanced and integrated way to ensure communities can thrive in a socially, economically and environmentally sustainable manner – all within the parameters of the strategic framework laid down by the Regional Planning Guidelines for the Greater Dublin Area.					✓	
<b>Goals</b>						
Goal 1 To promote and provide for the sustainable development of Dún Laoghaire-Rathdown to enable it to fulfil its role as an important player in the wider Greater Dublin Area.					✓	
Goal 2 To promote social inclusion and to facilitate equality of access to employment, education, transport, suitable housing and social and cultural activities, whether by direct provision (e.g. social housing) or by facilitating other agencies and stakeholders to provide the service (e.g. education and health services).				✓		
Goal 3 To provide for a high quality natural and built environment and improved quality of life for those living and working in Dún Laoghaire-Rathdown and for those visiting the County.	B1 B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 CH2 L1					
<b>Overall Strategy</b>						
To promote the delivery of sustainable development through positively encouraging a strategy of high quality infill development that will consolidate and density the existing urban/suburban form of the County.					✓	
To continue to encourage a polycentric settlement pattern by developing and expanding established towns, district centres and urban villages in the urban area where these are served by sustainable public transport services.	C1 C2		B1 B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1			
To promote the implementation of new higher-density development proposals at previously identified strategic nodes in the south-west of the County associated with the concurrent delivery of upgraded or planned public transport corridors.	C1 C2		B1 B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1			



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To retain existing population levels in established built-up areas and to increase them where feasible through continuing appropriate consolidation and densification.	S1 C1 C2		CH1 CH2			
To promote the achievement of sustainable development and Local Agenda 21 and the conservation of future resources by minimizing the consumption of natural non-renewable resources, including land.	B1 B2 B3 S1 L1					
To limit further encroachment of the urban area into the rural area through considered infill and the recycling of 'brownfield' sites and redundant institutional lands.	S1 B3 L1		CH1 CH2			
To facilitate the growth of employment and enterprise opportunities, concentrating on high technology and knowledge based industries. New office development to be directed to appropriately zoned areas throughout the County.	C1 C2		B1 B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1			
To maximize the potential of the County by virtue of its strategic location in the Greater Dublin Area.				✓		
To consolidate and protect existing and 'pipeline' retail centres and to adopt a more considered and precautionary approach to the provision of significant additional retail floorspace throughout the Plan period.	S1 C1 C2					
To continue to regenerate urban village centres provided that any new development respects the existing built-form and residential amenity of the area concerned.	S1		CH1			
To protect local assets by preserving the quality of the landscape, open space, architectural, archaeological and cultural heritage and material assets of the County. Special care will be afforded to areas of high amenity, upland zones and green belt areas.	B1 B2 B3 CH1 CH2 L1		S1			
To protect the open character of rural areas and to prevent unsuitable and unsustainable development.	B1 B2 B3 L1					
To promote social inclusion and the involvement of the local community in decision-making on planning and environmental sustainability issues and to facilitate the delivery of objectives contained in the Dún Laoghaire-Rathdown County Development Board Strategy 2002-2012.			B1 B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 CH2 L1			
To co-operate with the Dublin Regional Authority and other agencies in meeting the needs and development requirements of the Dublin Region in accordance with the Regional Planning Guidelines for the Greater Dublin Area.			B1 B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 CH2 L1			
<b>Specific Aims</b>						
Development Areas and Regeneration To encourage the renewal of existing built-up and brownfield areas through considered regeneration and consolidation and to establish new sustainable urban villages and centres in well located greenfield areas that will be well served by planned public transport networks.	C1 C2 S1		B1 B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1			
Dún Laoghaire To secure the physical regeneration and enhancement of Dún Laoghaire Town Centre by promoting and implementing a series of identified key projects designed (i) to reconnect the Town Centre to the Coast further (ii) to create greater vitality and vibrancy within the Town Centre (iii) to encourage further residential development and population growth and (iv) to encourage sustainable community growth and social development.	S1		B1 B2 B3 HH1 W1 W2 W3 W4 M1 CH1 CH2 L1			

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<p><b>Residential</b> To facilitate the enhancement of housing areas; to ensure the provision of high quality new residential environments embracing good layout and design combined with adequate public transport links and within walking distance of community facilities; to provide an appropriate mix of house sizes, types and tenures in order to meet different household needs and to promote balanced communities.</p>	<b>C1 C2</b>		<b>B1 B2 B3 HH1 W1 W2 W3 W4 M1 CH1 CH2 L1</b>			
<p><b>Enterprise and Employment</b> To provide for the future well being of residents and workers of the County by facilitating economic development and the growth of employment opportunities in all sectors in accordance with the principles of sustainable development.</p>					✓	
<p><b>Retail</b> To facilitate the development of a strong retailing sector and to support the future vitality and viability of existing and planned retailing centres in the County.</p>				✓		
<p><b>Social, Community and Cultural Development</b> To promote social inclusion; to ensure the retention and provision of accessible community and recreational facilities including local/neighbourhood centres and to ensure that these facilities are adequate to meet the needs of the communities they serve, are physically integrated with residential and employment areas and are provided concurrently with new residential development.</p>	<b>C1 C2</b>		<b>B1 B2</b>			
<p><b>Landscape, Heritage and Biodiversity</b> To protect the landscape of the County in a way that ensures features of natural heritage are protected, important wildlife habitats are conserved, watercourses are safeguarded from pollution; the beauty of the landscape is maintained and enriched and recreation uses are facilitated in a sensitive manner.</p>	<b>B1 B2 B3 HH1 W1 W2 W3 W4 M1 L1</b>					
<p><b>Open Space and Recreation</b> To protect and enhance the established network of open spaces in Dún Laoghaire-Rathdown and to ensure that a range of high quality, relevant and easily accessible recreational and leisure facilities are available to meet the needs of all residents of, and visitors to, the County.</p>	<b>B3 L1</b>					
<p><b>Archaeological and Architectural Heritage</b> To protect and conserve buildings, areas, structures, sites and features of special architectural, historic, archaeological, artistic, cultural, scientific, social or technical interest.</p>	<b>CH1 CH2 L1</b>					
<p><b>Sustainable Travel and Transportation</b> To promote ease of movement within and access to Dún Laoghaire-Rathdown by integrating land use planning with a high quality, sustainable and integrated transport system to convey people and goods within and beyond the County.</p>	<b>C1 C2</b>		<b>B1 B2 B3</b>			
<p><b>Environmental Infrastructure and Management</b> To develop, improve, protect and enhance the range and accessibility of water and drainage infrastructural services that promotes sustainable development in the County and to conform to the European Union, National, and Regional policy in all matters relating (i) to the production, handling, treatment and disposal of waste within the County, and (ii) the control of water, air and noise pollution.</p>	<b>B1 B2 HH1 W1 W2 W3 W4 M1</b>		<b>B1 B2 B3</b>			
<p><b>Climate Change and Energy Efficiency</b> To encourage and support energy efficiency, conservation and generation from renewable resources, to implement measures which seek to reduce emissions of greenhouse gases and to promote the ethos of sustainability, innovation and energy efficiency in new and refurbished buildings.</p>	<b>C1 C2</b>		<b>B1 B2 B3</b>			
<p><b>Urban Design</b> To facilitate the development of sustainable communities together with a high quality built environment through the promotion of good urban design and mixed-use development and by reducing, as far as possible, the need to travel – particularly by private car.</p>	<b>CH2 C1 C2</b>					
<p><b>Development Management</b> To ensure the orderly and sustainable development of the County through the setting out of considered and appropriate development management objectives and standards.</p>					✓	

Land Use Zoning Objectives To utilise land use zoning objectives to reflect the development needs of the County over the Plan period and to promote particular uses in appropriate locations - both to minimise potential conflict of uses and to safeguard natural and man-made resources.			B1 B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 CH2 L1			
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### 8.3 Chapter 4: Dún Laoghaire Urban Framework Plan

	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	<b>Uncertain</b> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
<b>Objectives</b> It is an objective of the Council to:						
1. Upgrade and revitalise Dún Laoghaire Town Centre through the implementation of the vision for the town's future development as set out in the Urban Framework Plan.	CH2 S1 C1 C2		B1 B2 B3 HH1 W2 W3 W4 M1 CH1 CH2 L1			
2. Enhance the range of uses along the waterfront and encourage activities which create increased attraction for the general public.	CH2 S1 C1 C2		B1 B2 B3 HH1 W2 W4 M1 CH1 CH2 L1			
3. Improve physical linkages and accessibility between the Town Centre and waterfront.	CH2 S1 C1 C2		B1 B2 B3 W2 W4 CH1 CH2 L1			
4. Encourage and provide for increased pedestrian permeability between George's Street and Crofton Road.	CH2 S1 C1 C2		CH1 CH2 L1			
5. Identify and encourage redevelopment of key sites at present under-utilised e.g. Hospital Lands, George's Place and sites at the harbour.	CH2 S1 C1 C2		B1 B2 B3 HH1 W2 W3 W4 M1 CH1 CH2 L1			
6. Encourage development of buildings of architectural quality and appropriate to context.	CH2		CH1 CH2 S1			
7. Provide a network of attractive urban spaces and public realm.	C1 C2 B3		S1			
8. Improve and enhance existing visual amenity and streetscape within the Plan area.	CH2		CH2.			
9. Plan and implement a coherent landscaping scheme along both the waterfront and along Marine Road and its environs.	B3 C1 C2		B1 B2 B3 CH2 L1			

10. Seek to ensure a balanced development of the Town Centre through the development management process and to require appropriate uses at ground floor level and at corner sites which contribute to the vibrancy of the town centre.	CH2 S1 C1 C2		B1 B2 B3 HH1 W2 W3 W4 M1 CH1 CH2 L1			
11. Upgrade the road leading from the Coal Quay Bridge to 'the Gut' and to explore the possibility of providing pedestrian access by way of a cantilevered boardwalk.	CH2 C1 C2		B1 B2 B3 W2 W4 CH1 CH2 L1			
12. To implement a street tree planting and soft landscaping programme within the Urban Framework Plan area.			CH2 L1			
13. To seek the incremental rationalisation and consolidation of the primary retailing core on George's Street between Library Road and Corrig Avenue.	CH2 C1 C2		CH1 CH2 L1			

## 8.4 Chapter 5: Residential

	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>Increase the supply of housing</b>						
Policy RES1: Supply of Zoned Land It is Council policy to seek to ensure that sufficient zoned land is available to satisfy the housing requirements of the County over the lifetime of the Plan thereby meeting the household/population targets set by the Regional Planning Guidelines.			B1 B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 CH2 L1			
Policy RES2: Implementation of Part V It is Council policy to facilitate the implementation of the Housing Strategy. To ameliorate the imbalance between different housing outputs and varying housing demands, the following shall be required by agreement under Part V of the Planning and Development Acts 2000-2006.			B1 B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 CH2 L1			
Policy RES3: Residential Density It is Council policy to generally promote higher residential densities provided that proposals ensure a balance between the reasonable protection of existing residential amenities and the established character of areas, with the need to provide for sustainable residential development. In promoting more compact, good quality higher density forms of residential development it is Council policy to have regard to the policies and objectives contained in the following guidelines: <ul style="list-style-type: none"> <li>Sustainable Residential Development in Urban Areas (DoEHLG 2008)</li> <li>Urban Design Manual - A Best Practice Guide (DoEHLG 2008)</li> <li>Quality Housing for Sustainable Communities (DoEHLG 2007)</li> </ul>	C1 C2		B1 B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1			

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<p>Policy RES4: Improvement of Existing Housing Stock and Densification It is Council policy to improve and conserve housing stock levels of the County, to densify existing built-up areas and to maintain and improve residential amenities in existing residential developments.</p>	<b>S1 C1 C2</b>		<b>B1 B2 B3</b> <b>HH1 W1</b> <b>W2 W3</b> <b>W4 M1</b> <b>CH1 CH2</b> <b>L1</b>			
<p>Policy RES5: Institutional Lands It is Council policy that where distinct parcels of land are in institutional use, such as education, health, residential or other such uses are proposed for redevelopment, the Council shall seek to retain the open character of these lands wherever possible.</p>	<b>L1 CH1</b>					
<p>Policy RES6: Mews Lane Housing It is policy to facilitate measured and proportionate mews lane housing development in suitable locations.</p>	<b>S1</b>		<b>CH2</b>			
<b>Categories of House Types, Sizes &amp; Tenures</b>						
<p>Policy RES7: Overall Housing Mix It is Council policy to encourage the establishment of sustainable residential communities by ensuring that a wide variety of housing and apartment types, sizes and tenures is provided within the County in accordance with the provisions of the Housing Strategy.</p>			<b>B1 B2 B3</b> <b>HH1 S1</b> <b>W1 W2</b> <b>W3 W4 C1</b> <b>C2 M1</b> <b>CH1 CH2</b> <b>L1</b>			
<p>Policy RES8: Provision of Social Housing It is the policy of Council to promote the provision of social housing in accordance with the projects outlined in the Council's Housing Strategy and in-line with its broad based multi-annual Building Programme for social and affordable housing subject to the availability of appropriate approval and finance.</p>			<b>B1 B2 B3</b> <b>HH1 S1</b> <b>W1 W2</b> <b>W3 W4 C1</b> <b>C2 M1</b> <b>CH1 CH2</b> <b>L1</b>			
<p>Policy RES9: Housing for the Elderly It is Council policy to support the concept of independent living for older people, to provide specific purpose-built accommodation and to promote the opportunity for elderly householders to avail of the option of 'downsizing'.</p>			<b>B1 B2 B3</b> <b>HH1 S1</b> <b>W1 W2</b> <b>W3 W4 C1</b> <b>C2 M1</b> <b>CH1 CH2</b> <b>L1</b>			
<p>Policy Res10: Traveller Accommodation It is the policy of the Council to implement the Traveller Accommodation Programme 2009-2013 (and subsequent updates). In accordance with the Programme, halting sites including temporary emergency halting sites and Traveller specific group housing schemes will be provided for the accommodation of Travellers who normally reside in the County and who are included in the most recent Assessment of Need for Traveller specific accommodation, in addition to providing standard social housing to meet their needs.</p>			<b>B1 B2 B3</b> <b>HH1 S1</b> <b>W1 W2</b> <b>W3 W4 C1</b> <b>C2 M1</b> <b>CH1 CH2</b> <b>L1</b>			
<p>Policy RES11: Provision of Student Accommodation It is Council policy to facilitate student accommodation on student campuses or in locations which have convenient access to third level colleges (particularly by foot, bicycle and high quality and convenient public transport) in a manner compatible with surrounding residential amenities. In considering planning applications for student accommodation the Council will have regard to the 'Guidelines on Residential Developments for Third Level Students' and its July, 2005 Review (particularly in relation to location and design).</p>	<b>C1 C2 CH2</b>		<b>B1 B2 B3</b> <b>HH1 S1</b> <b>W1 W2</b> <b>W3 W4</b> <b>M1 CH1 L1</b>			



<b>Planning for Sustainable Communities</b>						
Policy RES12: Planning for Communities It is Council policy to plan for communities in accordance with the aims, objectives and principles of the 'Sustainable Residential Development in Urban Areas' and the accompanying 'Urban Design Manual – A Best Practice Guide'. In all new development growth areas, and in existing residential communities as appropriate, it is policy to make proportionate provision for community and other support facilities and to seek delivery of this provision concurrent with development.	S1 C1 C2 M1 CH2					
Policy RES13: Urban Villages In new development growth nodes and in major areas in need of renewal/regeneration it is Council policy to implement a strategy for residential development based on a concept of sustainable urban villages.	S1 C1 C2 CH2					
Policy RES14: High Quality Design It is Council policy to promote high quality design and layout in new residential development.	CH2					
Policy RES15: Community Support Facilities It is Council policy to ensure that proper community and neighbourhood facilities are provided in conjunction with, and as an integral component of, major new residential developments in accordance with the concept of sustainable urban villages outlined above (Policy RES16) or where there is an identified deficiency in the provision of existing services where the development is sited within a proposed renewal/redevelopment area.	S1 C1 C2 CH2					
Policy RES16: Management of One-off Housing It is Council policy to restrict the spread of one-off housing into the rural countryside and to accommodate local growth into identified small villages subject to the availability of necessary services. It is recognised that much of the demand for one-off housing is urban generated and this can result in an unsustainable pattern of development, placing excessive strain on the environment, services and infrastructure.  However, it is recognised that one-off housing may be acceptable where it is clearly shown that it is not urban generated, will not place excessive strain on services and infrastructure, or have a serious negative impact on the landscape, and where demand arises from locationally specific employment or local social needs. It is also Council policy to accommodate local growth by facilitating cluster and village development in the rural areas subject to the availability of necessary services.			B1 B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 CH2 L1			

## 8.5 Chapter 6: Enterprise and Employment

	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	<b>Uncertain</b> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
Policy E1: Lands for Employment Use It is Council policy to ensure that sufficient serviced lands are available for employment generation.				✓		
Policy E2: Knowledge Economy It is Council policy to promote the development of knowledge-based enterprise in the County.				✓		
Policy E3: Creative County – Culture and Creative Industries It is Council policy to promote the development of creative enterprises in the County.				✓		
Policy E4: Third and Fourth Level Institutions It is Council policy to work in conjunction with third and fourth level institutions in the creation and fostering of enterprise through research, innovation and development activities and the commercialisation of such activities.				✓		

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<p>Policy E5: Education and Skills It is the Council policy to sustain the existing high levels of educational attainment and skilled workforce, to encourage employment generation to maintain this resource within the County and to promote the availability of education opportunities to all residents in the Dún Laoghaire-Rathdown</p>				✓		
<p>Policy E6: Light Industrial and related Uses It is Council policy, when determining planning applications on industrial sites, to consider the employment generating value of light industry areas in the County and the value of maintaining an adequate supply of light industrial space and employment in order to help ensure a diverse range of employment opportunities in the County.</p>				✓		
<p>Policy E7: Residential Use in Employment Zoned Land It is Council policy to achieve a satisfactory balance with regard to the residential component of development on lands zoned Objective 'E' to ensure that such lands remain available to facilitate their primary objective for the lands which is the encouragement of enterprise and the creation of employment. Generally, any residential development proposals on 'E' zoned lands should ensure that the employment element on site in terms of floor space should be no less than that on site prior to redevelopment and must ensure that the employment element on site in terms of overall floor space remains the primary land use.</p>						✓
<p>Policy E8: Sandyford Commercial Axis It is Council policy to produce a Local Area Plan for Sandyford.</p>	<b>C1 C2 S1</b>		<b>B2 B3 HH1 W1 W2 W3 W4 M1 CH1 CH2</b>			
<p>Policy E9: Enterprise Incubator Units It is Council policy to assist in the provision of enterprise centres in association with other agencies and in the context of local need.</p>				✓		
<p>Policy E10: Office Development It is Council policy to facilitate significant office development in commercial and employment centres. The appropriate locations for office development would generally be in Major Town Centres, District Centres, and Employment zoned areas (zones MTC, DC and E).</p>	<b>C1 C2</b>			✓		
<p>Policy E11: Home Working/E-Working It is Council policy to permit home-based economic activities where, by virtue of their nature and scale, they can be accommodated without detriment to the amenities of residential areas and to promote and encourage the development of 'Live-work' units capable of accommodating home-based economic activities in areas of high density development at sustainable development locations in the County.</p>	<b>C1 C2</b>			✓		
<p>Policy E12: Helipads It is Council policy to facilitate the provision of a helipad facility at the major employment cores in the County. The preferred option is for a collective facility to serve multiple users in order to avoid the proliferation of such facilities.</p>			<b>HH1</b>	✓		
<p>Policy E13: Tourism and Recreation It is Council policy to co-operate with the appropriate agencies in promoting sustainable tourism and securing the development of tourist and recreation orientated facilities in the County.</p>					✓	
<p>Policy E14: Rural Development It is Council policy to facilitate the development of acceptable rural enterprises and to minimise pollution from agricultural and industrial sources by means of development control and water pollution legislation.</p>					✓	
<p>Policy E15: Commercial Leisure It is Council policy to ensure that all major commercial leisure developments are located in accordance with a sequential test approach. The priority will be Major Town Centre locations, then District Centres and Neighbourhood Centres. The availability of a choice of sustainable transport modes will be essential.</p>	<b>C1 C2</b>					

Policy E16: Equine Industry It is Council policy to support the government commitment to the horse industry in Ireland and to promote and support and facilitate the development of the equine industry in Dún Laoghaire-Rathdown County in particular and to promote Dún Laoghaire-Rathdown as a centre of excellence for the bloodstock industry. The Council recognises the increasing importance of the equine industry in Dún Laoghaire-Rathdown County, particularly the positive contribution that the industry makes towards agricultural diversification and rural employment in the county. In this context special consideration will be given to facilitate provision of residential accommodation on site in association with the development of horse breeding or equine facilities.			B1 B2 B3 S1 CH1 CH2 L1			
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## 8.6 Chapter 7: Retail

	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	<b>Uncertain</b> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
Policy RET1: Retail Planning Guidelines It is the policy of the Council to have regard to the Retail Planning Guidelines for Planning Authorities (2005) in determining planning applications for retail development.	C1 C2		B3 S1 W4 CH1 CH2 L1			
Policy RET2: Greater Dublin Area Retail Strategy It is Council policy to have regard to the Retail Strategy for the Greater Dublin Area 2008 – 2016 but to adopt a pragmatic position in relation to consideration of future retail floorspace requirements and objectives in light of changing economic circumstances.	C1 C2		B3 S1 W4 CH1 CH2 L1			
Policy RET3: Retail Hierarchy It is Council policy to have regard to the Greater Dublin Area Retail Planning Strategy 2008 – 2016 in defining the retail hierarchy of the County and defining the role of the retail centres. It is Council policy to promote the viability and vitality of its existing main retail centres while continuing to protect and improve the amenity of surrounding areas.	C1 C2		B3 S1 W4 CH1 CH2 L1			
Policy RET4: Major Town Centres It is Council policy to maintain the two Major Town Centres - Dún Laoghaire and Dundrum as the primary retail centres in the County. This will be reflected in the nature and scale of retail and services permitted in these centres and by the range of complementary leisure, entertainment and cultural facilities located there.	C1 C2		B3 S1 W4 CH1 CH2 L1			
Policy RET5: District Centres It is Council policy to maintain four District Centres at Blackrock, Stillorgan, Nutgrove and Cornelscourt.	C1 C2		B3 S1 W4 CH1 CH2 L1			
Policy RET6: Cherrywood (Retail) It is Council policy to promote the medium term development of a fully sustainable mixed-use Town Centre in the proposed Key Development Area of Cherrywood in accordance with a proposed Strategic Development Zone Planning Scheme. Retail floorspace to be provided in the Town Centre will be 35,000 sqm in accordance with the provisions of the Retail Strategy.	C1 C2		B3 S1 W4 CH1 CH2 L1			
Policy RET7: Neighbourhood Centres It is Council policy to encourage the provision of an appropriate mix, range and type of uses - including retail and retail services in areas zoned objective 'NC' subject to the protection of the residential amenities of the surrounding area.	C1 C2		CH2			
Policy RET8: Convenience Shops It is Council policy to facilitate the provision of local convenience shops in residential areas where there is a clear deficiency of retail provision, subject to protecting residential amenity.	C1 C2					

Policy RET9: Discount Food Stores Discount food stores are suited for location in Major Town Centres, District Centres and mixed use Neighbourhood Centres where they complement the multiplicity of uses.	C1 C2		B3 S1 W4 CH1 CH2 L1			
Policy RET10: Casual Trading Areas It is Council policy to designate sites as Casual Trading Areas in suitable locations where deemed appropriate.				✓		
Policy RET11: Non-Retail Uses It is Council policy to control the provision of non-retail uses at ground floor level in the principal shopping streets of Major Town Centres and District Centres and also within the shopping parades of Mixed-Use Neighbourhood Centres.	C1 C2					
Policy RET12: Retail Warehousing & Retail Parks It is Council policy to strictly control and limit additional new retail warehousing/retail park floorspace in the County for the duration of the Plan. The preferred location for any limited new retail warehousing will be on lands zoned Objective 'E' – "To provide for economic development and employment" where the site has good access to a suitable road network and has access to integrated public transport. Where considered appropriate some very limited retail warehousing may be open for consideration in or near the edge of lands zoned Objective 'MTC' – "To protect, provide for and/or improve Major Town Centre facilities", but only where it can be demonstrated that the proposal will add to the centre's overall attractiveness for shopping. Any application for retail warehousing will require to demonstrate that the proposal will not impact adversely on the vitality and viability of established retail centres in accordance with the criteria set down in DoEHLG "Retail Planning Guidelines for Planning Authorities" 2005.	C1 C2		B3 S1 W4 CH1 CH2 L1			
Policy RET13: Additional Retail Floor Space It is Council policy, while having regard to the Retail Strategy for the Greater Dublin Area 2008 – 2016, to nevertheless adopt a cautionary position in relation to the provision of significant additional retail floorspace in the County for the duration of the Plan – in recognition of the dramatic slowdown in the economy resulting in lower than expected immigration levels and consequent lower growth in overall consumer expenditure. Assessment of Retail Development Proposals				✓		
Policy RET14: Assessment of Retail Proposals It is Council policy to ensure that applications for new retail development shall accord with the retail policies of the Plan and government guidance in the form of the 'Retail Planning guidelines' 2005.	C1 C2		B3 S1 W4 CH1 CH2 L1			

## 8.7 Chapter 8: Social Community and Cultural Development

	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>Community Support and Social Inclusion</b>						
Policy SCC1: County Development Board Strategy It is Council policy to promote and facilitate the participation of key stakeholders in the delivery of the County Development Board's, "Integrated Strategy for Social, Economic and Cultural Development, 2002 – 2012" and in doing so, reach a shared vision for the long-term social, economic and cultural development of Dún Laoghaire-Rathdown.			B1 B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 CH2 L1			
Policy SSC2: Social Inclusion and Participation It is Council policy to progressively reduce all forms of social exclusion whether by race, creed, sexuality, educational attainment, geographical location and levels of physical and intellectual ability						✓

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Policy SCC3: Safer Living Environment It is Council policy to facilitate the promotion and delivery of a safe environment for both the residents of, and visitors to, the County.	HH1					
Policy SSC4: Estate Management It is the Council's policy to support, as resources allow, the continued development of Estate Management structures and programmes in areas identified with a high proportion of Council-owned properties						✓
<b>Community Facilities</b>						
Policy SCC5 Community Facilities It is Council policy to support the development and provision of a wide range of community facilities distributed in an equitable manner throughout the County. In order to help prioritise resource allocations for future spending the Council will produce a comprehensive audit of all community and social facilities in the County within the lifetime of the Plan - the audit to include crèche facilities, libraries, schools, health care centres and community centres.			B1 B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 CH2 L1			
Policy SSC6 : New Development Areas It is Council policy to ensure that proper community infrastructure and complementarily neighbourhood facilities are provided concurrently with the development of new residential growth nodes in the County.	C1 C2		B1 B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1			
Policy SSC7 : Libraries It is the policy of the Council to promote and develop the County library service in accordance with the national objectives laid down in the report "Branching Out: Future Directions 2008-2012" of the Department of the Environment and Local Government 1998. The County's network of Carnegie Libraries shall be retained for public and community use.	C1 C2			✓		
Policy SSC8: Schools It is the policy of the Council to ensure the reservation of primary and post-primary school sites in accordance with the requirements of the relevant education authorities.				✓		
Policy SSC9: Third and Fourth Level Education Facilities It is Council policy to support the development and ongoing provision of third and fourth level institutions in the County including University College Dublin, (Belfield and Carysfort campuses); Institute of Art, Design and Technology; Sion Hill, Blackrock and Dún Laoghaire Senior College.	C1 C2		B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1			
Policy SSC10 Health Care Facilities It is Council policy to support the Health Service Executive and other statutory and voluntary agencies in the provision of appropriate healthcare facilities including the development of both the system of hospital care and the provision of community-based care primary facilities. It is Council policy to encourage the integration of appropriate healthcare facilities within new and existing communities.	C1 C2		B1 B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1			
Policy SSC11 Childcare Facilities It is the policy of the Council to encourage the provision of childcare facilities as an integral part of proposals for new residential developments. Generally, one childcare facility with places for 20 children shall be provided for each 75 dwellings. The Council will encourage the provision of childcare facilities in a sustainable manner to encourage local economic development and to assist in addressing disadvantage.	C1 C2		B1 B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1			



Policy SSC12 Arts and Culture It is Council policy to facilitate the continued development of arts and cultural facilities throughout Dún Laoghaire-Rathdown in accordance with the County Arts Strategy.			<b>B1 B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 CH2 L1</b>			
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## 8.8 Chapter 9: Landscape, Heritage and Biodiversity

	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	<b>Uncertain</b> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
<b>Landscape</b>						
Policy LHB1: Preservation of Landscape Character Areas It is a policy objective of the Council to continue preserve and enhance the character of the County's landscape in accordance with the recommended strategies as originally outlined in the Landscape Character Assessment (May 2002) and in accordance with the "Draft Guidelines for Landscape and Landscape Assessment" (2000) as issued by the Department of Environment and Local Government.	<b>B1 B2 B3 L1</b>					
Policy LHB2: High Amenity Zones It is the policy of the Council to conserve and enhance existing High Amenity ones and to seek to manage these and other areas to absorb further recreational uses and activity without damaging the amenities that affords them their special character.	<b>B3 L1</b>		<b>B1 B2 B3</b>			
Policy LHB3: Historic Landscape Character Areas In assessing development proposals it is the policy of the Council to have regard to the recommendations and findings of the Historic Landscape Character Assessments (HLCA) undertaken for the urban rural-fringe areas of the County	<b>B3 L1 CH1 CH2</b>					
Policy LHB4: Views and Prospects It is the policy of the Council to protect and encourage enjoyment of views and prospects of special amenity value or special interests.	<b>L1</b>					
<b>Heritage and Biodiversity</b>						
Policy LHB5: Heritage and Protection of the Environment It is Council policy to protect and conserve the environment including, in particular, the architectural, archaeological and natural heritage of the County and in particular to conserve, manage and protect nationally important and EU designated sites including Special Protection Areas, proposed Natural Heritage Areas.	<b>B1 B2 B3 CH1 CH2 L1</b>					
Policy LHB6 : Heritage Plan for Dún Laoghaire-Rathdown It is Council policy to implement the current Heritage Plan and to produce a second Heritage Plan (2009-2014) for Dún Laoghaire-Rathdown which will be set within the context of the National Heritage Plan published by the Department of Arts, Heritage, Gaeltacht and the Islands. In preparing the second County Heritage Plan it will be an objective of the Council to ensure a balance between protection of heritage and the implementation of other, often competing, policies in the Development Plan, and have due regard to each.	<b>B1 B2 B3 W1 CH1 CH2 L1</b>					
Policy LHB7 : Biodiversity Plan It is Council Policy to implement the County Biodiversity Plan 2008-2012 and have due regard to the recommendations arising from its implementation in accordance with the National Biodiversity Plan, prepared by the Department of the Arts, Heritage, Gaelteacht and the Islands, (2002)	<b>B1 B2 B3 W1 L1</b>					

Policy LHB8: Special Protection Area (Birds), Proposed Natural Heritage Areas and Candidate Special Areas of Conservation It is the Policy of the Council to protect and preserve areas designated as Proposed Natural Heritage Areas, proposed Candidate Special Areas of Conservation, and Special Protection Areas (Birds)	<b>B1 B2 B3 W1 L1</b>					
Policy LHB9 Non-Designated Areas of Biodiversity Importance It is Council policy to protect and promote the conservation of Biodiversity in areas of natural heritage importance outside designated areas and to ensure that features of biodiversity importance including species protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979, and the Habitats Directive 1992 are adequately protected. Ecological assessments will be carried out for all developments in areas that support, or have potential to support features of biodiversity importance or protected species and appropriate mitigation/avoidance measures will be implemented. In implementing this policy regard shall be had to the recommendations and objectives of the Green City Guidelines (2008).	<b>B3 W1 L1</b>					
Policy LHB 10 : Rivers and Waterways It is Council policy to maintain and protect the natural character and ecological value of the river and stream corridors in the County and where possible to enhance existing channels and to encourage diversity of habitat. It is also policy (subject to the sensitivity of the riverside habitat) to provide public access to riparian corridors to promote improved passive recreational activities.	<b>B3 L1</b>					
Policy LHB11 : Trees and Urban Woodlands It is Council policy that trees, groups of trees or woodlands particularly where they form a significant feature in the landscape or, are important in setting the character of ecology of an area shall be preserved wherever possible. New urban woodlands will be planted in areas deficient in tree coverage and/or associated within new development nodes and infrastructure programmes.	<b>B3 L1</b>					
Policy LHB12 : Hedgerows It is Council policy to protect hedgerows in the County from development, which would impact adversely upon them. It is Council policy to promote the County's hedgerows by increasing coverage, where possible, using locally native species and to develop an appropriate code of practice for road hedgerow maintenance.	<b>B3 L1</b>					
Policy LHB13 : Geological Sites It is Council policy to protect sites of Geological and Geomorphological importance, in particular proposed Natural Heritage Areas (NHAs) and County Geological Sites (CGS) that become designated during the lifetime of this Plan.	<b>B1 B2</b>					
Policy LHB14 : Green Belts It is the policy of the Council to retain the individual physical character of towns and development areas by the designation of green belt areas where appropriate.	<b>B3 L1</b>					
Policy LHB15: Historic Demesnes and Gardens It is the policy of the Council that historic demesnes and gardens should be identified and protected in view of their significance as part of the national heritage. The following houses and gardens are listed: Cabinteely House, Marlay House Fernhill, and Old Conna	<b>CH1 CH2 B3 L1</b>					
Policy LHB 16 Information plaques It is the policy of the Council to promote the erection of appropriately designed and located information plaques on buildings in order to promote awareness of the County's history, as embodied in the built heritage.						✓
<b>The Coast and the Mountains</b>						
Policy LHB17 Coastal Zone Management and Dublin Bay It is council policy to co-operate with the Coastal Zone Management Division of the Department of Agriculture, Fisheries and Food in the preparation of the national stocking exercise and in the preparation and implementation of a national Coastal Zone Management Strategy. It is also Council Policy to co-operate with the Dublin Bay Task Force in the preparation of a Dublin Bay Master Plan in partnership with local communities, the general public, user organisations and statutory authorities.	<b>W4</b>					
Policy LHB18 : Parks, Coastline and Harbours It is the policy of the Council to continue to improve recreational and tourism-related amenities in its public parks along the coastline and at the harbours for access by the general public.				✓		

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<p>Policy LHB19 : Beaches It is the policy of the Council to promote the use of beaches for amenity and recreational use. The areas traditionally used for bathing in the County include: Booterstown Beach Blackrock Bathing Place Seapoint Sandycove Harbour &amp; Beach 40 ft. Swimming Area Bulloch Harbour White Rock Beach Killiney Strand Vico Bathing Area Corbawn</p>	<p><b>HH1 W2</b></p>					
<p>Policy LHB20 : The Metals It is Council policy to manage and enhance The Metals from the Peoples Park to Dalkey giving due regard to its historic importance while encouraging its use as a walking route between Dún Laoghaire and Dalkey.</p>	<p><b>C1 C2</b></p>		<p><b>B1 B2 B3</b></p>			
<p>Policy LHB21 : Dublin Mountains Strategic Plan It is Council policy to support the vision and objectives of Dublin Mountains Strategic Plan for Development of Outdoor Recreation (2007-2017) including the formation of a Dublin Mountain Way.</p>				<p>✓</p>		
<p>Policy LHB22 : Public Rights of Way It is the policy of the Council to:  <ul style="list-style-type: none"> <li>• Preserve, protect, promote and improve for the common good all existing public rights of way which contribute to general amenity.</li> <li>• Create new rights of way or extend or enhance existing rights of way in the interest of amenity either by agreement with landowners or through the use of compulsory powers in the interest of ensuring access to amenities, including the coast, upland areas, lake shores, river banks, heritage sites and National Monuments</li> <li>• Create rights of way to provide linkages from the built up areas to the countryside and the coast.</li> <li>• Prohibit development and keep free from obstruction existing rights of way, and to take legal action if necessary, to prevent any attempt to close them off.</li> <li>• Prohibit development which would prejudice public access to existing rights of way, unless the level of amenity is maintained by the right of way, footpath, or bridleway being diverted by the minimum practical distance and the route continues to be segregated from vehicular traffic.</li> <li>• Consider favourably planning applications which include proposals to improve the condition and appearance of existing rights of way.</li> </ul> </p>			<p><b>B1 B2 B3</b></p>			
<p>Policy LHB23 : Recreation Access Routes It is the policy of the Council to preserve all Recreation Access Routes which contribute to general amenity.</p>						<p>✓</p>
<p>Policy LHB24: National Park It is the policy of the Council to cooperate in the extension of a Wicklow Mountains National Park.</p>	<p><b>B1 B2 B3 L1</b></p>					
<p>Policy LHB25 : Trails, Hiking and Walking Routes It is Council policy to promote the development of regional and local networks of hiking and walking routes and trails and to develop Sli na Slainte Routes. These should be waymarked/signposted and listed where feasible and appropriate.</p>			<p><b>B1 B2 B3</b></p>			
<p>Policy LHB26 : Indicative Forestry Strategy It is Council policy to take full account of the Indicative Forestry Strategy (Draft 2008) produced by the Forestry Service of the Department of Agriculture, Fisheries and Food.</p>	<p><b>B1 B2 B3 W1 L1</b></p>					

<p>Policy LHB27: Strategic Environmental Assessment- Mitigation Measures It is Council policy to implement the mitigation measures as set out in Section 9.3 of the Environmental Report accompanying the Development Plan, which are envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the County Development Plan.</p>	<p><b>B1 B2 B3</b> <b>HH1 S1</b> <b>W1 W2</b> <b>W3 W4 C1</b> <b>C2 M1</b> <b>CH1 CH2</b> <b>L1</b></p>					
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## 8.9 Chapter 10: Open Space and Recreation

	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	<b>Uncertain</b> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
<p>Policy OSR1 : Green Space Strategy It is Council Policy to undertake a comprehensive audit of the existing and proposed open space provision in Dún Laoghaire-Rathdown and to prepare an all-encompassing Green Space Strategy for the County. The outputs and recommendations of that Strategy will be implemented as appropriate and as resources allow.</p>				✓		
<p>Policy OSR2 : Hierarchy of Parks and Open Space It is Council Policy to provide a hierarchy of quality parks and public open spaces which vary in size and nature and are designed to serve the needs of all members of the community by being readily accessible and at a convenient distance from their home and/or places of work</p>	<b>C1 C2</b>					
<p>Policy OSR3 : Future Improvements It is the Council policy to continue to improve, landscape, plant and develop more intensive recreational and leisure facilities within its parks and open spaces insofar as resources will permit and that the development of appropriate complementary facilities does not detract from the overall amenities of the spaces.</p>	<b>B3 L1</b>					
<p>POLICY: OSR4 : Public Open Space Standards It is Council policy to promote public open space standards generally in accordance with recent Government guidance documents "Sustainable Residential Development in Urban Areas-Guidelines for Planning Authorities (DOEHLG, 2008) and the accompanying "Urban Design Manual- A Best Practice Guide"</p>	<b>B3 C1 C2</b>					
<p>Policy OSR5: Allotments and Community Gardens It is Council policy to support the development of additional public allotments and community gardens.</p>	<b>B3 C1 C2</b>					
<p>Policy OSR6 : Trees and Urban Woodlands It is the policy of the Council to prepare a Tree Strategy for the County to ensure that the tree cover in the County is managed to optimize the environmental, climatic and educational benefits which derive from an 'urban forest'. Trees, group of trees or woodlands which form a significant feature in the landscapes or are important in setting the character or ecology of an area should be preserved wherever possible while new urban woodlands will be planted in areas deficient in tree coverage and in new development modes.</p>	<b>B3 L1</b>					
<p>POLICY OSR7 : Greenways Network It is the policy of the Council to develop a comprehensive network of County greenways linking parks and public open spaces and to work with adjoining local authorities and other stakeholders to achieve and improve external linkages.</p>	<b>B3 L1 C1 C2</b>		<b>B1 B2</b>			
<p>Policy OSR8 : Ballyogan Landfill It is Council policy to continue the comprehensive remediation of the former Ballyogan landfill site following completion of the rehabilitation works as a new public park (Jamestown Park)</p>	<b>C1 C2</b>		<b>HH1 W3 CH1</b>			

Policy OSR9 : Sports and Recreational Facilities It is Council policy to promote the provision and management of high quality sporting and recreational infrastructure throughout the County and to ensure that the particular needs of different groups are incorporated in to the planning and design of new facilities	C1 C2					
Policy OSR10: Protection of Sports Grounds and Facilities It is the policy of the Council to ensure that adequate playing fields for formal active recreation are provided for in new development areas and that existing sports facilities and grounds within the established urban area are protected, retained and enhanced – all in accordance with the outputs and recommendation from the Green Space Strategy currently being prepared for the County	C1 C2					
POLCIY OSR11 : Play Facilities It is the policy of the Council to support the provision of structured and unstructured play areas with appropriate equipment and facilities throughout the County and to ensure the needs of all age groups – children, teenagers, adults and older people- are facilities in the public parks of Dún Laoghaire-Rathdown.	C1 C2					

## 8.10 Chapter 11: Conservation of Archaeological and Architectural Heritage

	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>Archaeological Heritage</b>						
Policy AH1: Protection of Archaeological Heritage It is Council policy to protect archaeological sites, National Monuments (and their setting), which have been identified in the Record of Monuments and Places (RMP), whilst at the same time reviewing and assessing the feasibility of improving public accessibility to sites and monuments under the direct ownership or control of the Council or of the state.	CH1 L1		S1			
Policy AH2: Protection of Archaeological Material In Situ It is Council policy to seek the preservation in-situ (or, as a minimum, preservation by record) of all archaeological monuments included in the Record of Monuments and Places, and of previously unknown sites, features and objects of archaeological interest that become revealed through development activity. In respect of decision making on development proposals affecting sites listed in the Record of Monuments and Places, the Council will have regard to the advice and/or recommendations of the Department of the Environment, Heritage and Local Government.	CH1		S1			
Policy AH3: Protection of Historic Towns It is Council policy to protect the Historic Town of Dalkey as identified by the Department of Environment, Heritage and Local Government.	CH1 CH2 L1		S1			
Policy AH4: Designation of Archaeological Landscapes It is Council policy to identify, designate and protect Archaeological Landscapes in co-operation with relevant government departments.	CH1 L1		S1			
Policy AH5: Historic Burial Grounds It is Council policy to protect historic burial grounds within the County and encourage their maintenance in accordance with good conservation practice.	CH1		S1			
Policy AH6: Underwater Archaeology It is Council policy for all developments, which have the potential to impact on riverine, inter-tidal and sub-tidal environments to require an archaeological assessment prior to works being carried out.	CH1					



<b>Architectural Heritage</b>						
<b>Policy AR1: Record of Protected Structures</b> It is Council policy to compile and maintain a Record of Protected Structures and will include in the Record every structure or parts of such structures which, in the Planning Authority's opinion, are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. The Council will ensure that interventions to Protected Structures shall have regard to the Department of Environment, Heritage and Local Government document "Architectural Heritage Protection Guidelines for Planning Authorities" (2004)	<b>CH2</b>		<b>S1</b>			
<b>Policy AR2 : National Inventory of Architectural Heritage (NIAH)</b> It is Council policy to consider further amendments to the record of Protected Structures following the publication of the National Inventory of Architectural Heritage of the County.	<b>CH2</b>		<b>S1</b>			
<b>Policy AR3: Funding &amp; Assistance for Protected Structures</b> It is Council policy to continue to administer a prioritised scheme of Conservation Grants for owners and occupiers of Protected Structures as resources permit.	<b>CH2</b>					
<b>Policy AR4: Protection of Buildings in Council Ownership</b> It is Council policy to carry out an audit and assess the condition of all Protected Structures within the Council's ownership and/or control, and to devise a prioritised management/maintenance plan for these Structures.	<b>CH2</b>					
<b>Policy AR5: Energy Efficiency of Protected Structures</b> It is Council policy to have regard to any future advisory documents issued by the Department of Environment, Heritage, and Local Government and existing international guidance on energy efficiency of historic building to ensure that best conservation practice is followed.	<b>CH2</b>					
<b>Policy AR6: Protection of Historic Street Furniture</b> It is Council policy to promote the retention of historic items of street furniture where these contribute to the character of the area.	<b>CH2</b>					
<b>Policy AR7: Protection of Coastline Heritage</b> It is Council policy to promote the retention of features of the County's coastal heritage where these contribute to the character of the area.	<b>CH2 L1</b>					
<b>Policy AR8: Architectural Conservation Areas (ACA)</b> It is Council policy to protect the special character of places, areas, groups of structures or townscapes, which have been designated as Architectural Conservation Areas.	<b>CH2 L1</b>		<b>S1</b>			
<b>Policy AR9: Public Authority Works within Architectural Conservation Areas</b> It is Council policy to produce a Management Plan for public authority works within Architectural Conservation Areas. The placing underground of all electricity, telephone and TV cables within Architectural Conservation Areas and Candidate Architectural Conservation Areas should be sought.	<b>CH2 L1</b>					
<b>Policy AR10: Candidate Architectural Conservation Areas</b> It is Council policy that within a Candidate Architectural Conservation Area the Council will have particular regard to the impact of a proposed development on the character of the area in which it is to be placed. The preservation of the existing character of an area does not preclude all forms of development. All proposals for new development should preserve or enhance the character and quality of the environment within a Candidate Architectural Conservation Area.	<b>CH2 L1</b>		<b>S1</b>			
<b>Policy AR11: Twentieth Century Architecture</b> It is Council policy to seek/promote the appropriate development of distinctive twentieth century buildings and estates to ensure that the special interest of the structure/estate is not compromised and to encourage an increased awareness and appreciation of the significance of high quality twentieth century architecture within Dún Laoghaire-Rathdown.	<b>CH2 L1</b>		<b>S1</b>			
<b>Policy AR12: Vernacular Heritage – Renovation and Reuse of Locally Significant Buildings</b> It is Council policy to retain, where appropriate and encourage the rehabilitation and suitable reuse of the vernacular heritage and existing older buildings where appropriate, in preference to their demolition and redevelopment.	<b>CH2</b>		<b>S1</b>			

Policy AR13: Industrial Heritage It is Council policy to promote the marketing and interpretation of industrial heritage sites and to encourage public awareness and appreciation of this heritage with a view to optimising its tourism potential. In respect to decision making on development proposals the Council will have regard those items identified in the Industrial Heritage Survey, listed in Appendix D of the accompanying Appendix Booklet.	CH1 L1	CH2				
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## 8.11 Chapter 12: Sustainable Travel and Transportation

	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	<b>Uncertain</b> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
Sustainable Travel Policy T01: Integration of Land Use and Transportation Policies It is Council policy to support sustainable modes of transport and ensure that land use and zoning are fully integrated with the provision and development of high quality transportation systems.	C1 C2			✓		
Policy T02: Development of Sustainable Travel and Transportation Policies It is Council policy to promote, facilitate and co-operate with other agencies in securing the implementation of the transportation strategy for the County and the wider Dublin Region as set out in Transport 21 - 2006-2015, Department of Transport's 'Smarter Travel, A Sustainable Transport Future 2009-2020' and the Dublin Transportation Office strategic document 'Platform for Change 2000-2016'. Effecting a modal shift from the private car to more sustainable modes of transport – including public transport, walking and cycling – will be a paramount objective to be realised in the implementation of this policy.	C1 C2			✓		
Policy T03: Public Transport Improvements It is Council policy to secure improvements to the public transport system as set out in Transport 21 and the DTO's 'Platform for Change' strategy by optimising utilization of existing or proposed transport corridors and interchanges and by developing new park and ride and taxi rank facilities at appropriate locations.	C1 C2			✓		
Policy T04: Public Transport Interchanges It is Council policy to facilitate the provision of public transport interchanges at strategic rail and Luas stations within the County in accordance with national and regional guidelines so as to facilitate access to all public transport and to maximize the movement of people via sustainable modes.	C1 C2		CH2	✓		
Policy T05: Quality Bus Network It is Council policy to implement the Quality Bus Network measures as set out in Transport 21 and in the DTO Strategy 'Platform for Change' and extend the bus network to other areas where appropriate subject to design, public consultation, approval, finance and resources. Other links will also be included in the Quality Bus Network as part of new developments.	C1 C2					
Policy T06: Luas It is Council policy to promote, facilitate and co-operate with other agencies in securing the extension of the Luas network in the County as set out in Transport 21 and the DTO Strategy 'A Platform for Change', 2000 – 2016 and including any future upgrade to Metro.	C1 C2			✓		
Policy T07: Park and Ride It is Council policy to facilitate the provision of Park and Ride in appropriate locations along strategic transport corridors subject to the availability of finance and resources.	C1 C2			✓		

<p>Policy T08: Taxi/Minibus/Hackney Transport It is Council policy to facilitate the provision of taxi/minibus/hackney transport as a feeder service to major public transport corridors and to encourage the provision of taxi ranks at DART Stations, Luas Stops and at other appropriate locations including within larger developments. All new taxi ranks will be made wheelchair accessible and will be provided with shelters where appropriate.</p>	C1 C2					
<p>Policy T9: Bus Rapid Transit It is Council policy to facilitate the introduction of (a) Bus Rapid Transit from the DART Line to Sandyford/Dundrum Town Centre via UCD utilising, where possible, the Eastern Bypass Reservation (west of the N11), and (b) from Sandyford to Cherrywood based on the Old Harcourt Street Line and (c) other routes where the opportunity and need arises. The BRT will integrate with existing bus and light and heavy rail systems. The actual routes to be utilised will be finalised following the completion of detailed feasibility studies in conjunction with relevant landowners.</p>	C1 C2					
<p>Policy T10: Electric Vehicles It is Council policy to support the Government's Electric Transport Programme by facilitating the roll-out of battery charging infrastructure for electric vehicles through the planning system.</p>	C1 C2			✓		
<p>Policy T11: Car Sharing Clubs It is Council policy to support the set up and operation of car club(s) to facilitate an overall reduction in car journeys and car-parking requirements, and to help reduce pollution and climate change.</p>	C1 C2					
<p>Policy T12: Cycling and Walking It is Council policy to promote and encourage more healthy sustainable and environmentally friendly forms of transportation such as walking and cycling and to make the footway network accessible for all.</p>	C1 C2			✓		
<p>Policy T13: Accessibility It is Council policy to support suitable access for people with disabilities, including improvements to buildings, streets and public spaces.</p>	C1 C2					
<p>Policy T14: Mobility Management Plans It is Council policy to require submission of Mobility Management Plans for certain development to cover both construction and occupation phases. Plans should seek to reduce reliance on car based travel and encourage more sustainable forms of transportation.</p>	C1 C2					
<b>General Transportation</b>						
<p>Policy T15: Road Safety It is Council policy to develop a Road Safety Plan in line with the National Road Safety Strategy in consultation with the relevant stakeholders to promote and encourage road safety. The Plan will aim to reduce collisions and minimise the potential for conflict between all road users.</p>	HH1					
<p>Policy T16: Traffic Calming and Traffic Management It is Council policy to introduce traffic calming and traffic management schemes on particular roads and in appropriate areas throughout the County to effect an overall reduction in vehicle speeds to an acceptable level.</p>	HH1					
<p>Policy T17: Control of On-Street Parking It is Council policy to regulate and control on-street parking by discouraging commuter parking.</p>				✓		
<p>Policy T18: Roads It is Council policy, in conjunction and co-operation with other transport bodies and authorities such as the National Roads Authority, to secure improvements to the County road network.</p>				✓		
<p>Policy T19: National Routes It is Council policy to promote, facilitate and co-operate with relevant transport bodies, authorities and agencies to secure improvements to the County's National road network to provide, protect and maintain for the safe and efficient movement of people and goods both within and through Dún Laoghaire-Rathdown.</p>	HH1			✓		
<p>Policy T20: Traffic and Transport Impact Assessment It is Council policy to require Traffic and Transportation Impact Assessments for major developments to assess the traffic impacts on the surrounding road network and provide measures to mitigate any adverse impacts - all in accordance with best practice guidelines.</p>				✓		

Policy T21: Traffic Noise It is Council policy to ensure that traffic noise levels are considered as part of all new developments along major roads/rail lines in accordance with best practice guidelines.	HH1					
Policy T22: Street Lighting It is Council policy to provide and maintain street lighting on the public road/footway/cycleway network throughout the County in accordance with commonly accepted best practice.	HH1					
Policy T23: Directional/Information/Waymarking Signage It is Council policy to provide directional signage for amenities, tourist attractions and local attractions and along cycle and pedestrian routes (waymarking) at appropriate locations throughout the County in accordance with planning and traffic regulations.						✓
Policy T24: Section 48 and 49 Levies It is Council policy to utilise, where appropriate, the provisions of Section 48 and 49 of the Planning and Development Act, 2000 to generate financial contributions towards the capital costs of providing local and strategic transport infrastructure, services or projects in the County. This will be carried out in conjunction with adjoining Local Authorities where appropriate.	C1 C2					

## 8.12 Chapter 13: Environmental Infrastructure

	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	<b>Uncertain</b> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
<b>Water Supply and Drainage</b>						
Policy E11: Water Supply and Drainage It is Council policy to provide adequate high quality drinking water, to promote water conservation and to continue the development and improvement of the water supply and drainage systems throughout Dún Laoghaire-Rathdown in order to meet the anticipated water and drainage requirements of the County - all in accordance with the recommendations set out in the 'Greater Dublin Water Supply Strategic Study' and 'The Greater Dublin Strategic Drainage Study'.	HH1 W1 W2 W3 W4 M1		B1 B2 B3			
Policy E12: Integrated Water Management Plans It is Council policy to contribute to the promotion of the development of Integrated Water Management Plans for the Dublin Region and to participate in any pilot scheme for the establishment of such Plans.	B1 B2 B3 HH1 W1 W2 W3 W4 M1		B1 B2 B3			
Policy E13: Water Quality Management Plans It is Council policy to implement Water Quality Management Plans for ground, surface, coastal and estuarine waters as part of the implementation of the EU Water Framework Directive.	B1 B2 B3 HH1 W1 W2 W3 W4 M1					
Policy E14: Sustainable Urban Drainage Systems It is Council policy to ensure that all development proposals incorporate Sustainable Urban Drainage Systems (SUDS).	B3 HH1 W1 W2 W3 W4		B1 B2 B3			
Policy E15: Stormwater Impact Assessments It is Council policy to ensure that all new significant developments prepare a Stormwater Impact Assessment which incorporate Stormwater Audits in accordance with Council's Stormwater Management Plan Guidance Document.	B3 HH1 W1 W2 W3 W4 M1					

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Policy E16: Storm Overflows of Sewage to Watercourses It is Council policy to minimize the number and frequency of storm overflows of sewage to watercourses and to establish, in co-operation with the adjoining local authorities, a consistent approach to the design, improvement and management of these intermittent discharges to ensure that the needs of the Region's receiving waters are met in a cost effective manner.	<b>B3</b> <b>W1</b> <b>W3</b>	<b>HH1</b> <b>W2</b> <b>M1</b>		<b>B1 B2 B3</b>			
Policy E17: Water Services Investment Programme It is Council policy to work to deliver on key water services projects outlined in the Water Services Investment Programme - Assessment of Future Needs 2007 - 2009	<b>B1</b> <b>W2</b> <b>W4</b>	<b>B2</b> <b>W1</b> <b>W3</b>	<b>B3</b> <b>M1</b>	<b>B1 B2 B3</b>			
<b>Waste Management</b>							
Policy E18: Waste Management Strategy It is Council policy to conform to the European Union and National waste management hierarchy as follows:- waste prevention, waste recycling, energy recovery and disposal, subject to economic and technical feasibility and Environmental Assessment.							✓
Policy E119: Waste Plans It is Council policy to publish plans for the collection, treatment, handling and disposal of wastes in accordance with the provisions of the Waste Management Acts 1996-2001.	<b>B1</b> <b>W2</b>	<b>B2</b> <b>W3</b>	<b>B3</b> <b>C1</b>				
Policy E110: Private Waste Companies It is Council policy to ensure that all waste that is disposed of by private waste companies is done so in compliance with the requirements of the Environmental Protection Agency and the Waste Management Legislation and in accordance with the Planning Code.	<b>B1</b> <b>W2</b>	<b>B2</b> <b>W3</b>	<b>B3</b> <b>C1</b>				
Policy E111: Waste Prevention and Reduction It is Council policy to promote the prevention and reduction of waste and to co-operate with industry and other agencies in viable schemes to achieve this.							✓
Policy E112: Waste Re-use and Re-cycling It is Council policy to promote the increased re-use and re-cycling of materials from all waste streams. It will co-operate with other agencies in viable schemes for the extraction of useful materials from refuse for re-use or re-cycling and will adopt the National targets as stated in the Dublin Regional Waste Management Plan 2005-2010.							✓
Policy ES13: Refuse Disposal It is Council policy to dispose of refuse by means of sanitary landfill or other suitable methods as deemed appropriate.					✓		
Policy E114: Hazardous Waste It is Council policy to co-operation with other agencies, to plan, organise, authorise and supervise the disposal of hazardous waste.					✓		
Policy E115: Re-Use of Landfill Sites It is Council policy that landfill sites, when full, be landscaped and used for amenity purposes, or where such use is inappropriate, be returned to agriculture or other beneficial use. Any such landfill sites will be monitored in accordance with the Waste Management Act 1996 and Environmental Protection Agency requirements.						✓	
<b>Pollution</b>							
Policy E116: Air and Noise Pollution It is Council policy to implement the provisions of National and EU Directives on air and noise pollution and legislative requirements in conjunction with other agencies as appropriate.	<b>HH1</b>						
Policy E117: Light Pollution It is Council policy to ensure that the design of external lighting schemes minimise the incidence of light spillage or pollution in the immediate surrounding environment and have due regard to the residential amenity of surrounding areas.	<b>HH1</b>						



Policy EI18: Water Pollution It is Council policy to implement the provision of water pollution abatement measures in accordance with National and EU Directives and legislative requirements in conjunction with other agencies as appropriate.	B1 B2 B3 HH1 W1 W2 W3					
Policy EI19: Litter Control It is Council policy to ensure that public places and other areas visible to any extent from public places within the County are maintained free of litter. It is the policy of the Council to publish plans for the prevention and control of litter and for measures to encourage public awareness with the view to eliminating litter pollution in accordance with the provisions of the Litter Pollution Act 1997.						✓
Policy EI20: Major Accidents It is Council policy to have regard to the provisions of the "Major Accidents Directive" (European Council Directive 96/82/EC). This Directive relates to the control of major accident hazards involving dangerous substances and its objectives are to prevent major accidents and limit the consequences of such accidents.	HH1 W1 W2 W3					
<b>Water Supply Objectives</b>						
It is an objective of the Council to undertake the following projects as and when necessary and subject to the availability of appropriate approval and finance- <ul style="list-style-type: none"> <li>a) Old Connaught-Woodbrook Water Supply Scheme</li> <li>b) Rehabilitation of Water Network</li> <li>c) Sandyford High Level Scheme</li> <li>d) Sandyford High Level Scheme Distribution Mains</li> <li>e) Plumbosolvency (Lead Reduction)</li> <li>f) Back Garden Watermains</li> </ul>	HH1		B1 B2 B3 W1			
<b>Drainage Objectives</b>						
It is an objective of the Council to undertake the following projects as and when necessary and subject to the availability of appropriate approval and finance- <ul style="list-style-type: none"> <li>a) Dún Laoghaire Drainage Scheme</li> <li>b) Sandyford/Stillorgan Foul Drainage Scheme</li> <li>c) Carrickmines/Shanganagh Main Drainage Scheme</li> <li>d) Carysfort/Maretimo Stream Improvements</li> <li>e) Deansgrange Stream Improvements</li> <li>f) Shanganagh River Improvements</li> <li>g) Shanganagh Sea Outfall Works</li> <li>h) Shanganagh Catchment Sewerage System</li> </ul>	B1 B2 B3 HH1 W1 W2 W3 W4 M1		B1 B2 B3			
<b>Waste Management Objectives</b>						
It is an objective of the Council to undertake the following projects as and when necessary and subject to the availability of appropriate approval and finance: Ballyogan Recycling Park The Council is developing an integrated waste management centre at Ballyogan Recycling Park. This Park will be developed in three stages. Stage 1 involved the construction of a Waste Transfer Facility, a Civic Recycling Facility and associated infrastructure and has been operational since 2004. Stage 2 involves the provision of an Organic Waste Composting Facility, and a Green Waste Composting Facility which are both programmed for completion in 2010. Stage 3 - Materials Recovery/Recycling Facility - will be constructed at a later date, as yet unspecified.	S1		HH1			
<b>Statutory Undertakers and Telecommunications</b>						
Policy EI21: Energy Facilities It is Council policy to encourage the provision of energy facilities in association with the appropriate service providers. In addition the Council will facilitate the expansion of the existing service providers, notably Bord Gais and the Electricity Supply Board (ESB), in order to ensure satisfactory levels of supply and to minimise constraints for development.			CH1 CH2 L1 B1 B2 B3			
Policy EI22: Overhead Cables It is Council policy to seek the undergrounding of all electricity, telephone and television cables wherever possible, in the interests of visual amenity and public health.	CH2 L1		CH1 B1 B2 B3			

Policy EI23: Telecommunications Infrastructure It is Council policy to promote and facilitate the provision of an appropriate telecommunications infrastructure, including broadband connectivity and other technologies, within the County.			<b>CH1</b> <b>L1</b> <b>B3</b>	<b>CH2</b> <b>B1</b> <b>B2</b>			
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## 8.13 Chapter 14: Climate Change and Energy Infrastructure

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs- unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	Uncertain interaction with status of SEOs	Neutral Interaction with status of SEOs	No Likely interaction with status of SEOs
<b>Climate Change</b>						
Policy CC1: National Climate Change Strategy It is Council policy to support the National Climate Change Strategy on an ongoing basis through implementation of supporting policies in the Development Plan, particularly those promoting use of alternative and renewable energy sources, energy efficiency, sustainable transport and land use planning.	<b>C1 C2</b>			✓		
Policy CC2: Renewable Energy It is Council policy to support national and international initiatives for limiting emissions of greenhouse gases and encourage the development and use of renewable energy sources.	<b>C1 C2</b>			✓		
Policy CC3: Wind & Wave Energy It is Council policy to support and promote, in conjunction with other relevant agencies, wind energy initiatives – both on-shore and offshore – when these are undertaken in an environmentally acceptable manner.				✓		
Policy CC4: Small-Scale Wind Energy Schemes It is Council policy to encourage small-scale wind energy developments within industrial areas, and will support small community-based proposals in urban areas provided they do not negatively impact upon the environmental quality or residential amenity of the area.				✓		
<b>Energy Efficiency in Buildings</b>						
Policy CC5: Energy Efficient Building Design It is Council policy to promote and support the use of passive measures in the construction of building fabric of new developments in preference to active measures, to minimise future reliance on fuel sources.						✓
Policy CC6: Sustainability in Adaptable Design It is Council policy to promote sustainable approaches to the improvement of standards for habitable accommodation, by allowing dwellings to be flexible, accessible and adaptable in their spatial layout and design.						✓
Policy CC7: Energy Performance in Existing and New Buildings It is Council policy to promote innovative building design that demonstrates a high level of energy conservation, energy efficiency and use of renewable energy sources – all in accordance with national regulations and policy guidelines.						✓
Policy CC8: Improved Energy Performance It is Council policy to seek to promote sustainable design and energy consideration standards higher than the national government policy standards in selected areas of Local Area Plans and the proposed Strategic Development Zone at Cherrywood.						✓
Policy CC9: Radon Gas It is Council policy, in partnership with other relevant agencies, to promote best practice in the implementation of radon prevention measures.	<b>HH1</b>					

<b>Flood Risk</b>						
Policy CC10: Flood Risk Management Plans It is Council policy to assist and cooperate with the Office of Public Works in developing Catchment-based Flood Risk Management Plans. Any recommendations and outputs arising from the Flood Risk Management Plans for Dún Laoghaire-Rathdown will require to be incorporated into the Development Plan.	<b>W4 HH1</b>					
Policy CC11: Flood Risk Management It is Council policy to take into account the requirements of the EU Directive (2007/60/EC) on the assessment and management of flood risks, and to implement the recommendations of the most recent version of the Department of the Environment, Heritage and Local Government and the Office of Public Works Guidelines on 'The Planning System and Flood Risk Management, 2009' including using the Guidelines to assess applications for planning permission.	<b>W4 HH1</b>					
Policy CC12: Coastal Defence It is Council policy to prepare a Coastal Defence Strategy for the County.	<b>W4 HH1</b>		<b>B1 B2 B3 L1</b>			

## 8.14 Chapter 15: Urban Design

	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	<b>Uncertain</b> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
Policy UD1: Urban Design Principles It is Council policy to ensure that development is designed to a high qualitative standard and promotes the creation of good places. The Council will apply the guidance set out in the Urban Design Manual – A Best Practice Guide (2008), and will seek to ensure that development proposals are cognisant of the need for proper consideration of context, connectivity, inclusivity, variety, efficiency, distinctiveness, layout, public realm, adaptability, privacy and amenity, parking, and detailed design.	<b>CH1 CH2</b>		<b>S1</b>			
Policy UD2: Design Statements It is Council policy that, for all large-scale planning applications, a 'design statement' shall be required which has regard to design criteria as set out in the 'Urban Design Manual - A Best Practice Guide' (DoEHLG, 2008).	<b>CH1 CH2</b>		<b>S1</b>			
Policy UD3: Public Realm Design All development, whether in existing or in new areas, should positively contribute to an enhanced public realm and should demonstrate that the highest quality in public realm design is achieved. This will include detailed consideration of materials, street furniture (including litter bins), public lighting, street trees and landscaping.	<b>CH1 CH2</b>		<b>S1</b>			

## 8.15 Chapter 16: Development Management

	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	<b>Uncertain</b> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
Policy DM1: Design Statements It is Council policy that Design Statements accompany all applications for larger and more complex development schemes.	CH2 L1					
Policy DM2: Open Space – Class 1 All residential developments will be required to provide Class 1 Public Open Space for Active Recreation/Playing Fields at a rate of 0.8-1.6ha/1000 population. For the purposes of the calculation public open space requirements shall be based on housing units with presumed occupancy rate of 3.5 persons in the case of dwellings with three or more bedrooms and 2 persons in the case of dwellings with two or fewer bedrooms. Discretion as to how much, by what means - including if a financial contribution in lieu of land will be made - and where such provision is made will be determined in each case by the Planning Authority.	B3		S1			
Policy DM3: Open Space – Class 2 All residential developments will be required to provide Class 2 Public Open space for Passive Recreation at a rate of 0.2-0.4ha/1000 population. For the purposes of the calculation public open space requirements shall be based on housing units with presumed occupancy rate of 3.5 persons in the case of dwellings with three or more bedrooms and 2 persons in the case of dwellings with two or fewer bedrooms. Discretion as to how much, by what means - including if a financial contribution in lieu of land will be made - and where such provision is made will be determined in each case by the Planning Authority.	B3 W4		S1			
Policy DM4: Protected Structures It is Council policy that all development proposals potentially impacting on Protected Structures shall have regard to the Department of the Environment, Heritage and Local Government's 'Architectural Heritage Protection Guidelines for Planning Authorities', (2004).	CH2		S1			

## 8.16 Chapter 17: Specific Local Objectives

	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	<b>Uncertain</b> interaction with status of SEOs	<b>Neutral</b> Interaction with status of SEOs	<b>No Likely</b> interaction with status of SEOs
<b>Map 1 Clonskeagh/Dundrum</b>						
1 To facilitate, support and enhance the development of University College Dublin including all associated and supporting facilities. A range of uses will be facilitated on Belfield campus lands to encourage and foster strong links between education, community and the business sector in the County.	C1 C2		B2 B3 HH1 S1 W2 W3 W4 M1 CH1 CH2 L1			

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2 To prepare a Local Area Plan for Goatstown to guide the future development of the area.	C1 C2 S1		B2 HH1 W2 W3 W4 M1 CH1 CH2	✓		
3 To upgrade Dundrum Town Centre by preparing and implementing an environmental improvement scheme for Dundrum Main Street.			CH1 CH2			
4 To encourage the retention and development of the Airfield Estate for educational, recreational and cultural uses.	W4 HH1 B3 L1		CH2			
6 To consider potential additional future uses of the Dublin Eastern By-Pass reservation corridor, including public transport provision generally and Bus Rapid Transit services specifically, pending a decision from the National Roads Authority/Central Government in relation to the future status of the By-Pass.	C1 C2					
80 To facilitate, support and enhance educational facilities in the County, in particular the activities of Dundrum VEC that will foster strong links between education, community and the business sector in the County.	C1 C2 S1		B2 B3 HH1 W2 W3 W4 M1 CH1 CH2 L1			
92 To refurbish/redevelop the flats at Rosemount Court.	S1					
<b>Map 2 Booterstown/Blackrock/Stillorgan</b>						
1 To facilitate, support and enhance the development of University College Dublin including all associated and supporting facilities. A range of uses will be facilitated on Belfield campus lands to encourage and foster strong links between education, community and the business sector in the County.	C1 C2		B1 B2 B3 HH1 S1 W2 W3 W4 M1 CH1 CH2			
5 The Council will support and facilitate the development of a "Gateway" scheme at the N11 entrance to the UCD campus which will provide for a range of uses normally associated with a major international university. These facilities should encourage a greater interaction with the neighbouring community and the wider public and should include, inter alia, cultural, community and neighbourhood-scale retail facilities, swimming pool, theatre, a significant commercial office component, incubator units, hotel and student accommodation and transport facilities. The "Gateway" shall be of a high architectural standard and embody the principles of sustainability and energy efficiency. The open spaces and sylvan setting of the University campus shall be protected from development in accordance with the University College Dublin Campus Development Plan 2005- 2010 -2015.	C1 C2		B2 B3 HH1 S1 W2 W3 W4 M1 CH2			
6 To consider potential additional future uses of the Dublin Eastern By-Pass reservation corridor, including public transport provision generally and Bus Rapid Transit services specifically, pending a decision from the National Roads Authority/Central Government in relation to the future status of the By-Pass.	C1 C2					
7 To develop Blackrock Park in accordance with an approved plan.			B1 B2 B3 HH1 S1 W2 M1 CH1 CH2 L1	✓		
8 To improve pedestrian permeability from Rock Road to the DART Station and to improve pedestrian/cycle way provision in the corridor between Blackrock Park and the DART Station. A high grade pedestrian/cycle link shall be provided across the Blackrock Bypass (N31) between the Blackrock and Frascati Shopping Centres, which shall include consideration of readily accessible grade separated options to segregate these modes from traffic.	C1 C2					
9 To encourage the redevelopment of the area encompassing Blackrock Baths, Bath Place and Blackrock DART Station, including the provision of improved pedestrian/cycle access to Blackrock Park. Any redevelopment of the Blackrock Baths shall include a substantial swimming pool(s) for public use.	C1 C2 S1		B1 B2 B3 HH1 W2 W4 M1 CH1 CH2 L1			



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10 To prepare a Local Area Plan for Blackrock to guide future development of the area.	C1 C2 S1		B1 B2 B3 HH1 W2 W3 W4 M1 CH1 CH2 L1	✓		
11 To support and enhance the third level education and associated facilities at University College Dublin.	C1 C2		B2 B3 HH1 S1 W2 W3 W4 M1 CH2 L1			
12 To develop Stillorgan in accordance with the adopted Local Area Plan.	S1 C1 C2 CH2		B2 HH1 W2 W3 W4 M1 CH1			
69 To investigate the feasibility of providing a contra-flow cycle path along Newtown Avenue from Blackrock Main Street to Seapoint Avenue.	C1 C2					
72 The line of the Eastern By-Pass between the N11 and Dublin Bay is not fixed. The route will be determined following appropriate environmental assessment – including a process of public consultation.			B1 B2 B3 W2 W4 CH1 CH2 L1	✓		
81 To facilitate, support and enhance educational facilities in the County, in particular the activities of Blackrock VEC that will foster strong links between education, community and the business sector in the County.	C1 C2 S1		B2 B3 HH1 W2 W3 W4 M1 CH1 CH2 L1			
84 To protect and conserve South Dublin Bay and proposed candidate Special Area of Conservation.	B1 B2 B3 W2 L1					
93 To promote the development of the Sutton to Sandycove (S2S) Promenade and Cycleway. (It should be noted the alignment shown on Maps 2, 3 and 4 is not absolute but indicative only). The necessary EIS will commence during the term of this Plan.	C1 C2		B1 B2 B3 W2 W4 CH1 CH2 L1	✓		
98 That public access be maintained for Community Uses at the former Blackrock Town Hall and Blackrock Library.	C1 C2					
<b>Map 3 Monkstown/Dún Laoghaire</b>						
13 To facilitate the continued development of the Harbour in accordance with a Harbour Masterplan to be prepared by Dún Laoghaire Harbour Board in close conjunction with the Planning Authority. Any approved Masterplan must adhere to the overall zonings, policies and objectives of the Development Plan.	S1		B2 HH1 W2 W4 M1 CH1 CH2 L1	✓		
14 To encourage the redevelopment of 'The Gut' adjacent to the West Pier to include improved access to the area.	S1		CH2			
15 Coal Quay Bridge. To improve/upgrade access to Dún Laoghaire Harbour and lands adjacent to the West Pier.			CH2			
16 To retain the Carlisle Pier structure and to encourage redevelopment on it that will incorporate uses that will bring significant cultural, social, recreational and economic benefits to Dún Laoghaire-Rathdown and must provide for a high degree of public accessibility and permeability, with walkways, viewing areas and public spaces throughout. The redevelopment should integrate with the immediate built environment, should provide improved accessibility between the development and Dún Laoghaire town centre and should commemorate the unique heritage and history of the Pier as a gateway for the Irish Diaspora.	S1 C1 C2		B2 HH1 W2 W4 M1 CH2 L1			
17 To manage and enhance the Metals from Marine Road to Dalkey giving due regard to its historic importance while encouraging its use as a walking route between Dún Laoghaire and Dalkey.	C1 C2		B1 B2 B3			
18 To provide for a library and cultural amenities at Moran Park.			CH2 L1			

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19 To promote and encourage development, within the Major Town Centre zoning, along the laneways to the south of George's Street. This will include the comprehensive upgrading of the laneways to include resurfacing, lighting and traffic calming measures	S1		CH2 L1 B1 B2 HH1 W2 M1			
20 Dún Laoghaire: To allow for office development, excluding that to which the public has frequent access, providing it respects the character and form of the existing built fabric, specifically the existing streetscape and/or the envelope of the building including railing and forecourt area, and that not less than one third of the gross floor area of each building be retained in residential use, and to encourage the retention of residential uses by seeking to enhance amenities and by refusing all non-compatible uses.	C1 C2 S1		B2 HH1 W2 M1			
21 To develop an enhancement scheme for the area between the East Pier and Sandycove. This scheme will include proposals for the upgrading and development of the Dún Laoghaire Baths site and facilitate improved pedestrian linkage to the east pier. This objective will require any scheme to also provide adequate sea defences and take into consideration that the area between the east pier and Sandycove is a pNHA.	S1		B1 B2 B3 HH1 W2 W4 CH2 L1 M1			
22 Bullock Harbour: That any residential development shall form part of a mixed-use scheme which will include commercial marine-based activity and public water-based recreational uses and shall have regard to the special nature of the area in terms of the height, scale, architecture and density of built form.	C1 C2		B1 B2 B3 HH1 W2 W4 CH1 L1 M1			
28 To prepare a Local Area Plan for Deansgrange to cover the area within a half kilometre radius from the Deansgrange crossroads.	C1 C2 S1		B2 W2 W3 W4 M1 CH1	✓		
29 To facilitate, support and enhance the development of the Dun Laoghaire Institute of Art, Design and Technology including all associated and supporting facilities. A range of uses will be facilitated on the campus lands to encourage and foster strong links between education, community and the business sector in the County	C1 C2		B2 W2 W3 W4 M1			
62 Dún Laoghaire: To allow for office development and group medical practices, providing such developments respect the character and form of the existing built fabric, specifically the existing streetscape and/or the envelope of the building including railing and forecourt area.	C1 C2 S1		B2 HH1 W2 M1			
64 Improve pedestrian and cycle permeability to and from the former Dún Laoghaire Golf course lands.	C1 C2					
68 To seek the renewal of the obsolete area at George's Place and the Fire Station.	S1 C1 C2		CH2 B2 HH1 W2 M1			
73 To retain the existing hospital uses at St. Michael's and to develop and upgrade the hospital and Boylan Centre site in accordance with the objectives of the Dún Laoghaire Urban Structure Plan (chapter 4).	S1 C1 C2		B2 HH1 W2 M1			
77 To prepare a Local Area Plan for Dún Laoghaire.	S1 C1 C2		B1 B2 B3 HH1 W2 W3 W4 M1 CH1 CH2	✓		
83 To facilitate, support and enhance educational facilities in the County, in particular the activities of Dún Laoghaire VEC that will foster strong links between education, community and the business sector in the County.	C1 C2 S1		B2 B3 HH1 W2 W3 W4 M1 CH1 CH2 L1			
84 To protect and conserve South Dublin Bay and proposed candidate Special Area of Conservation.	B1 B2 B3 W2 L1					
93 To promote the development of the Sutton to Sandycove (S2S) Promenade and Cycleway. (It should be noted the alignment shown on Maps 2, 3 and 4 is not absolute but indicative only). The necessary EIS will commence during the term of this Plan.	C1 C2		B1 B2 B3 W2 W4 CH1 CH2 L1	✓		
94 To provide a Youth and Community Centre for Dún Laoghaire.	C1 C2					

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95 To promote Water Leisure Facilities for public use at the coastal fringe of the Gut and rear of the West Pier, subject to the appropriate environmental assessments including any assessment required under the Habitats Directive in co-operation with the relevant agencies.	C1 C2		B1 B2 B3 W2			
96 To protect, preserve, maintain and occasionally replace, where necessary, the existing street trees on either side of the coast road from the West Pier to Dún Laoghaire Baths.	B3		S1			
106 To improve the Streetscape/Public Realm of Monkstown Village.	CH2		CH2			
107 That Dún Laoghaire Carnegie Library be retained for public and community use.	C1 C2					
<b>Map 4 Sandycove/Dalkey</b>						
22 Bullock Harbour: That any residential development shall form part of a mixed-use scheme which will include commercial marine-based activity and public water-based recreational uses and shall have regard to the special nature of the area in height, scale, architecture and density of built form.	C1 C2		B2 B3 HH1 W2 W4 CH1 L1 M1			
77 To prepare a Local Area Plan for Dún Laoghaire.	S1 C1 C2		B1 B2 B3 HH1 W2 W3 W4 M1 CH1 CH2	✓		
78 To prepare a Special Amenity Area Order for Killiney Hill, Dalkey Hill and Roches/Mullins Hill.	B1 B2 B3 CH1 CH2 L1					
93 To promote the development of the Sutton to Sandycove (S2S) Promenade and Cycleway. (It should be noted the alignment shown on Maps 2, 3 and 4 is not absolute but indicative only). The necessary EIS will commence during the term of this Plan.	C1 C2		B1 B2 W4 B3 W2 CH1 CH2 L1	✓		
<b>Map 5 Dundrum/Ballinteer</b>						
3 To upgrade Dundrum Town Centre by preparing and implementing an environmental improvement scheme for Dundrum Main Street.						✓
4 To encourage the retention and development of the Airfield Estate for educational, recreational and cultural uses.	W4 HH1 B3 L1		CH2			
6 To consider potential additional future uses of the Dublin Eastern By-Pass reservation corridor, including public transport provision generally and Bus Rapid Transit services specifically, pending a decision from the National Roads Authority/Central Government in relation to the future status of the By-Pass.						
23 To progress the Masterplan for Marlay Demesne with a focus on the conservation of the heritage of Marlay Park, the provision of quality recreational facilities, maintaining the highest standard of horticultural and landscape presentation and increasing accessibility of the Park, Marlay House and its amenities.	L1 CH2 B3			✓		
74 To facilitate, support and enhance the development of the Irish Management Institute including all associated and supporting facilities.	C1 C2		B2 W2 W3 W4 M1 CH2			
97 To provide for a Retirement Village comprising independent living and assisted living accommodation for an elderly community together with associated facilities including Stroke Rehabilitation Clinic, Day Care Respite Care, Convalescent Care, Medical related Facilities, Ancillary Residential, Recreational Facilities, Licensed Restaurant, Retail, Pharmacy and Chapel.			B1 B2 B3 W4 CH1 L1			
99 To facilitate and support the development of a Secondary School on the west side of Enniskerry Road on the site known as the Balgarra and Grasslands site.	C1 C2		B2 B3 W4			

<b>Map 6 Sandyford/Foxrock</b>						
6 To consider potential additional future uses of the Dublin Eastern By-Pass reservation corridor, including public transport provision generally and Bus Rapid Transit services specifically, pending a decision from the National Roads Authority/Central Government in relation to the future status of the By-Pass.	C1 C2					
24 To encourage the further development and consolidation of Sandyford Business Estate and Central Park with an appropriate mix of development in a coherent urban form, while respecting the fact that employment remains the primary land use objective. Consideration will only be given to residential development and associated services where it is demonstrated that such development will make a positive contribution to the overall development of the area; that recreational, social and educational needs of the future residents can be adequately catered for; that the development does not undermine the primary land use objective; that it respects and is not injurious to existing adjacent residential amenity and that it complies with the provisions of the Development Plan.	C1 C2 S1		B2 B3 HH1 W2 W3 M1			
25 To prepare a Village Plan for Foxrock - to help guide future development of the area - that has regard to the Design Framework for Foxrock Village (July 2008).	C1 C2		B2 HH1 W2 W3 W4 M1 CH2	✓		
26 To support the status of and continued viability of Leopardstown Racecourse as one of Europe's premier racetracks and a major leisure facility in the County by encouraging its future development and facilitating the development of supporting facilities.			B2 B3 HH1 W2 W3 W4 M1			
27 To ensure the provision of a combined pedestrian footpath/cycleway connection between Aiken's Village and Sandyford Hall to improve overall local permeability and to facilitate direct access from new residential communities to the Luas Line B1 public transport corridor.	C1 C2					
28 To prepare a Local Area Plan for Deansgrange to cover the area within a half kilometre radius from the Deansgrange crossroads.	C1 C2 S1		B2 W2 W3 W4 M1 CH1	✓		
67 To support the ongoing development of the Sandyford Business Estate, Central Park and the South County Business Park area as a major employment centre with supporting facilities such as crèches, public restaurants/cafes and amenity areas for employees and visitors.	C1 C2 S1		B2 B3 HH1 W2 W3 M1			
87 To provide a car park to link in with Foxrock Village.			B2 B3 W4			
100 To provide a civic square in Sandyford Business Estate to serve as an amenity for the whole county.						✓
101 To investigate, in consultation with the Department of Education and Science, the reservation of an alternative site for St. Brigid's Boys' School, Mart Lane, in the area.				✓		
102 To progress the implementation of the Village Improvement Scheme for Cornelscourt Village.	CH2		CH2			
<b>Map 7 Cabinteely/Killiney</b>						
28 To prepare a Local Area Plan for Deansgrange to cover the area within a half kilometre radius from the Deansgrange crossroads.	C1 C2 S1		B2 W2 W3 W4 M1 CH1	✓		
29 To facilitate, support and enhance the development of the Dún Laoghaire Institute of Art, Design and Technology including all associated and supporting facilities. A range of uses will be facilitated on the campus lands to encourage and foster strong links between education, community and the business sector in the County.	C1 C2		B2 W2 W3 W4 M1			
30 To prepare a Local Area Plan for Sallynoggin.	C1 C2 S1		B2 B3 HH1 W2 W3 CH1 CH2 L1	✓		
31 To develop the lands at the National Rehabilitation Hospital in accordance with a Masterplan to be agreed with the Planning Authority. The redevelopment of the hospital lands shall provide for an appropriate level of publicly accessible sports grounds/recreational facilities.	C1 C2		B2 W2 W4 M1	✓		
32 Sallyglen Road – To provide a new road crossing at the junction of Sallyglen Road and Park Close.						✓
33 To upgrade and improve Cabinteely Park in accordance with an approved Masterplan.	CH2		CH2	✓		
34 To upgrade and improve Kilbogget Park in accordance with an approved Masterplan.				✓		

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41 To seek the designation of Cherrywood as a Strategic Development Zone and to prepare a Planning Scheme for the area.	C1 C2		B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1	✓		
46 To create a linear riverside park incorporating a pedestrian route and cycleway, which will link Cabinteely Park to the sea at Hackett's Land.	C1 C2					
52 To implement and develop the lands at Cherrywood in accordance with an approved Strategic Development Zone Planning Scheme.	C1 C2		B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1	✓		
64 To Improve pedestrian and cycle permeability to and from the former Dún Laoghaire Golf course lands.	C1 C2					
78 To prepare a Special Amenity Area Order for Killiney Hill, Dalkey Hill and Roches/Mullins Hill.	B1 B2 B3 CH1 CH2 L1					
102 To progress the implementation of the Village Improvement Scheme for Cornelscourt Village.	CH2		CH2			
<b>Map 8 Kilmashogue/Ticknock</b>						
36 To preserve trees, woodlands and amenity gardens at Fernhill.	B3 L1					
49 To protect and conserve the Wicklow Mountains National Park and proposed candidate Special Area of Conservation.	B1 B2 B3 L1					
99 To facilitate and support the development of a Secondary School on the west side of Enniskerry Road on the site known as the Balgarra and Grasslands site.	C1 C2		B2 B3 W4			
<b>Map 9 Stepside</b>						
36 To preserve trees, woodlands and amenity gardens at Fernhill.	B3 L1					
37 To provide a multi-purpose Community/Sports/Recreation Facility ("Samuel Beckett Civic Campus") to include a regional library, swimming pool plus other community/sports facilities.	C1 C2		B3 S1 W4 HH1			
38 To complete the comprehensive remediation of the former Ballyogan Landfill and to prepare a Masterplan for the proposed Jamestown Park to provide for recreational facilities in association with the developing areas of Stepside and Kiltiernan.	C1 C2		HH1 W3 CH1	✓		
39 To produce a Masterplan for a multi use sports/recreational facility at the site known as the "8-acre field".			B3 S1 W4 HH1	✓		
40 To develop the Kiltiernan/Glenamuck area in accordance with the policies and objectives of the adopted Local Area Plan.	S1 C1 C2		CH2 B3 B2 HH1 W2 W4 M1			
41 To seek the designation of Cherrywood as a Strategic Development Zone and to prepare a Planning Scheme for the area.	C1 C2		B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1	✓		
52 To implement and develop the lands at Cherrywood in accordance with an approved Strategic Development Zone Planning Scheme.	C1 C2		B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1	✓		
65 To seek the development of a multi-purpose, multi-functional community centre south of Enniskerry Road proximate to the Stepside Village Neighbourhood Centre.	C1 C2		B3 S1 W4 HH1			



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70 To ensure the provision of a combined pedestrian footpath/cycleway connection between Belarmine and Kilgobbin Road to improve overall local permeability and to facilitate direct access from new residential communities to the Luas Line B1 public transport corridor.	C1 C2					
86 To provide a 350 space Park and Ride facility at Carrickmines.	C1 C2		B2 B3 W4 L1 CH1			
108 To provide for the development of a neighbourhood centre.	C1 C2		B2 B3 W4 L1 CH1			
<b>Map 10 Laughanstown/Shankill</b>						
41 To seek the designation of Cherrywood as a Strategic Development Zone and to prepare a Planning Scheme for the area.	C1 C2		B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1	✓		
42 To prepare and implement a design for the grade separation of Loughlinstown Roundabout as a Long Term Roads Objective.						✓
43 To retain the famine grave on the site adjacent to St. Columcille's Hospital.	CH1					
44 To provide for a proposed Luas Stop at St. Columcille's Hospital, and to facilitate access thereto via the Parknasilla Estate and/or St. Columcille's Hospital.	C1 C2					
45 To provide for the Bride's Glen as a Public Amenity Area.	B3		CH1			
47 To provide for a proposed Luas Stop at Stonebridge Road.	C1 C2					
48 To prepare a Local Area Plan for Rathmichael/Ferndale Road.			B2 B3 HH1 C1 C2 W2 W3 W4 M1 CH1 CH2 L1	✓		
52 To implement and develop the lands at Cherrywood in accordance with an approved Strategic Development Zone Planning Scheme.	C1 C2		B2 B3 HH1 S1 W1 W2 W3 W4 M1 CH1 CH2 L1	✓		
54 To develop Woodbrook and Shanganagh in accordance with the policies and objectives of the adopted Local Area Plan.	C1 C2		B2 B3 HH1 W2 W3 W4 S1 M1 CH1 CH2 L1			
46 To create a linear riverside park incorporating a pedestrian route and cycleway, which will link Cabinteely Park to the sea at Hackett's Land.	C1 C2					
71 That no insensitive or large scale development will take place above the 90-metre contour line at Rathmichael, from Old Connaught Golf Course to Pucks Castle Lane – Maps 10-14. Any proposal for development, other than development directly related to agriculture, forestry, recreation or the promotion of other bona fide rural enterprise or employment activity, shall be domestic in scale, appearance and function.	L1 B3					
88 To provide for playing fields and recreational facilities to the west of the M50 in conjunction with the development of Cherrywood Town Centre. The lands within the SDZ boundary west of the motorway corridor and within the townlands of Laughanstown and Ticknick are to be used solely for the purpose of the provision of outdoor active and passive recreational uses directly related to the wider SDZ planning scheme.	C1 C2		B2 B3 L1 W4			

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91 To include in the plan for Cherrywood a road scheme that provides for linking this future development area with adjoining areas of the County so as to provide for ease of local movement between communities.	<b>C1 C2</b>		<b>B2 B3 HH1 S1 W1 W2 W4 M1 CH1 CH2 L1</b>	✓		
103 To promote the current Science and Technology Park and develop a new Research & Development Hub at Cherrywood.	<b>C1 C2</b>		<b>B2 B3 HH1 S1 W1 W2 W4 M1 CH1 CH2 L1</b>	✓		
104 To redevelop the old Shankill Shopping Centre site incorporating local retail units and other useful local services catering for the community. The height of any new development should be appropriate to the surroundings.	<b>S1 C1 C2</b>		<b>CH1 CH2 L1</b>			
<b>Map 11 and Insets Glendoo/Boranaraltry</b>						
35 Through the Councils membership of the Dublin Mountains Partnership (DMP), to improve the recreation potential of the public lands in the Dublin Mountains, including the provision of a Dublin Mountains Interpretive Centre.			<b>B1 B2 B3 L1</b>			
49 To protect and conserve the Wicklow Mountains National Park and proposed candidate Special Area of Conservation.	<b>B1 B2 B3 L1</b>					
<b>Map 12 Glencullen/Boranaraltry</b>						
49 To protect and conserve the Wicklow Mountains National Park and proposed candidate Special Area of Conservation.	<b>B1 B2 B3 L1</b>					
50 To develop the Glencullen area in accordance with the policies and objectives of the adopted Local Area Plan.			<b>B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 L1</b>			
<b>Map 13 Glencullen/Ballycorus</b>						
40 To develop the Kiltiernan/Glenamuck area in accordance with the policies and objectives of the adopted Local Area Plan.	<b>S1 C1 C2</b>		<b>CH2 B3 B2 HH1 W2 W4 M1</b>			
50 To develop the Glencullen area in accordance with the policies and objectives of the adopted Local Area Plan.			<b>B2 B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH1 L1</b>			
51 To protect and conserve the Knocksink Wood proposed candidate Special Area of Conservation.	<b>B1 B2 B3 L1</b>					
48 To prepare a Local Area Plan for Rathmichael/Ferndale Road.			<b>B2 B3 HH1 C1 C2 W2 W3 W4 M1 CH1 CH2 L1</b>	✓		
79 To investigate and consider the feasibility of designating the Carrickgollogan Hill area, to the north of Murphy's Lane and including the Lead Mine complex, as an area for a Special Amenity Area Order.			<b>B1 B2 B3 W1 W2 L1</b>			
85 To protect and conserve Ballyman Glen and proposed candidate Special Area of Conservation.			<b>B1 B2 B3 W1 W2 L1</b>			

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<b>Map 14 Rathmichael/Old Connaught</b>					
48 To prepare a Local Area Plan for Rathmichael/Ferndale Road.			B2 B3 HH1 C1 C2 W2 W3 W4 M1 CH1 CH2 L1	✓	
53 To provide for a proposed Luas Stop at Crinken.	C1 C2				
54 To develop Woodbrook and Shanganagh in accordance with the policies and objectives of the adopted Local Area Plan.	C1 C2		B2 B3 HH1 W2 W3 W4 S1 M1 CH1 CH2 L1		
55 To provide for a proposed Luas Stop at Allies River Road.	C1 C2				
56 To upgrade the Wilford Interchange so as to provide connectivity to lands west of the M11 and Old Conna Village.			CH2		
57 To provide for a proposed Luas Stop at Old Conna.	C1 C2				
58 To provide for a proposed Luas Stop at Corke Abbey.	C1 C2				
59 To prepare a Local Area Plan for Old Conna.	C1 C2		B2 B3 HH1 S1 W2 W3 W4 M1 CH1 CH2 L1	✓	
60 To provide for a proposed Luas Stop at Thornhill.	C1 C2				
61 To undertake a study into the feasibility of establishing a crematorium at Shanganagh Cemetery.					✓
63 To co-operate with the Railway Procurement Agency and Wicklow County Council in the establishment of a combined road/Luas bridge across the County Brook Valley to provide connections between the proposed new development areas of Old Conna and Fassaroe (Wicklow).	C1 C2		B1 B2 B3 L1		
66 Allies River Road: to provide access from east to west of the M11 and vice a versa.			L1		
71 That no insensitive or large scale development will take place above the 90-metre contour line at Rathmichael, from Old Connaught Golf Course to Pucks Castle Lane – Maps 10-14. Any proposal for development, other than development directly related to agriculture, forestry, recreation or the promotion of other bona fide rural enterprise or employment activity, shall be domestic in scale, appearance and function.	L1 B3				
76 To continue the development of Shanganagh Park in accordance with the Masterplan, and to develop a sports facility and improved recreational facilities in the park.	C1 C2		B2 B3 HH1 W2 W3 W4 S1 M1 CH1 CH2 L1		
79 To investigate and consider the feasibility of designating the Carrickgollogan Hill area, to the north of Murphy's Lane, as an area for a Special Amenity Area Order.			B1 B2 B3 W1 W2 L1		
82 To upgrade and enhance the linear park at Woodbrook Glen/Corke Abbey.	L1 B3 C1 C2				
85 To protect and conserve Ballyman Glen and proposed candidate Special Area of Conservation.			B1 B2 B3 W1 W2 L1		
105 To investigate, in consultation with the Department of Education and Science, the reservation of a single site for a Post-Primary School to serve the growth nodes of Woodbrook/Old Connaught areas. Note: The locations of SLO symbol 105 on Map 14 are notional only and not a geographic identification of specific sites.	C1 C2		B2 B3 HH1 S1 W1 W2 W4 M1 CH1 CH2 L1	✓	

## 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 was recommended that the mitigation measures detailed under Section 9.3 be integrated into and adopted as part of the Draft 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>65</sup>.

<sup>65</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 were recommended to be incorporated in their entirety - or 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.

Policy LHB27 integrates the measures detailed below into the adopted County Development Plan and is as follows:

*It is Council policy to implement the mitigation measures as set out in Section 9.3 of the Environmental Report accompanying the Development Plan, which are envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the County Development Plan.*

### 9.3 Mitigation Measures

#### 9.3.1 Biodiversity and Flora and Fauna I

No projects giving rise to significant 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>66</sup>.

<sup>66</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.

### **9.3.2 Biodiversity and Flora and Fauna 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.

### **9.3.3 Biodiversity and Flora and Fauna III**

The Council shall set up procedures to ensure compliance by plan-makers with the requirement of Article 6 of the Habitats Directive for land use plans.

### **9.3.4 Biodiversity and Flora and Fauna IV**

No ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity are to be lost without remediation as a result of implementation of the CDP.

### **9.3.5 Water Protection I**

The Council shall address the significant water management issues identified in the Water Matters Consultation publications for the Eastern River Basin District.

### **9.3.6 Water Protection II**

When adopted, the relevant policies and objectives of the Eastern River Basin Management Plan and associated Programme of Measures shall be integrated into the Plan through amendment or otherwise.

### **9.3.7 Water Protection IV**

The Council shall ensure that the ongoing development of the County is undertaken in such a way so as not to compromise the quality of surface water (and associated habitats and species) and groundwater.

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.

### **9.3.8 Bathing Water I**

The Council shall comply with the provisions of the Bathing Water Regulations to ensure that where any bathing water fails the mandatory bathing standards that the public are made aware of this fact by means of information notices posted at the bathing area.

### **9.3.9 Bathing Water II**

The Council shall ensure compliance with Directive on bathing water (Directive 2006/7/EC) as implemented by the Bathing Water Quality Regulations 2008 (S.I. No. 79) of 2008 and particular to:

- ensure bathing waters achieve "sufficient or better status by 2015".
- increase the number of bathing waters classified as "good or "excellent".

### **9.3.10 Waste Water I**

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

### **9.3.11 Waste Water II**

The 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 2006 and 2007* (EPA Office of Environment Enforcement, 2009).

### **9.3.12 Waste Water III**

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

### **9.3.13 Drinking Water I**

Dún Laoghaire-Rathdown 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 2007-2008* (EPA Office of Environment Enforcement, 2009).

### **9.3.14 Drinking Water II**

Existing and new populations under the CDP shall be served with clean and wholesome drinking water. The Council will help to ensure that compliance is achieved as a minimum with regard to the 48 parameters set out under the European Communities (Drinking Water) Regulations (No. 2) 2007 and will help to resolve any issues if they arise in order to achieve the removal of public water supplies from the EPA remedial action list of public water supplies.

### **9.3.15 Flooding I**

The Council has engaged consultants to carry out a Coastal Defence Strategy Report which is to be completed in late 2009. The study will detail a coastal protection strategy identifying specific coastal protection measures on a priority basis and undertake a risk assessment of the vulnerability of the study area and hinterland to both erosion and coastal flooding. The Council will develop a prioritised programme of coastal protection measures following the completion of the Strategy.

The EPA's Climate Change: Scenarios and Impacts for Ireland report (2003) states that the recommendations outlined by Carter (1990) (subject to one modification) remain a sensible approach to coastal management for sea level change. Recommendations from the report are as follows:

- no further reclamation of estuary land;
- no removal of sand dunes, beach sand or gravel; and,
- all coastal defence measures to be assessed for environmental impact.

The CDP shall require new developments to comply with these measures and to have due regard to the Coastal Defence Strategy Report where relevant. Developments near the coast will be required to have specific regard to the Report's risk assessment on erosion and coastal flooding.

### **9.3.16 Flooding II**

Where possible - the landward migration of coastal features, such as dunes and marshes, shall be facilitated as these features form an integral part of the coastal system - both physically and ecologically - and provide protection against wave energy through dissipation.

### **9.3.17 Flooding III**

It is Council policy to implement the recommendations of the most recent version of the Department of the Environment, Heritage and Local Government and the Office of Public Works Guidelines on "The Planning System and Flood Risk Management" including using the Guidelines to assess applications for planning permission.

### **9.3.18 Flooding IV**

The Council shall fulfill its responsibilities under the Flood Risk Directive 2007/60/EC and it is Council policy to assist and cooperate with the Office of Public Works in developing Catchment-based Flood Risk Management Plans. Any recommendations and outputs arising from the Flood Risk Management Plans for Dún Laoghaire-Rathdown will require to be incorporated into the Development Plan.

### **9.3.19 Flooding V**

It is Council policy to ensure that all development proposals incorporate Sustainable Urban Drainage Systems (SUDS).

### **9.3.20 Soil and Contamination I**

The Council shall ensure that adequate and appropriate investigations are carried out into the nature and extent of any soil and groundwater contamination and the risks associated with site development work, where brownfield development is proposed.

### **9.3.21 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.

### **9.3.22 Cultural Heritage II**

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

### **9.3.23 Cultural Heritage III**

In order to protect, strengthen and improve the presentation and the general character of Dún Laoghaire-Rathdown, alterations and interventions to Protected Structures shall be executed to the highest conservation standards, and shall not detract from their significance or value.

### **9.3.24 Cultural Heritage IV**

Planning applications for developments in sensitive areas shall be accompanied by an assessment undertaken by an accredited conservation architect, where appropriate, detailing the impacts of the relevant development upon the special interest and character of the surrounding architectural heritage. Dún Laoghaire-Rathdown County Council shall be consulted at an early stage in this regard in order to determine whether there is a need for such an assessment or for specific mitigation measures.

### **9.3.25 Cultural Heritage V**

It is Council policy to consider further amendments to the record of Protected Structures following the publication of the National Inventory of Architectural Heritage of the County.

### **9.3.26 Landscape**

Planning Applications that have the potential to significantly adversely impact upon landscapes attributed with a High Amenity zoning objective or upon protected views or prospects shall 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.

### **9.3.27 Air and Noise I**

It is Council policy to implement the provisions of National legislation and EU Directives on air and noise pollution in conjunction with other agencies as appropriate.

### **9.3.28 Air and Noise II**

The Council shall minimise increases in, and where possible, reduce, the quantity of the County's population exposed to excessive noise levels arising from land uses

### **9.3.29 Transportation I**

It is Council policy to introduce traffic calming and traffic management schemes on particular roads and in appropriate areas throughout the County to effect an overall reduction in vehicle speeds to an acceptable level and to reduce the potential for traffic congestion and associated vehicular emissions in urban areas.

### **9.3.30 Waste Management I**

The Council shall ensure the implementation of an integrated approach to waste management for any proposed development(s) within the lands in question – to include wastes generated during the construction phase of development as well as the operation and maintenance phases – having particular regard to “Best Practice Guidelines on the preparation of Waste Management Plans for Construction & Demolition Projects” July 2006.

## Section 10 Monitoring Measures

### 10.1 Introduction

The SEA Directive requires that the likely significant environmental effects of the implementation of plans and programmes are monitored. This Section contains the measures for monitoring the likely significant effects of implementing the Development Plan.

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 is given to indicators which are relevant to the likely significant environmental effects of implementing the Development Plan and existing monitoring arrangements are to be largely used in order to monitor the selected indicators. Each indicator to be monitored is accompanied by the relevant target(s) which were identified with regard to the relevant legislation (see Section 4).

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

### 10.3 Sources

Measurements for indicators generally come from existing monitoring sources. Existing monitoring sources exist for each of the indicators and include those maintained by Dún Laoghaire-Rathdown County Council and the relevant authorities e.g. the Environmental Protection Agency, the National Parks and Wildlife Service and the Central Statistics Office.

The *Development Management Process* in Dún Laoghaire-Rathdown 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, monitoring data on Indicator W3 (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.

### 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).

Monitoring indicators and targets will be reviewed in advance of the preparation of the preliminary monitoring report which 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.

### 10.6 Responsibility

Dún Laoghaire-Rathdown County Council is 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;
- the failing of Mandatory Standards by bathing waters;
- court cases taken by the DEHLG regarding impacts upon archaeological heritage including entries to the Record of Monuments and Places; and,
- complaints received from statutory consultees regarding avoidable impacts resulting from development which is granted permission under the CDP.

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source
<b>Biodiversity, Flora and Fauna</b>	<p>B1: Percentage of relevant habitats and designated ecological sites lost as a result of implementation of the CDP</p> <p>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</p> <p>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</p>	<p>B1: No losses of relevant habitats, species or their sustaining resources in designated ecological sites as a result of implementation of the CDP</p> <p>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</p> <p>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</p>	<p>CORINE Mapping, DEHLG Records &amp; Development Management Process in Dún Laoghaire-Rathdown County Council</p> <p>Development Management Process in Dún Laoghaire-Rathdown County Council &amp; Consultation with the National Parks and Wildlife Service</p> <p>CORINE mapping and possibly new habitat mapping for the County</p>
<b>Population and Human Health</b>	<p>HH1: Occurrence (any) of a spatially concentrated deterioration in human health</p>	<p>HH1: No spatial concentrations of health problems arising from environmental factors</p>	<p>Dún Laoghaire-Rathdown County Council, EPA, Health and Safety Authority</p>
<b>Soil</b>	<p>S1: Area of brownfield land developed during plan period.</p>	<p>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</p>	<p>Development Management Process in Dún Laoghaire-Rathdown County Council</p>

Environmental Component	Selected Indicator(s)	Selected Target(s)	Sources
<p><b>Water</b></p>	<p>Indicator W1i: Biotic Quality Rating (Q Value)</p> <p>W2i: Trophic Status (ATSEBI)</p> <p>W2ii: Mandatory and Guide values as set by Directive (76/160/EEC)</p> <p>W3: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</p> <p>W4: Number of developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</p>	<p>W1ia: 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>W1ib: To improve biotic quality ratings, where possible, to Q5</p> <p>W2i: To maintain or to improve trophic status, where relevant, to unpolluted in line with the requirement to achieve good water status under the Water Framework Directive, by 2015</p> <p>W2ii: To achieve - as a minimum - Mandatory values, and where possible to achieve Guide values as set by Directive (76/160/EEC)</p> <p>W3: Compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</p> <p>W4: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</p>	<p>Environmental Protection Agency</p> <p>Environmental Protection Agency</p> <p>Environmental Protection Agency</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> <p>Development Management Process in Dún Laoghaire-Rathdown County Council</p>



Environmental Component	Selected Indicator(s)	Selected Target(s)	Sources
<b>Air and Climatic Factors</b>	<p>C1i: Percentage of population within the plan area travelling to work or school by public transport or non-mechanical means</p> <p>C1ii: Average distance travelled to work or school by the population of the County</p>	<p>C1i: An increase in the percentage of the population travelling to work or school by public transport or non-mechanical means</p> <p>C1ii: A decrease in the average distance travelled to work or school by the population of the County</p>	<p>Central Office      Statistics Office</p> <p>Central Office      Statistics Office</p>
<b>Material Assets</b>	<p>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</p>	<p>M1: No new developments granted permission which cannot be adequately served by a public waste water treatment plant over the lifetime of the CDP</p>	<p>Development Management Process in Dún Laoghaire-Rathdown County Council</p>
<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 of 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 of 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 Dún Laoghaire-Rathdown County Council; Complaints from statutory consultees</p> <p>Development Management Process in Dún Laoghaire-Rathdown County Council; Complaints from statutory consultees</p> <p>Planning and Environmental and Culture Departments in Dún Laoghaire-Rathdown County Council</p>

Environmental Component	Selected Indicator(s)	Selected Target(s)	Sources
<b>Landscape</b>	L1: Number of complaints received from statutory consultees regarding avoidable impacts on the landscape - especially with regard to the County's landscapes attributed with a High Amenity zoning objective and protected views and prospects - resulting from development which is granted permission under the CDP	L1: No developments permitted which result in avoidable impacts on the landscape - especially with regard to the County's landscapes attributed with a High Amenity zoning objective and protected views and prospects - resulting from development which is granted permission under the CDP	Development Management Process in Dún Laoghaire-Rathdown County Council; Complaints from statutory consultees

**Table 10.1 Selected Indicators, Targets and Monitoring Sources**

## Appendix I Site Synopses

### Special Protection Areas <sup>67</sup>

**Site Name: South Dublin Bay and River Tolka Estuary SPA**

**Site Code: 004024**

The South Dublin Bay and River Tolka Estuary SPA comprises a substantial part of Dublin Bay. It includes the intertidal area between the River Liffey and Dun Laoghaire, and the estuary of the River Tolka to the north of the River Liffey, as well as Booterstown Marsh. A portion of the shallow marine waters of the bay is also included. In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. There is a bed of Dwarf Eelgrass (*Zostera noltii*) below Merrion Gates which is the largest stand on the east coast. Green algae (*Enteromorpha* spp. and *Ulva lactuca*) are distributed throughout the area at a low density. The macro-invertebrate fauna is well-developed, and is characterised by annelids such as Lugworm (*Arenicola marina*), Nephthys spp. and Sand Mason (*Lanice conchilega*), and bivalves, especially Cockle (*Cerastoderma edule*) and Baltic Tellin (*Macoma balthica*). The small gastropod Spire Shell (*Hydrobia ulvae*) occurs on the muddy sands off Merrion Gates, along with the crustacean *Corophium volutator*. Sediments in the Tolka Estuary vary from soft thixotropic muds with a high organic content in the inner estuary to exposed, well-aerated sands off the Bull Wall. The site includes Booterstown Marsh, an enclosed area of saltmarsh and muds that is cut off from the sea by the Dublin/Wexford railway line, being linked only by a channel to the east, the Nutley stream. Sea water incursions into the marsh occur along this stream at high tide. An area of grassland at Poolbeg, north of Irishtown Nature Park, is also included in the site. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Bar-tailed Godwit, Redshank, Black-headed Gull, Roseate Tern, Common Tern and Arctic Tern. The E.U. Birds Directive pays particular attention to wetlands, and as these form part of the SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. The site is an important site for wintering waterfowl, being an integral part of the internationally important Dublin Bay complex – all counts for wintering waterbirds are mean peaks for the five year period 1995/96-99/2000. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. An internationally important population of Light-bellied Brent Goose (525) occurs regularly and newly arrived birds in the autumn feed on the Eelgrass bed at Merrion. Light-bellied Brent Goose is also known to feed on the grassland at Poolbeg. The site supports nationally important numbers of a further nine species: Oystercatcher (1,263), Ringed Plover (161), Golden Plover (1,452), Grey Plover (183), Knot

(1,151), Sanderling (349), Dunlin (2,753), Bar-tailed Godwit (866) and Redshank (713). Other species occurring in smaller numbers include Great Crested Grebe (21), Curlew (397) and Turnstone (75). South Dublin Bay is a significant site for wintering gulls, especially Black-headed Gull (3,040), but also Common Gull (330) and Herring Gull (348). Mediterranean Gull is also recorded from here, occurring through much of the year, but especially in late winter/spring and again in late summer into winter. Both Common Tern and Arctic Tern breed in Dublin Docks, on a man-made mooring structure known as the E.S.B. dolphin – this is included within the site. Small numbers of Common Tern and Arctic Tern were recorded nesting on this dolphin in the 1980s. A survey of the dolphin in 1999 recorded Common Tern nesting here in nationally important numbers (194 pairs). This increase was largely due to the ongoing management of the site for breeding terns. More recent data highlights this site as one of the most important Common Tern sites in the country with over 400 pairs recorded here in 2007. The south bay is an important tern roost in the autumn (mostly late July to September). Birds also use the Dalkey Islands to the south. The origin of many of the birds is likely to be the Dublin breeding sites (Rockabill and the Dublin Docks) though numbers suggest that the site is also used by birds from other sites, perhaps outside the state. More than 10,000 terns have been recorded, consisting of Common, Arctic and Roseate terns. The wintering birds within this site are now well-monitored. More survey, however, is required on the wintering gulls and the autumn terns. Booterstown Marsh supports an important population of Borrer's Saltmarsh-grass (*Puccinellia fasciculata*), a rare, Red Data Book species that is listed on the Flora (Protection) Order, 1999. The South Dublin Bay and River Tolka Estuary SPA is of international importance for Light-bellied Brent Goose and of national importance for nine other waterfowl species. As an autumn tern roost, it is also of international importance. Furthermore, the site supports a nationally important colony of Common Tern. All of the tern species using the site are listed on Annex I of the E.U. Birds Directive, as are Bartailed Godwit and Mediterranean Gull. 01.05.2008

### Special Areas of Conservation <sup>68</sup>

**Site Name: South Dublin Bay**

**Site Code: 000210**

This site lies south of the River Liffey and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats, a habitat listed on Annex I of the E.U. Habitats Directive. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion gates. The main channel which drains the area is Cockle Lake. There is a bed of Eelgrass (*Zostera noltii*) below Merrion Gates which is the largest stand on the east coast. Green algae (*Enteromorpha* spp. and *Ulva lactuca*) are distributed throughout the area at a low density. Fucoid algae occur on the rocky shore in the Maretime to Dún Laoghaire area. Species include *Fucus spiralis*, *F. vesiculosus*, *F. serratus*, *Ascophyllum nodosum* and *Pelvetia canaliculata*. Lugworm (*Arenicola marina*) and Cockles (*Cerastoderma edule*) and other annelids and bivalves are frequent throughout the site. The small

<sup>67</sup> National Parks and Wildlife (2007) *Site Synopses for candidate Special Protection Areas* Dublin: Government of Ireland

<sup>68</sup> National Parks and Wildlife (various) *Site Synopses for Special Areas of Conservation* Dublin: Government of Ireland

gastropod *Hydrobia ulvae* occurs on the muddy sands off Merrion Gates. South Dublin Bay is an important site for waterfowl. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. The principal species are Oystercatcher (1215), Ringed Plover (120), Sanderling (344) and Dunlin (2628), Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Geese regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the EU Birds Directive, also occur. Large numbers of gulls roost in South Dublin Bay, e.g. 4,500 Black-headed Gulls in February 1990; 500 Common Gulls in February 1991. It is also an important tern roost in the autumn, regularly holding 2000-3000 terns including Roseate Terns, a species listed on Annex I of the E.U. Birds Directive. South Dublin Bay is largely protected as a Special Protection Area. At low tide the inner parts of the south bay are used for amenity purposes. Baitdigging is a regular activity on the sandy flats. At high tide some areas have windsurfing and jet-skiing.

This site is a fine example of a coastal system with extensive sand and mudflats, a habitat listed on Annex I of the E.U. Habitats Directive. South Dublin Bay is also an internationally important bird site.

25.02.2000

**Site Name: Ballyman Glen SAC**

**Site Code: 000713**

Ballyman Glen is situated approximately 3 km north of Enniskerry. It is orientated in an east-west direction with a stream running through the centre. The glen is bounded mostly by steeply sloping pasture with Gorse (*Ulex europaeus*) and areas of wood and scrub. This site is a candidate SAC selected for alkaline fen and petrifying springs, both habitats listed on Annex I of the EU Habitats Directive. The glen contains a small strip of fen, which runs along the county boundary and extends into County Dublin. This fen is very alkaline and is associated with petrifying spring/seepage areas that have given rise to thick deposits of marl. The vegetation of the main part of the fen is dominated by Greater Tussock-sedge (*Carex paniculata*), Tall Fescue (*Festuca arundinacea*), Butterworts (*Pinguicula vulgaris* and *P. lusitanica*), Black Bog-rush (*Schoenus nigricans*) and Broad-leaved Cottongrass (*Eriophorum latifolium*). The site is particularly notable for its orchids, which includes Early Marsh-orchid (*Dactylorhiza incarnata*), Narrow-leaved Marsh-orchid (*D. traunsteineri*) and Marsh Helleborine (*Epipactis palustris*). In addition, twenty species of sedge have been recorded in the area, including the scarce Long-stalked Yellow-sedge (*Carex lepidocarpa*). The fen area is being invaded by Downy Birch (*Betula pubescens*). Associated with the fen, and also with the woodland elsewhere in the site, are petrifying springs. These lime-encrusted seepage areas are rich in bryophytes including such diagnostic species as Great Horsetail *Equisetum telmateia*, *Cratoneuron commutatum* and *C. filicinum*. Wet woodland and scrub occur along the margins of the stream for most of the length of the glen, extending outwards in areas to create inaccessible and species-rich patches of woodland. The canopy is dominated by Alder (*Alnus glutinosa*), Willow (*Salix* spp.) and Ash (*Fraxinus excelsior*). The woodland has a dense shrub layer which includes Hawthorn (*Crataegus monogyna*) and Spindle (*Euonymus europaeus*), and a diverse ground flora with Marsh Hawks-beard (*Crepis paludosa*), Sanicle (*Sanicula europaea*), Herb-Robert (*Geranium robertianum*), Bugle (*Ajuga reptans*), Horsetails (*Equisetum* spp.), Meadowsweet (*Filipendula ulmaria*) and some sedges (*Carex* spp.). Areas of marsh are found in the wetter areas by the stream,

particularly at the western end of the site. There is an area of broad-leaved woodland on the steeper southern slopes of the glen. Common species occurring here are Ash and Sycamore (*Acer pseudoplatanus*), with Brambles (*Rubus fruticosus* agg.) colonizing the more open areas. An area of land that slopes towards the fen has been used as a landfill site for domestic refuse. The site is also used a clay pigeon shoot and shattered clay pigeons are scattered throughout the area. Fens are rare in Wicklow/Dublin and this is one of only two sites in Wicklow for the Narrow-leaved Marsh-orchid. The fen vegetation is well developed, with an unusually large number of sedge species present. The presence of alkaline fen and of petrifying spring/seepage areas on the site is particularly notable, as these habitats are listed, the latter with priority status, on Annex I of the EU Habitats Directive.

30.10.2002

**Site Name: Knocksink Wood SAC**

**Site Code: 000725**

Knocksink Wood is situated in the valley of the Glencullen River north-west of Enniskerry. The fast-flowing Glencullen River winds its way over granite boulders along the valley floor. The steep sides of the valley are mostly covered with calcareous drift. Some of the slopes are dominated by Sessile Oak (*Quercus petraea*) with a sparse shrub layer of Holly (*Ilex aquilinum*) and Hazel (*Corylus avellana*), while on the ground there is a carpet of Great Wood-rush (*Luzula sylvatica*). Other areas are characterised by mixed woodland, with Oak, Ash (*Fraxinus excelsior*), Beech (*Fagus sylvatica*), Sycamore (*Acer pseudoplatanus*) and the occasional conifer occurring. The ground flora includes Ivy (*Hedera helix*) and Brambles (*Rubus fruticosus* agg.), and often luxuriant ferns, such as Hart's Tongue (*Phyllitis scolopendrium*), Soft Shield-fern (*Polystichum setiferum*), and mosses. Lichens occur abundantly on some trees. A notable feature of the slopes are the frequent and extensive springs and seepage areas within the woodland. These petrifying springs are listed as a priority habitat on Annex I of the EU Habitats Directive. Associated with the springs and the river are stands of wet alluvial forest, also a habitat listed with priority status on Annex I of the EU Habitats Directive. The wet woodland is dominated by Ash and Alder (*Alnus* spp.) and is assigned to the group *Carici remotae-Fraxinetum*. Other species which occur include Willow (*Salix* spp.), Birch (*Betula pubescens*) and Hazel. Islands in the river and open gravelly areas provide further habitat diversity. A number of scarce or rare plants occur within the site including Blue Fleabane (*Erigeron acer*), Ivy-leaved Bellflower (*Wahlenbergia hederacea*) and Yellow Archangel (*Lamiastrum galeobdolon*). This site has one of the most diverse woodland invertebrate faunas in Ireland, incorporating wet woodland organisms threatened internationally within the EU. Vertebrates noted in the vicinity, either by tracks, sett or sight, include Red Squirrel, Badger, Rabbit and Deer. The woodland supports large populations of birds, including many common passerines (Robin, Blackbird, Song Thrush, Wren, Chaffinch) and crows, such as Rook, Hooded Crow, Magpie, Jackdaw and Raven. A Buzzard has been noted in the area and Dipper are occasionally seen in the river. The importance of this site lies in the diversity of woodland habitats which occur. The presence of rare or threatened plants and invertebrates adds to the interest. Much of this site has been designated a Statutory Nature Reserve and there is presently an educational centre within the site.

07.08.2003

**Site Name: Wicklow Uplands SAC**  
**Site Code: 002122**

This site is a complex of upland areas in Counties Wicklow and Dublin, flanked by Blessington Reservoir to the west and Vartry Reservoir in the east, Cruagh Mt. in the north and Lybagh Mt. in the south. Most of the site is over 300m, with much ground over 600m and the highest peak of Lugnaquilla at 925m. The Wicklow Uplands comprise a core of granites flanked by Ordovician schists, mudstones and volcanics. The form of the Wicklow Glens is due to glacial erosion. The Wicklow Mountains are drained by several major rivers including the Dargle, Liffey, Dodder, Slaney and Avonmore. The river water in the mountain areas is often peaty, especially during floods. The topography is typical of a mountain chain, showing the effects of more than one cycle of erosion. The massive granite has weathered characteristically into broad domes. Most of the western part of the site consists of an elevated moorland, covered by peat. The surrounding schists have assumed more diverse outlines, forming prominent peaks and rocky foothills with deep glens. The dominant topographical features are the products of glaciation. High corrie lakes, deep valleys and moraines are common features of this area. The substrate over much of the area is peat, usually less than 2m deep. Poor mineral soil covers the slopes and rock outcrops are frequent. The vegetation over most of the site is a mosaic of heath, blanket bog and upland grassland (mostly on peaty soil, though some on mineral soil), with stands of dense Bracken (*Pteridium aquilinum*) and small woodlands mainly along the rivers. Mountain loughs and corrie lakes are scattered throughout the site. The site supports many habitats that are listed on Annex I of the E.U. Habitats Directive. The two dominant vegetation communities in the area are heath and blanket bog. Heath vegetation, with both wet and dry heath well represented, occurs in association with blanket bog, upland acid grassland and rocky habitats. The wet heath is characterised by species such as Ling (*Calluna vulgaris*), Cross-leaved Heath (*Erica tetralix*), Cottongrasses (*Eriophorum* spp.), Tormentil (*Potentilla erecta*), Mat-grass (*Nardus stricta*), Bent grasses (*Agrostis* spp.) and bog mosses (*Sphagnum* spp.). In places the wet heath occurs in conjunction with flush communities and streamside vegetation, and here species such as Heath Rush (*Juncus squarrosus*) and *Carex* spp. are found. Dry heath at this site is confined to shallow peaty soils on steep slopes where drainage is better and particularly in sheltered conditions. It is characterised by species such as Ling, Gorse (*Ulex* spp.), Bell Heather (*Erica cinerea*), Bilberry (*Vaccinium myrtillus*), Purple Moor-grass (*Molinia caerulea*) and lichens (*Cladonia* spp.). In places the heath grades into upland grassland on mineral soil, some examples of which correspond to the E.U. Habitats Directive Annex I priority habitat species-rich *Nardus* grassland. Blanket bog is usually dominated by Cottongrasses, Ling and bog mosses (*Sphagnum* spp.). On steeper slopes there is some flushing and here Purple Moor-grass, Heath Rush, and certain *Sphagnum* species become more common. The Liffey Head blanket bog is among the best of its kind in eastern Ireland, with deep peat formations and an extensive system of dystrophic pools developed among the hummocks and hollows on the bog surface. The vegetation is largely dominated by Ling and Cross-leaved Heath, with Cottongrasses (*Eriophorum vaginatum* and *E. angustifolium*), Deergrass (*Scirpus cespitosus*) and Bog Asphodel (*Narthecium ossifragum*). In drier areas, Bilberry and Cowberry (*Vaccinium vitis-idaea*) are common, while the scarce Bog Rosemary (*Andromeda polifolia*) is also found. Blanket bog occurs over extensive areas of deeper peat on the plateau and also on gentle slopes at high altitudes. Peat erosion is frequent on the peaks - this may be a natural process, but is likely to be accelerated by activities such as

grazing. Due to the underlying rock strata, the water of the rivers and streams tends towards acidity. The water is generally oligotrophic and free from enrichment. The lakes within the area range from the high altitude lakes of Lough Firrib and Three Lakes, to the lower pater-noster lakes of Glendalough, Lough Tay and Lough Dan. Spectacular corrie lakes (such as Loughs Bray (Upper and Lower), Ouler, Cleevaun, Arts, Kellys and Nahanagan) exhibit fine sequences of moraine stages. The deep lakes are characteristically species poor, but hold some interesting plants including an unusual form of Quillwort (*Isoetes lacustris* var. *morei*), a Stonewort (*Nitella* sp.) and Floating Bur-reed (*Sparganium angustifolium*). The Red Data Book fish species Arctic Char has been recorded from Lough Dan, but this population may now have died out. Alpine vegetation occurs on some of the mountain tops, notably in the Lugnaquilla area, and also on exposed cliffs and scree slopes elsewhere in the site. Here alpine heath vegetation is represented with species such as Crowberry (*Empetrum nigrum*), Cowberry, Dwarf Willow (*Salix herbacea*), the grey-green moss *Racomitrium lanuginosum* and scarce species such as Mountain Clubmoss (*Diphasiastrum alpinum*), Firmoss (*Huperzia selago*), and Starry Saxifrage (*Saxifraga stellaris*). Some rare arctic-alpine species have been recorded, including Alpine Lady's-mantle (*Alchemilla alpina*) and Alpine Saw-wort (*Saussurea alpina*). Small areas of old oakwood (Blechno-Quercetum petraeae type) occur on the slopes of Glendalough and Glenmalur, near L. Tay and L. Dan, with native Sessile Oak (*Quercus petraea*) 100-120 years old. On wetter areas, wet broadleaved semi-natural woodlands occur, which are dominated by Downy Birch (*Betula pubescens*). Mixed woodland with non-native tree species also occurs. The site supports a range of rare plant species, which are listed in the Irish Red DataBook: Parsley Fern (*Cryptogramma crispera*), Marsh Clubmoss (*Lycopodiella inundata*), Greater Broom-rape (*Orobancha rapumgenistae*), Alpine Lady's-mantle, Alpine Saw-wort, Lanceolate Spleenwort (*Asplenium billotii*), Small White Orchid (*Pseudorchis albida*) and Bog Orchid (*Hammarbya paludosa*). The latter three species are legally protected under the Flora (Protection) Order, 1999. The rare Myxomycete fungus, *Echinostelium colliculosum*, has been recorded from the Military Road. Mammals and birds which occur are typical of the uplands. Deer are abundant, mainly hybrids between Red and Sika Deer. Other mammals include Hare, Badger and Otter, the latter being a species listed on Annex II of the E.U. Habitats Directive. Pine Marten has recently been confirmed as occurring within the site. Among the birds, Meadow Pipit, Skylark, Raven and Red Grouse are resident throughout the site. Wheatear, Whinchat and the scarce Ring Ouzel are summer visitors. Wood Warbler and Redstarts are rare breeding species of the woodlands. Dipper and Grey Wagtail are typical riparian species. Merlin and Peregrine Falcon, both Annex I species of the EU Birds Directive, breed within the site. Recently, Goosander has become established as a breeding species. Large areas of the site are owned by NPWS, and managed for nature conservation based on traditional landuses for the uplands. The most common landuse is traditional sheep grazing. Other land uses include turf-cutting, mostly hand-cutting but some machine-cutting occurs. These activities are largely confined to the Military Road, where there is easy access. Large areas which had been previously hand-cut and are now abandoned, are regenerating. In the last 40 years, forestry has become an important landuse in the uplands, and has affected both the wildlife and the hydrology of the area. Amenity use is very high, with Dublin city close to the site. Wicklow Mountains is important as a complex, extensive upland site. It shows great diversity from a geomorphological and a topographical point of view. The vegetation provides examples of the typical upland habitats with heath, blanket bog and upland grassland covering

large, relatively undisturbed areas. In all ten habitats listed on Annex I of the EU Habitats Directive are found within the site. Several rare, protected plant and animal species occur. 12.10.2001

## Proposed Natural Heritage Areas <sup>69</sup>

**Site Name: South Dublin Bay pNHA**  
**Site Code: 000210**

Site synopsis as per South Dublin Bay SAC, above.

**Site Name: Ballyman Glen pNHA**  
**Site Code: 000713**

Site synopsis as per Ballyman Glen SAC, above.

**Site Name: Knocksink Wood pNHA**  
**Site Code: 000725**

Site synopsis as per Knocksink Wood SAC, above.

**Site Name: Ballybetagh Bog pNHA**  
**Site Code: 001202**

Ballybetagh Bog includes three separate areas of marshland situated approximately 5 km north-west of Enniskerry. The north-western and middle bogs lie in a small valley which is an old glacial spillway. These sites are dryish grassy fens which are spring fed and drained by a large cut in the centre. The south-eastern bog is in a flatter and more open part of the site. There is more surface water in evidence in this part of the site and this is reflected in the vegetation. Some fen species which have been recorded from the site include Bottle Sedge (*Carex rostrata*), Early Marsh-orchid (*Dactylorhiza incarnata*), Marsh Lousewort (*Pedicularis palustris*) and Grass-of-parnassus (*Parnassia palustris*). Ballybetagh Bog is renowned for the number of skeletons of the extinct Giant Irish Deer (*Megaloceros giganteus*) that have been dug from it. The first was discovered during Famine times when the large drainage ditch was dug as a relief project. Several collections were made in the years after discovery, the major ones in 1878 and 1913. The middle and south-eastern bogs were extensively dug and yielded the remains of 60-100 Giant Irish Deer and some Reindeer bones. Further excavations in 1880 and 1934 examined the whole range of fossils of the period about 11,000 years ago. This gave an idea of the vegetation and environment in which the deer lived. Further work was carried out in the 1970's and 1980's. Although the site contains samples of fen and marsh vegetation, the main interest lies in its historical value. Ballybetagh Bog has become a classical site of quaternary studies due to the intensity of research. The bones of Giant Irish Deer have been found in upwards of 150 sites in the country, but nowhere else have their surroundings been subjected to such intense investigation. Areas of the site have been lost to agricultural development and afforestation. It is important that any further development, especially the insertion of drains, is prevented for it would damage the remaining vegetation of interest. More importantly, if the surface layers were to dry out the peat would begin to oxidise and thereby destroy the fossils, pollens and other fragments. Also any drainage work could so disturb the sediments by excavation and decamping that the deposit would become useless for analysis.

<sup>69</sup> National Parks and Wildlife (various) *Site Synopses for Proposed Natural Heritage Areas* Dublin: Government of Ireland

**Site Name: Booterstown Marsh pNHA**  
**Site Code: 001205**

Booterstown Marsh lies approximately 3 miles south of Dublin City. It is separated from Merrion Strand to the east by an embankment which carries the Dublin to Wexford railway, and to the west it is bounded by the road from Dublin to Blackrock. The marsh overlies glacial tills which in turn lie on Black Limestone. Two streams run through the site; the Trimelston stream runs along the northern edge of the site and is culverted, although there is some seepage into the marsh which helps prevent the marsh drying out. The Nutley stream runs parallel to the railway along the eastern side of the site. Sea water incursions into the marsh occur along this stream at high tide. Almost the entire marsh may be flooded at irregular intervals and salinity fluctuates throughout the site under the influence of rainfall and tidal cycles. Consequently, the site shows an interesting gradient from freshwater plant communities in the north-west to a more saline-tolerant flora in the south-east. Water Cress (*Nasturtium officinale*), Water Horsetail (*Equisetum fluviatile*), Amphibious Bistort (*Polygonum amphibium*) and Fool's Water-cress (*Apium nodiflorum*), are typical in the west of the site. Seaward, a fuller saltmarsh flora is found with Creeping Bent (*Agrostis stolonifera*), Sea Club-rush (*Scirpus maritimus*), Saltmarsh Rush (*Juncus gerardi*), Common Saltmarsh-grass (*Puccinellia maritima*), Sea-milkwort (*Glaux maritima*) and Sea Aster (*Aster tripolium*). The protected plant Borrer's Saltmarsh-grass (*Puccinellia fasciculata*), known only from a few locations in Ireland, is found here. Booterstown Marsh is a site of local/regional ornithological importance. Of particular interest are the high concentrations of Snipe which occur in winter - numbers up to 100 are normal, but as many as 400 (Jan. 1988) have been recorded. The marsh is also used as a high-tide roost by a variety of waders and gulls - regular species are Oystercatcher (100+), Redshank (100+) and Black-headed Gull (several hundred). Up to 50 Mallard and 40 Teal are regularly seen in autumn and winter. Other species which frequent the marsh include Kingfisher (1-2 birds), an Annex I species under the Birds Directive, and Grey Heron (5-8 birds). Rarer birds of coastal marshes have been recorded, notably Little Egret and Yellow Wagtail. Booterstown Marsh is the only saltmarsh in south Dublin and, despite some concerns about the increasing salinity of the site, it remains a valuable habitat for many birds as well as containing a diverse flora including the protected plant Borrer's Saltmarsh-grass (*Puccinellia fasciculata*). 24.10.1997

**Site Name: Dalkey Coastal Zone and Killiney Hill pNHA**  
**Site Code: 001206**

This site includes the coastal stretch from Scotman's Bay to south of White Rock, the Dalkey Island group and Dalkey Sound, and Killiney Hill. Killiney Hill is at the edge of the Wicklow mountain intrusion and so it is formed of a mixture of granite and mica schist. It provides one of the best exposed junctions of these rock types, on the beach at White Rock, at which mineralization has taken place due to contact metamorphism. The minerals include biotite, andalusite and garnet, with aplite and pegmatite veins also exposed. The seaward parts of Killiney Hill have in addition a covering of calcareous glacial drift. The rocky shore is mainly of granite. Dalkey Sound and its environs have been highly regarded as a valuable marine collecting area for many years. The Sound is especially noteworthy for the occurrence of west and south coast invertebrates. Species taken include Squat Lobsters (*Galathea* spp.), Swimming Crabs (*Portunus* spp.) and the Crawfish (*Palinurus vulgaris*). The area is also noted for the occurrence of gymnoblatic



hydroids, with the rate *Antedon bifida* being taken regularly. Some rare European species which occur are members of the Order Nudibrachia and the Spiny Starfish (*Marthasterias glacialis*). Dalkey Island lies c. 400m off Sorrento Point. The island is low-lying, the highest point at c.15m is dominated by a Martello Tower. Soil cover consists mainly of a thin peaty layer, though in a few places there are boulder clay deposits. Vegetation cover is low, consisting mainly of grasses. No woody plants have become established, probably due to constant grazing by goats. Dense patches of bracken (*Pteridium aquilinum* and Hogweed (*Heracleum sphondylium*) occur in places. Lamb Island lies to the north of Dalkey Island, attached at low-tide by a line of rocks. It has a thin soil cover and some vegetation, mainly grasses, Nettles (*Urtica dioica*) and Hogweed (*Heracleum sphondylium*). Further north lies Maiden's Rock, a bare angular granite rock up to 5m high. There is no vegetation cover. Muglins, a small granite rock, lies about 1km north-east of Dalkey Island. A small lighthouse is on the rock. Herring Gulls nest on Dalkey Island (17 pairs in 1986), Lamb Island (29 pairs in 1986) and Muglins (207 nests in 1982). Great Black-backed Gull nests on Dalkey Island (maximum 62 nests in 1982-88), and two pairs of Lesser Black-backed Gull nested there in 1981. Common Terns breed annually on Maiden's Rock, with a maximum of 54 nests between 1980 and 1986. One pair of Arctic Tern bred on Maiden's Rock in several years and in 1986 two pairs of Roseate Terns nested but were unsuccessful. Manx Shearwater is suspected of breeding on Dalkey Island. Sheluck, Mallard and Oystercatcher nest on Dalkey and Lamb Island. Meadow and Rock Pipits breed on Dalkey Island. Maiden's Rock is an important autumn roosting site for up to 2,000 terns, including Roseates from the Rockabill colony. In autumn and winter Dalkey Island is an evening roosting site for Cormorants, Shags, Curlew and large gulls. Up to 50 Turnstones and 15 Purple Sandpipers occur in winter. Killiney Hill is a complex of coastal heath and mixed woodland. The woods are mostly planted and include Sycamore (*Acer pseudoplatanus*), Horse Chestnut (*Aesculus hippocastanum*), some Oak (*Quercus* spp.), Ash (*Fraxinus excelsior*) and Holly (*Ilex aquilinum*). The ground flora is mainly Ivy (*Hedera helix*) and Brambles (*Rubus* spp.) but there are some areas with more typical woodland species such as Wood Sorrel (*Oxalis acetosella*) and Herb Robert (*Geranium robertianum*). Many of the rock surfaces on the open and bushy areas on the east side of the summit of the hill are roches moutonnes while near the summit spodumene is found in a small scarp exposure. This results in an interesting flora, with Wood Vetch (*Vicia sylvatica*), Yellow Fumitory (*Corydalis claculata*) and Madder (*Rubis peregrina*) growing amongst the Gorse (*Ulex europaeus*). The shallow soils overlying the rock support a community of winter annuals and early flowering perennials such as Spring Squill (*Scilla verna*) and Crow Garlic (*Allium vineale*). The drift banks above and below the railway have warm shallow soils. Here grow scarce plants such as Bloody Cranesbill (*Geranium sanguineum*), Bee Orchid (*Ophrys apifera*), Sea Storksbill (*Erodium maritimum*) and Clovers (*Trifolium ornithopodioides*, *T. striatum* and *T. scabrum*). The naturalized Silver ragwort (*Senecio cineraria*) is widespread. Up to five pairs of Fulmar breed on the cliffs below the railway line. Kestrel breeds in the area, as well as Stonechat. This site represents a fine example of a coastal system with habitats ranging from the sub-littoral to coastal heath. The flora is well developed and includes some scarce species. The islands are important bird sites. The site also has geological importance.