

SEA STATEMENT

OF THE

DÚN LAOGHAIRE-RATHDOWN COUNTY DEVELOPMENT PLAN 2010-2016

STRATEGIC ENVIRONMENTAL ASSESSMENT

for: Dún Laoghaire-Rathdown County Council

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Section 1 Introduction

1.1 Terms of Reference

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

1.2 SEA Definition

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

1.3 Legislative Context

Directive 2001/42/EC of the European Parliament and of the Council, 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 (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.

The SEA Directive and the instruments transposing it into Irish Law require that after the adoption of a plan or programme, the plan or programme making authority is required to make a Statement available to the public, the competent environmental authorities and, where relevant, neighbouring countries. This Statement is referred to as an SEA Statement (DEHLG, 2004)¹.

¹ Department of the Environment, Heritage and Local Government (2004) *Implementation of SEA Directive (2001/42/EC): Guidelines for Regional Authorities and Planning Authorities* Dublin: Government of Ireland.

1.4 Content of the SEA Statement

The SEA Statement is required to include information summarising:

- a) how environmental considerations have been integrated into the Plan,
- b) how
 - the environmental report,
 - submissions and observations made to the planning authority on the proposed Plan and Environmental Report, and
 - any transboundary consultations [this is not relevant to this SEA]

have been taken into account during the preparation of the Plan,

- c) the reasons for choosing the Plan, as adopted, in the light of the other reasonable alternatives dealt with, and
- d) the measures decided upon to monitor the significant environmental effects of implementation of the Plan.

1.5 Implications of SEA for the Plan

As a result of the aforementioned legislation, the Dún Laoghaire-Rathdown County Development Plan 2010-2016 was required to undergo SEA.

The findings of the SEA were expressed in a Draft Environmental Report which was submitted to the Elected Members alongside the proposed Draft Plan. The purpose of the report was to provide a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of growth in Dún Laoghaire-Rathdown.

Changes made to the proposed Draft Plan were evaluated for their environmental consequences and the Draft Environmental Report was updated to become the Environmental Report.

The Environmental Report and the Draft Plan were placed on public display in April 2009.

Addendum I to the Environmental Report (which details responses to the submissions on the Environmental Report which were made during the first period of public display of the Draft Plan and the Environmental Report and details updates to the Environmental Report, as appropriate) accompanied the Manager's Report circulated to Elected Members in September 2009.

Proposed Amendments to the Draft Plan were evaluated for their environmental consequences and these were presented to the Elected Members and placed on public display alongside the Proposed Amendments in December 2009 the form of Addendum II to the Environmental Report.

Addendum III to the Environmental Report responded to submissions on the Environmental Report which were made during the period of public display of the Proposed Amendments and Addendum II to the Environmental Report. This Addendum accompanied the Manager's Report circulated to the Elected Members in February 2010.

On adoption of the Draft Plan, Addenda I, II and III were used to update the original Environmental Report into a final Environmental Report.

At each stage of the process the Elected Members took into account the findings of the Environmental Report and/or the Addenda as appropriate.

Section 2 How Environmental Considerations were integrated into the Development Plan

2.1 Consultations

The Environmental Protection Agency (EPA), the Department of the Environment, Heritage and Local Government (DEHLG) and the Department of Communications, Energy and Natural Resources (DCMNR) were sent SEA scoping notices indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the Environmental Report could be made to the Council. SEA scoping submissions were made by the three authorities. These submissions were taken into account during the formulation of the scope of the SEA.

In addition, a number of submissions were made on the Draft Development Plan and Environmental Report and the Proposed Amendments and Addendum II to the Environmental Report while they were on public display. Further information on the aforementioned submissions is provided under Section 3.2.

2.2 Environmental Sensitivities

2.2.1 Mapping and Early Communication

Environmental considerations were integrated into the Draft Plan before it was placed on public display for the first time.

Environmental sensitivities were mapped in order to identify which areas of Dún Laoghaire-Rathdown would be most sensitive to development and would suffer the most adverse effects if growth was to be accommodated in those areas unmitigated.

The sensitivities were communicated to the Plan-making team on a regular basis from the outset of the Plan preparation process. Identifying areas with the most limited carrying capacity within Dún Laoghaire-Rathdown helped future growth to be diverted away from these areas.

The sensitivities considered by the SEA included the following:

- Designated ecological sites;
- Habitats;
- Land cover;
- Soil Type;
- Eskers;
- Water Framework Directive (WFD) Risk Assessments for Rivers, River Catchments, Coastal Waters and Ground Waters;
- WFD Register of Protected Areas;
- EPA River, Transitional Waters and Bathing Waters Quality Monitoring;
- GSI Aquifer Vulnerability and Productivity;
- Flood Events;
- Waste Water Treatment Capacity and Demand;
- Drinking Water Supply Capacity and Quality;
- Archaeological Heritage;
- Architectural Heritage; and,
- Landscape Character Areas, High Amenity Areas and Protected Views and Prospects.

A number of these sensitivities are mapped on Figure 2.1, Figure 2.2, Figure 2.3 and Figure 2.4.

Overlay mapping

A Geographical Information System (GIS) was used in order to weight a number of the above sensitivities and map them overlapping each other - this allowed the identification of where most sensitivities within and surrounding the Plan area occur. Figure 2.5 shows the overlay map of sensitivities that was used by the SEA.

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.

2.3 Early Identification and Evaluation of Alternatives

A range of potential alternative scenarios for the types of planning strategies adopted for the Development Plan were identified at an early stage in the process and evaluated for their likely significant environmental effects (see Section 4).

The overlay mapping shown on Figure 2.5 - together with the mapping of individual environmental components shown on Figures 2.1 to 2.4 - was used in order to predict and evaluate the environmental effects of implementing the scenarios (see Figure 2.6).

Communication of the findings of this evaluation helped the Plan-making team to make an informed choice as to which alternative was to be put before the Elected Members as the proposed Plan.

Communication of this evaluation to the Elected Members through the Environmental Report helped the Elected Members to make an informed choice with regard to the making of the Development Plan.

Mitigation measures which arose from the evaluation and which were integrated into the Plan are detailed under Section 2.4 of this report.

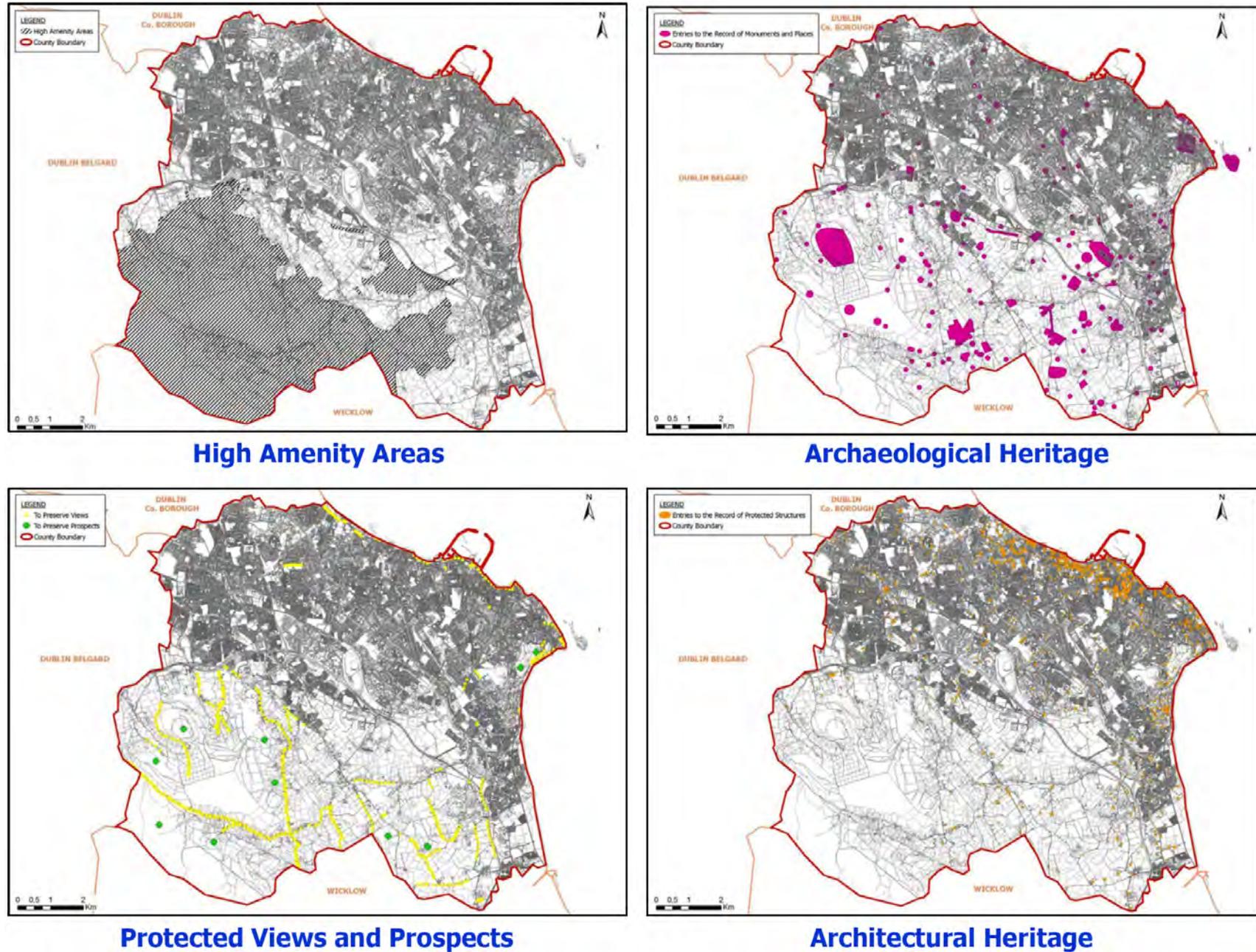
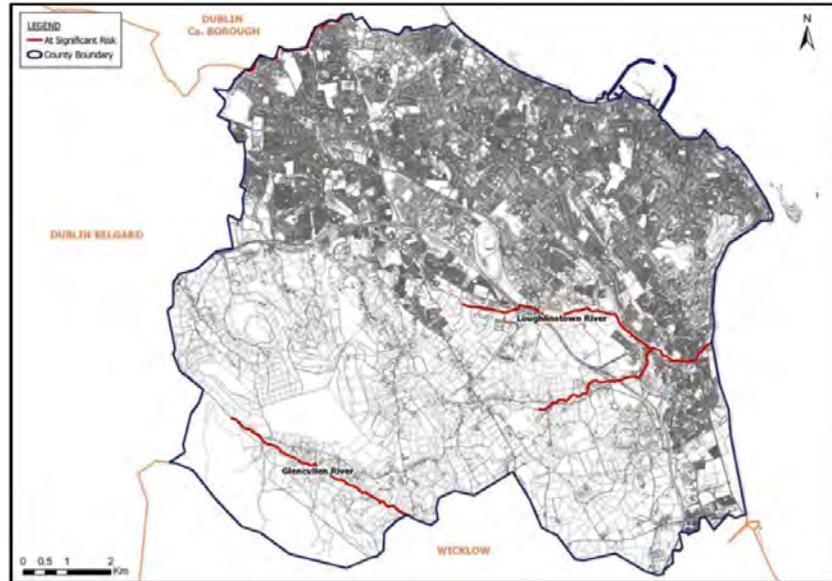
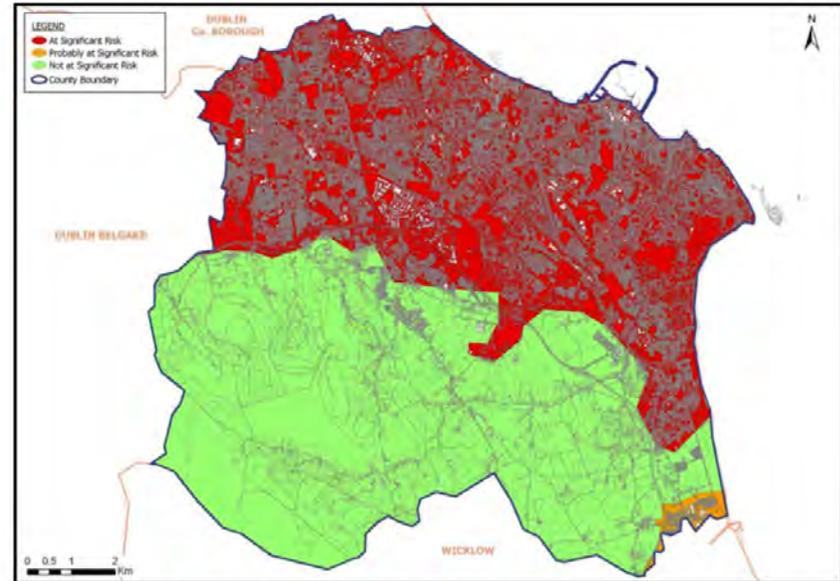


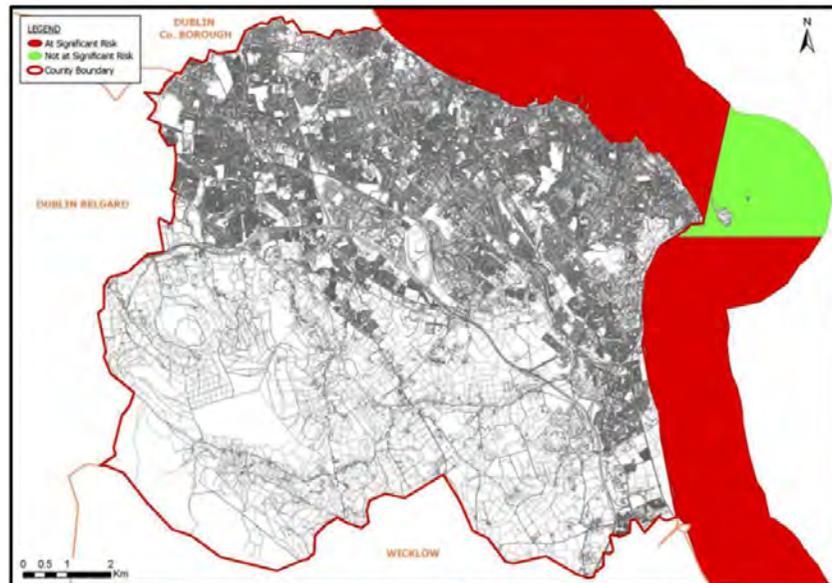
Figure 2.2 Environmental Sensitivities - Plate 2



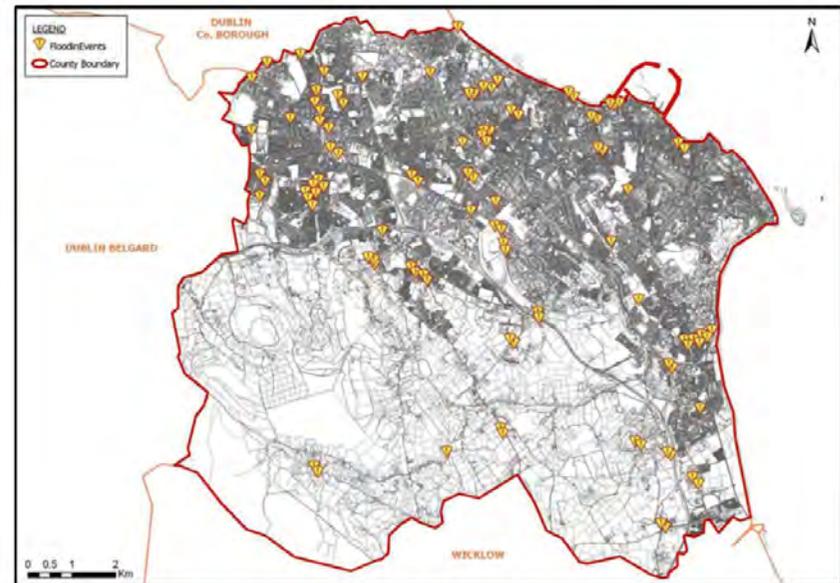
Rivers Risk Assessment



Groundwaters Risk Assessment

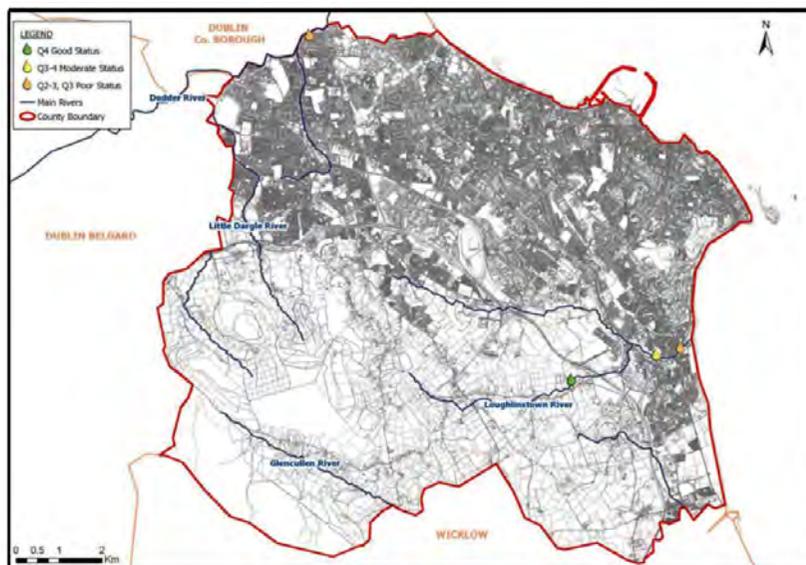


Coastal Waters Risk Assessment

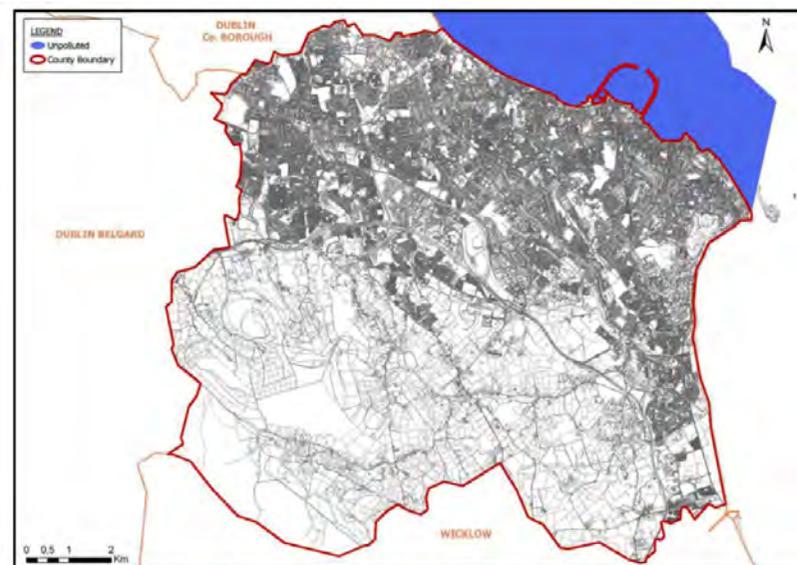


Flood Events

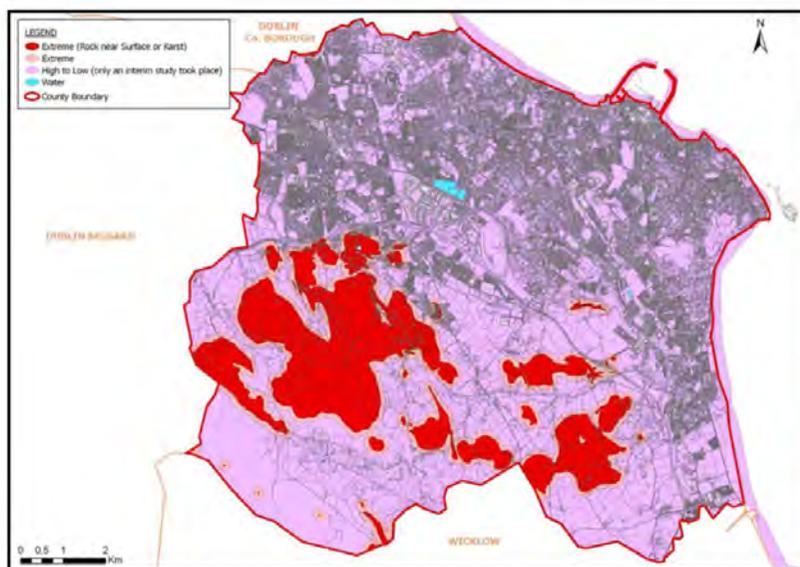
Figure 2.3 Environmental Sensitivities - Plate 3



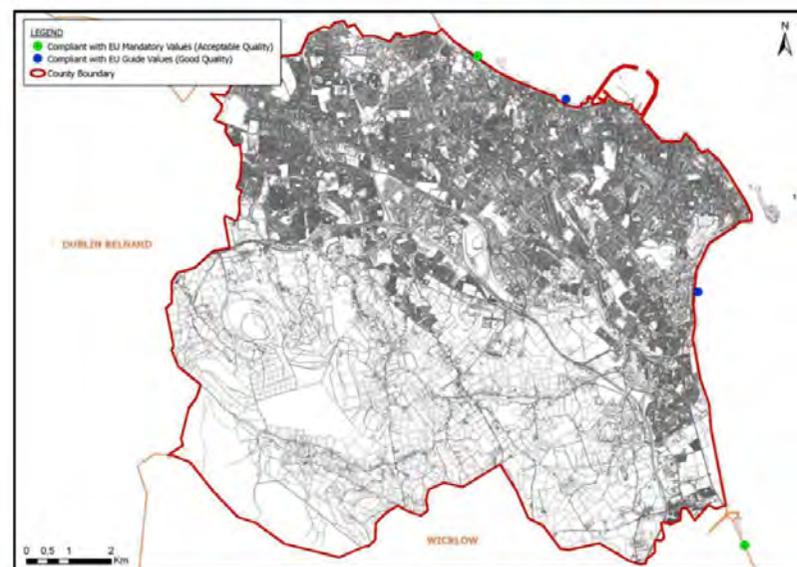
Q Values



ATSEBI Quality of Dublin Bay



Groundwater Vulnerability



Bathing Water Quality

Figure 2.4 Environmental Sensitivities - Plate 4

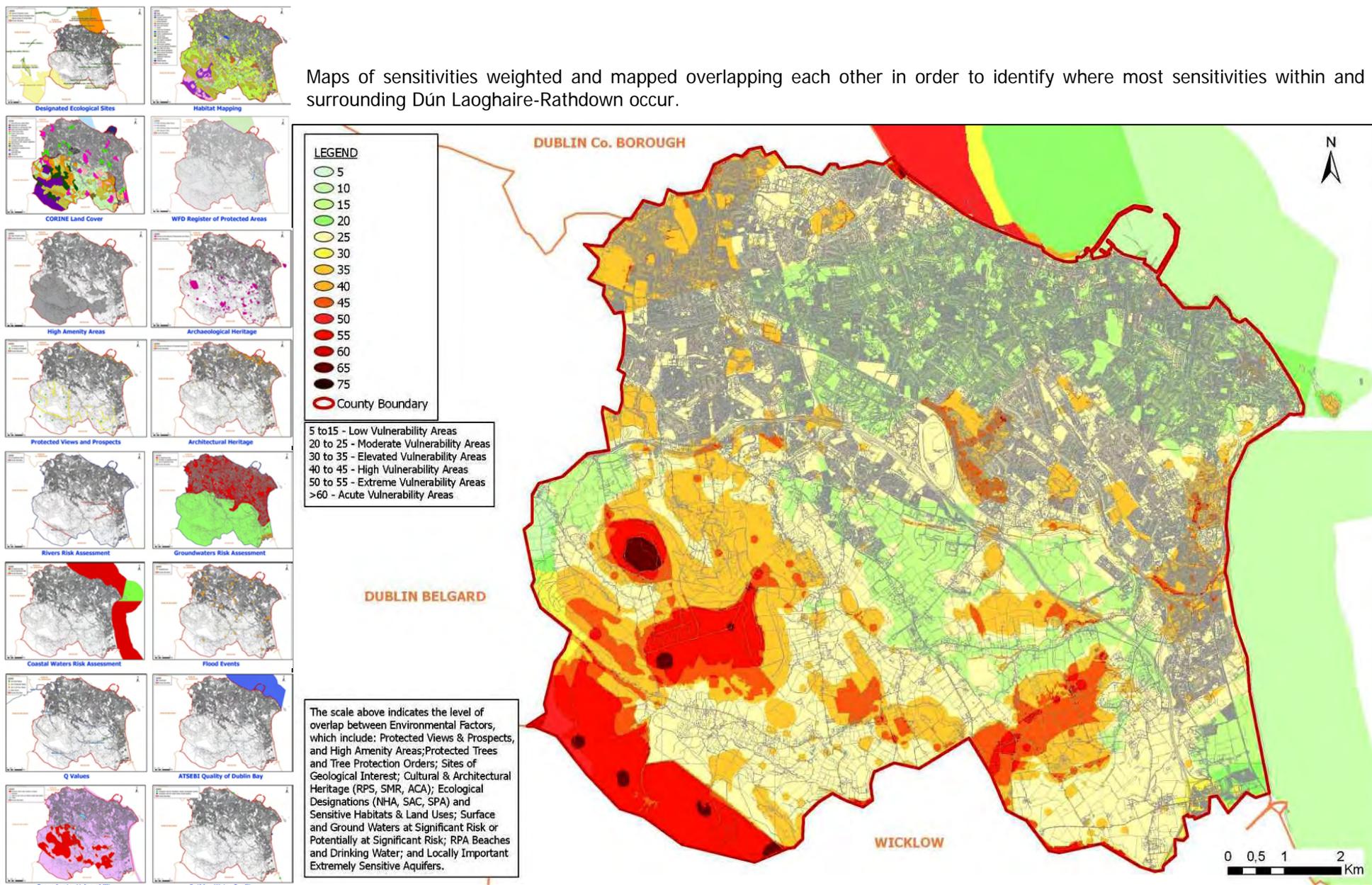
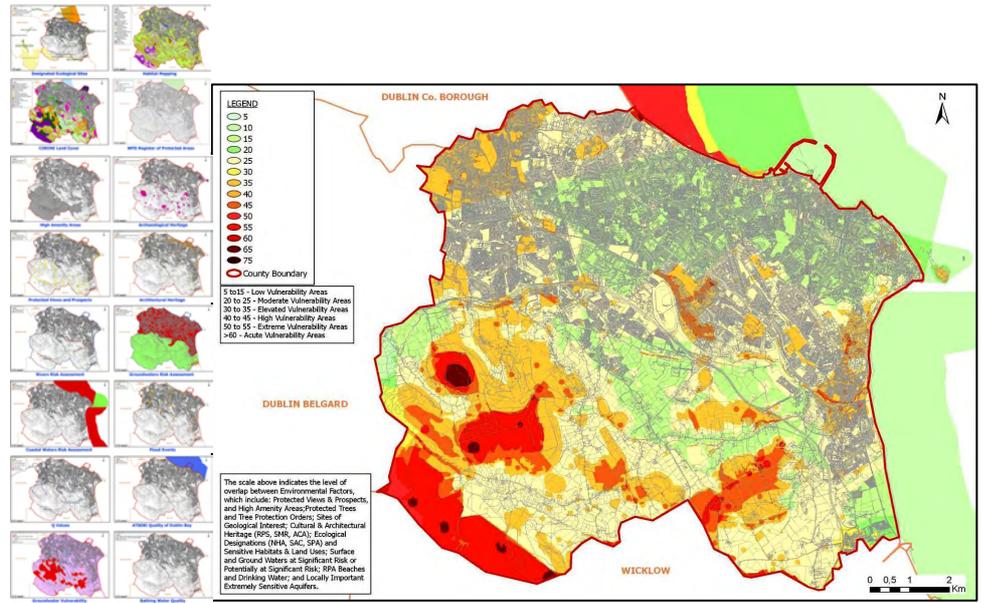
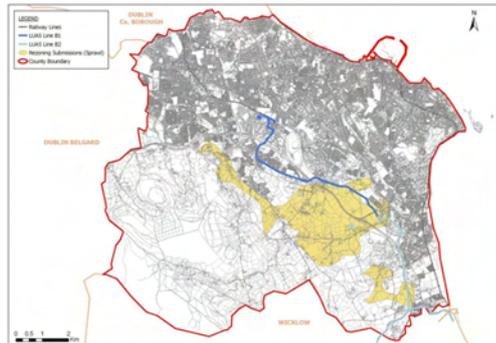


Figure 2.5 Overlay of Environmental Sensitivities

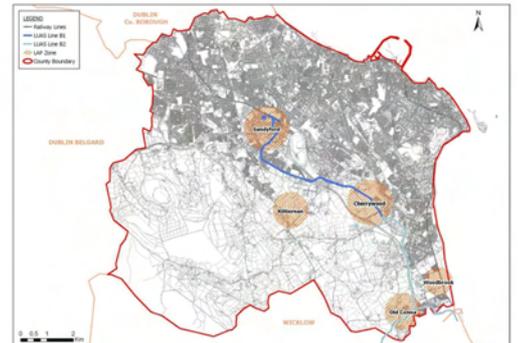
1. Maps of sensitivities were weighted and mapped overlapping each other in order to identify where most sensitivities in the County occur



2. Areas of each mapped Alternative (Alternatives 1 and 2) which would be most likely to be covered by sprawl (Alternative 1) or Local Area Plan zones were identified

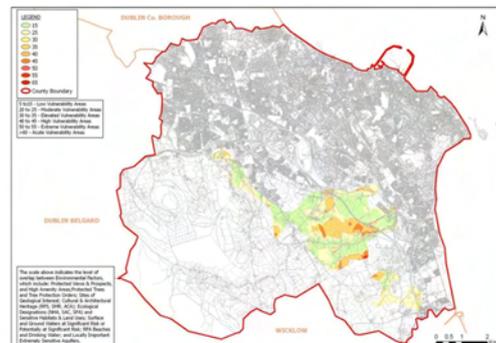


Alternative 1 - Market-Led Growth

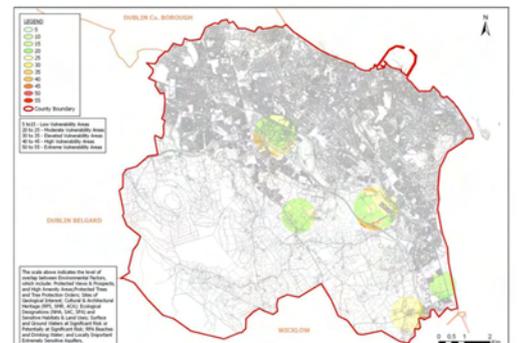


Alternative 2 - Selective Concentrations along Public Transport Corridors

3. GIS software enabled the mapping and quantification of the areas of these scenarios which would be most likely to be impacted upon



Alternative 1 - Market-Led Growth



Alternative 2 - Selective Concentrations along Public Transport Corridors

2.4 Mitigation

2.4.1 Introduction

In order to comply with various statutory requirements and in order to comply with the requirements of the statutory consultees, mitigation measures² were recommended to be integrated into the Plan.

The topics which these mitigation measures cover are as follows:

- Biodiversity and Flora and Fauna
- Water Protection
- Bathing Water
- Waste Water
- Drinking Water
- Flooding
- Cultural Heritage
- Soil and Contamination
- Landscape
- Air and Noise
- Transportation
- Waste Management

The mitigation measures are detailed in Section 9 of the Environmental Report and reproduced on the following pages.

Policy LHB27 integrates these measures 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.

² 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 measures can be roughly divided into those that: prevent effects; reduce the magnitude or extent, probability and/or severity of effect; repair effects after they have occurred, and; compensate for effects, balancing out negative impacts with other positive ones. Where there are likely to be significant negative effects, consideration should be given in the first instance to preventing these effects or, where this is not possible, to reducing the effects.

Mitigation measures
<p>Biodiversity and Flora and Fauna I</p> <p>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) .</p>
<p>Biodiversity and Flora and Fauna II</p> <p>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.</p>
<p>Biodiversity and Flora and Fauna III</p> <p>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.</p>
<p>Biodiversity and Flora and Fauna IV</p> <p>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.</p>
<p>Water Protection I</p> <p>The Council shall address the significant water management issues identified in the Water Matters Consultation publications for the Eastern River Basin District.</p>
<p>Water Protection II</p> <p>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.</p>
<p>Water Protection IV</p> <p>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.</p> <p>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.</p>
<p>Bathing Water I</p> <p>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.</p>
<p>Bathing Water II</p> <p>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:</p> <ul style="list-style-type: none"> • ensure bathing waters achieve “sufficient or better status by 2015”. • increase the number of bathing waters classified as “good or “excellent”.
<p>Waste Water I</p> <p>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.</p>
<p>Waste Water II</p> <p>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).</p>
<p>Waste Water III</p> <p>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.</p>
<p>Drinking Water I</p> <p>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).</p>

Mitigation measures
<p>Drinking Water II</p> <p>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.</p>
<p>Flooding I</p> <p>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.</p> <p>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:</p> <ul style="list-style-type: none"> • 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. <p>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.</p>
<p>Flooding II</p> <p>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.</p>
<p>Flooding III</p> <p>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.</p>
<p>Flooding IV</p> <p>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.</p>
<p>Flooding V</p> <p>It is Council policy to ensure that all development proposals incorporate Sustainable Urban Drainage Systems (SUDS).</p>
<p>Soil and Contamination I</p> <p>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.</p>
<p>Cultural Heritage I</p> <p>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.</p>
<p>Cultural Heritage II</p> <p>It shall be ensured that pre-development archaeological testing, surveying, monitoring and recording are carried out where appropriate.</p>
<p>Cultural Heritage III</p> <p>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.</p>

Mitigation measures
<p>Cultural Heritage IV</p> <p>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.</p>
<p>Cultural Heritage V</p> <p>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.</p>
<p>Landscape</p> <p>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 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.</p>
<p>Air and Noise I</p> <p>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.</p>
<p>Air and Noise II</p> <p>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</p>
<p>Transportation I</p> <p>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.</p>
<p>Waste Management I</p> <p>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.</p>

Section 3 Environmental Report and Submissions & Observations

3.1 Introduction

This section details how both the Environmental Report and submissions and observations made to the planning authority on the Environmental Report and SEA process have been taken into account during the preparation of the Plan.

3.2 SEA Scoping Submissions

The EPA, DEHLG and DCMNR were all sent SEA scoping notices indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the Environmental Report could be made to the Council. SEA scoping submissions were made by the three authorities and these submissions were taken into account during the formulation of the scope of the SEA; 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 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; and,
- The protection of cultural heritage, architectural and archaeological.

3.3 Submissions and Observations on the Draft Plan and Environmental Report

5 submissions were made on the Draft Development Plan and Environmental Report while they were on public display. The submissions were responded to in Addendum I to the Environmental Report with updates made to a number of Sections in the Environmental Report, as appropriate.

The information contained in these submissions was also taken into account by both the Appropriate Assessment and Plan preparation processes.

Submission Number D0797

This submission provided information and advice under the following headings:

- Environmental Problems; and,
- Ongoing Monitoring.

This submission resulted in the updating of Section 3.7.5 of the Environmental Report (*Material Assets; Existing Problems*).

Submission Number D0977

(Eastern Regional Fisheries Board - submitted by the Department of Communications, Energy and Natural Resources)

This Submission provided information and advice under the following headings:

- Determining the likely significant effects;
- Fisheries Status of Surface Waters; and,
- Other Comments.

This Submission resulted in the updating of Section 3 of the Environmental Report (*Environmental Baseline*) in order to take account of information of fisheries included within the submission.

Submission Number D1231
(EPA)

This Submission provided information and advice under the following headings:

- Key Recommendations;
- Water Quality;
- Drinking Water;
- Fisheries;
- Groundwater Protection;
- Function of the Plan;
- Water;
- Biodiversity;
- Other Issues;
- Environmental Report;
- Non-Technical Summary;
- Baseline Environment;
- Assessment of Environmental Effects;
- Mitigation Measures; and,
- Monitoring Measures.

This Submission resulted in the following updates to the Environmental Report:

- The addition of a Preamble to the - which briefly elaborates on the fact that the control and care of the environment falls within the jurisdiction of a very wide range of departments and agencies;
- The updating of the mitigation measure detailed under Section 9.3.15 (*Flooding A*);
- The updating of Section 3 (*Environmental Baseline*) in order to make a specific reference to radon; and,
- The updating of Section 10.6 (Monitoring; Reporting) in order to note that monitoring measures will be reviewed in the future.

Submission Number D1502

This Submission provided information and advice under the following headings:

- Overall Compliance with SEA Directive and Assessment of Environmental Effects;
- Assessment of Provisions of Bullet Point 3 - Overall Strategy;
- Assessment of Specific Aim: Development Areas of Regeneration;
- Assessment of Specific Aim: Land Use Zoning Objectives;

- Assessment of Proposed Local Area Plans;
- Assessment of Sallynoggin Urban Framework Plan;
- Assessment of Dún Laoghaire Urban Framework Plan;
- Assessment of Housing Strategy;
- Assessment of Certain Plan Provisions I; and,
- Assessment of Certain Plan Provisions II.

This Submission resulted in updating Section 8 (*Evaluation of Plan Policies and Objectives*) of the Environmental Report in order to take account of the provisions of the Dún Laoghaire Urban Framework Plan set out in Section 4 of the draft County Development Plan.

Submission Number D1661
(DEHLG)

This Submission provided information and advice under the following headings:

- Appropriate Assessment;
- Archaeological Heritage;
- Section 16.7.1 of Draft Plan;
- Section 3.2.1 of Environmental Report;
- SEOs, Indicators and Targets;
- Evaluation of Policy T12;
- Evaluation of Other Policies; and,
- Section 8 of Environmental Report.

This Submission resulted in updating Section 3.2.1 (*Overview of Habitats*) of the Environmental Report in order to take account of the DEHLG's comments with regard to coastal habitats and updating Section 8 (*Evaluation of Plan Policies and Objectives*) of the Environmental Report in order to take account of certain provisions of the draft Plan which could - if not mitigated - conflict with Strategic Environmental Objectives relating to biodiversity and flora and fauna.

3.4 Submissions and Observations on the Proposed Amendments and Addendum II to the Environmental Report

4 submissions were made on the Proposed Amendments to the Draft Development Plan and Addendum II to the Environmental Report while they were on public display. The submissions were responded to in Addendum III to the Environmental Report with updates made to a number of Sections in the Environmental Report, as appropriate.

The information contained in these submissions was also taken into account by both the Appropriate Assessment and Plan preparation processes.

Submission Number F0301 (DEHLG)

This submission provided information and advice under headings including the following:

- Flood Risk Management;
- Wastewater Treatment and Disposal Systems for Single Houses;
- Appropriate Assessment; and,
- Nature Conservation.

This submission did not result in the updating of the Environmental Report (however it did result in the updating of the Appropriate Assessment which was undertaken alongside the SEA for the Plan).

Submission Number F0091 (EPA)

This submission provided information and advice under the following headings:

- Overview Letter;
- Building Heights Strategy;
- Appropriate Assessment;
- Updated Reports/Publications;
- Notes regarding Infrastructure Planning, Legislative Obligations and SEA Statement;

- Detailed Comments (presented in 19 page attachment)³.

This Submission resulted in updating various references to EPA Reports found in a number of Sections of the Environmental Report (the submission also resulted in the updating of the Appropriate Assessment which was undertaken alongside the SEA for the Plan).

Submission Number F0298

This submission provided information and advice under the following headings:

- Summary
- Submissions made on the Environmental Report and draft Plan
- Consideration of earlier submission
- Various Provisions of SEA Directive
- Alternatives for the County Development Plan
- Consideration and Reference to the Environmental Report
- Record of Protected Structures
- Archaeological Data
- Appropriate Assessment Data and SEA Data
- SEA Methodology
- Building Heights Strategy
- Appropriate Assessment (AA)
- Protection of the Environment by draft Plan Measures
- Dún Laoghaire Urban Framework Plan
- Housing Strategy
- Waste Water
- Insertion of Text Box in Section 6.2.1
- Cherrywood
- Sutton to Sandycove Cycleway
- Local Area Plans
- Proposed Amendments
- Compliance with SEA Directive

This submission did not result in the updating of the Environmental Report.

³ This attachment was the same document that was attached to the EPA submission which was responded to in Addendum I to the Environmental Report.

Submission Number F0139
(Water Services Department)

This submission provided information and advice under headings including the following:

- Zoning
- Flood Prevention Measures

This submission did not result in the updating of the Environmental Report.

circulated to the Elected Members in February 2010.

On adoption of the Draft Plan, Addenda I, II and III were used to update the original Environmental Report into a final Environmental Report.

At each stage of the process the Elected Members took into account the findings of the Environmental Report and/or the Addenda as appropriate.

3.5 Environmental Report

The findings of the SEA were expressed in a Draft Environmental Report which was submitted to the Elected Members alongside the proposed Draft Plan. The purpose of the report was to provide a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of growth in Dún Laoghaire-Rathdown.

Changes made to the proposed Draft Plan were evaluated for their environmental consequences and the Draft Environmental Report was updated to become the Environmental Report.

The Environmental Report and the Draft Plan were placed on public display in April 2009.

Addendum I to the Environmental Report (which details responses to the submissions on the Environmental Report which were made during the first period of public display of the Draft Plan and the Environmental Report and details updates to the Environmental Report, as appropriate) accompanied the Manager's Report circulated to Elected Members in September 2009.

Proposed Amendments to the Draft Plan were evaluated for their environmental consequences and these were presented to the Elected Members and placed on public display alongside the Proposed Amendments in December 2009 the form of Addendum II to the Environmental Report.

Addendum III to the Environmental Report responded to submissions on the Environmental Report which were made during the period of public display of the Proposed Amendments and Addendum II to the Environmental Report. This Addendum accompanied the Manager's Report

Section 4 Alternatives and the Plan

4.1 Introduction

This section describes the alternative scenarios for the Development Plan, summarises the evaluation for likely environmental effects which is provided in the Environmental Report and identifies the reasons for choosing the Plan, as adopted, in the light of the other reasonable alternatives dealt with.

4.2 Description of the Alternative Scenarios

The environmental consequences of 3 scenarios for the Plan were examined.

4.2.1 Alternative Scenario 1: *Market-Led Growth*

Alternative Scenario 1: *Market-led Approach* (see Figure 4.1) 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.

4.2.2 Alternative Scenario 2: **Selective Concentrations along Public Transport Corridors**

In Alternative Scenario 2: *Structured Development Strategy* (see Figure 4.2) 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.

4.2.3 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.

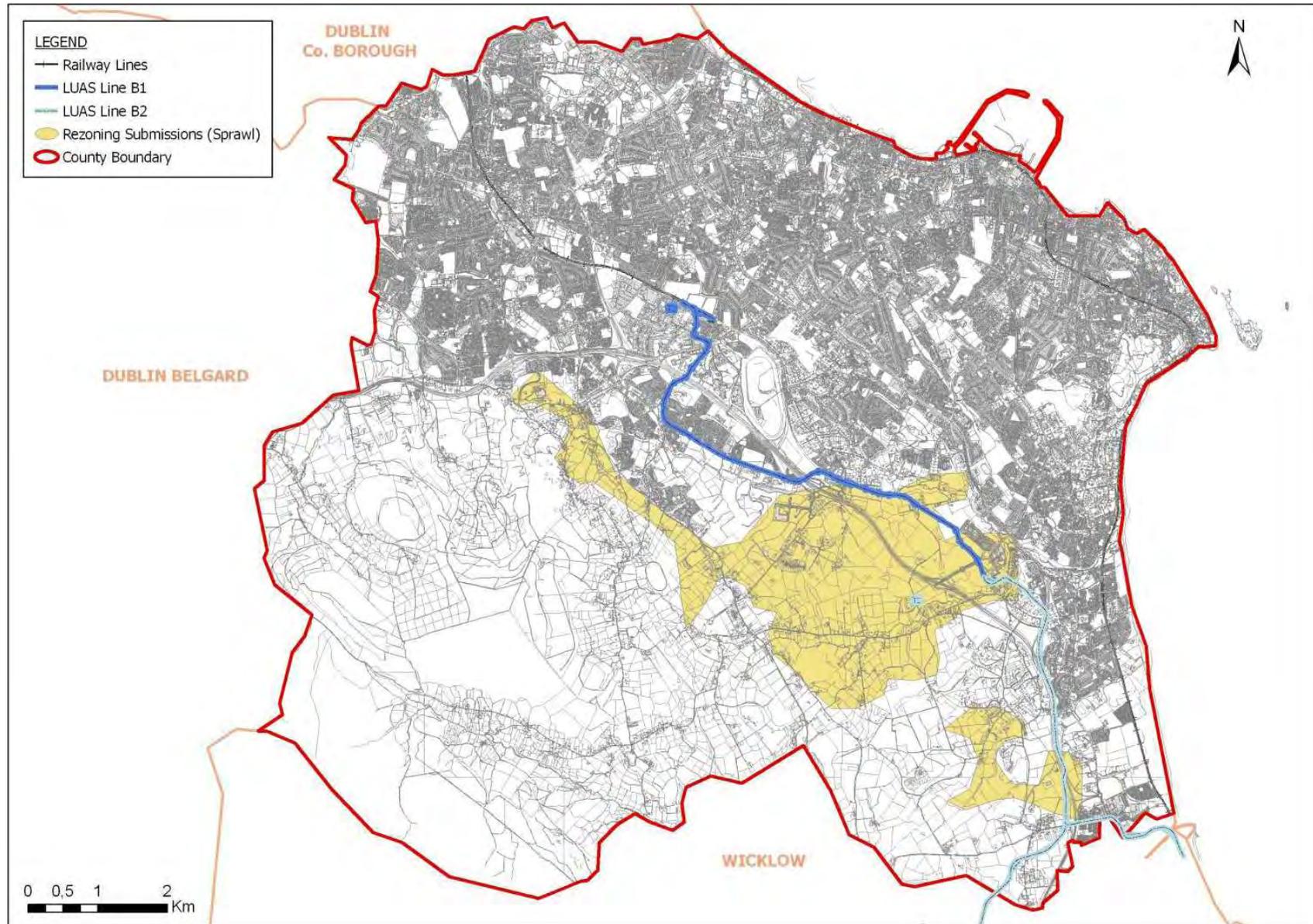


Figure 4.1 Alternative Scenario 1 - *Market-Led Growth*

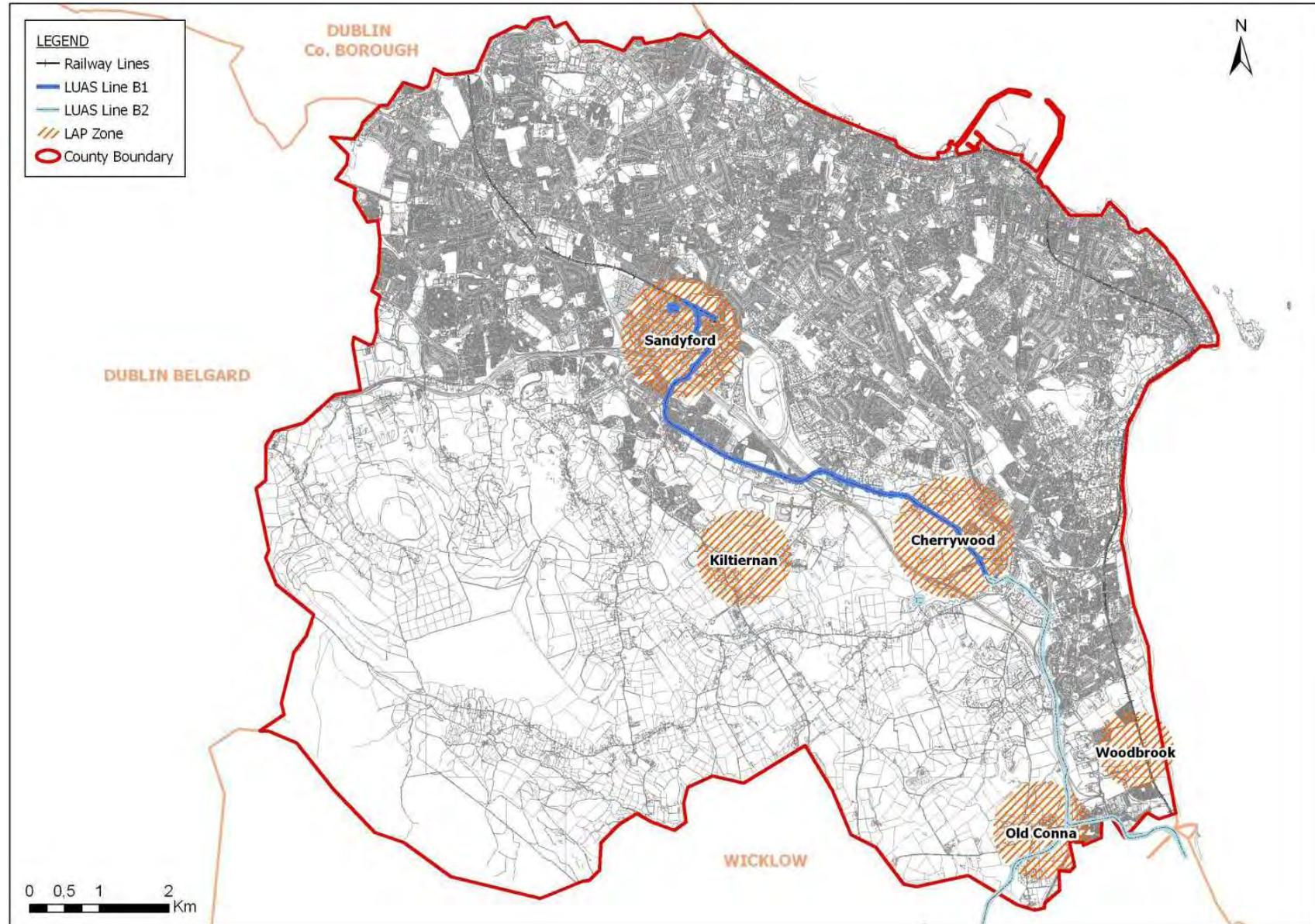


Figure 4.2 Alternative Scenario 2 - *Selective Concentrations along Public Transport Corridors*

4.3 Evaluation of the Alternative Scenarios

4.3.1 Methodology

4.3.1.1 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 2.5) was used for this purpose.

4.3.1.2 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 included in the Environmental Report, including the maps which spatially represent components of the environmental baseline, a number of which are shown on Figures 2.1 to 2.4 of this SEA Statement.

4.3.1.3 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 above. The alternatives are evaluated using compatibility criteria (see Table 4.1) in order to determine how they are likely to affect the status of these SEOs.

Table 4.2 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 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
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Table 4.1 Criteria for appraising the effect of Plan provisions on Strategic Environmental Objectives

SEO Code	SEO
B1	To avoid loss of relevant habitats, geological features, species or their sustaining resources in designated ecological sites
B2	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
B3	To sustain, enhance or - where relevant - prevent the loss of ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity
HH1	To protect human health from hazards or nuisances arising from exposure to incompatible landuses
S1	Maximise the sustainable re-use of brownfield lands, and maximise the use of the existing built environment rather than developing greenfield lands
W1	To maintain and improve, where possible, the quality of rivers
W2	To maintain and improve, where possible, the quality of transitional and coastal waters and to prevent pollution and contamination of bathing water
W3	To prevent pollution and contamination of ground water
W4	To prevent development on lands which pose - or are likely to pose in the future - a significant flood risk
C1	To minimise increases in travel related greenhouse emissions to air
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
M1	To serve new development with appropriate waste water treatment
CH1	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
CH2	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
L1	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 4.2 Strategic Environmental Objectives (SEOs)⁴

⁴ 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.

4.3.2 Evaluation against Overlay Mapping

Vulnerability Area	Area (km ²)	% 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 4.3 Quantification of Environmentally Vulnerable Areas most likely to be affected by Alternative Scenario 1

Vulnerability Area	Area (km ²)	% 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 4.4 Quantification of Environmentally Vulnerable Areas most likely to be affected by Alternative Scenario 2

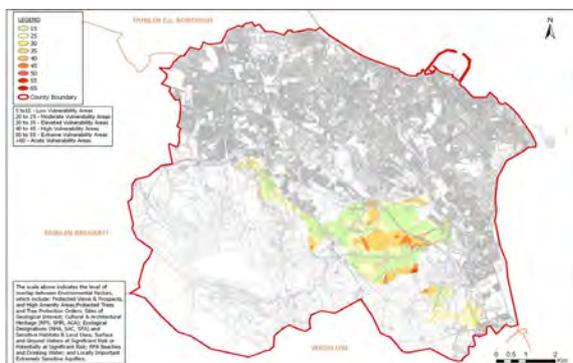
Tables 7.3 and 7.4 quantify the vulnerability areas which are likely to be impacted upon by the areas of Scenarios 1 and 2 which are most likely to come under urban pressure. These areas were mapped (see Figures 7.1 and 7.2) and calculated using GIS software.

The measurements indicate that:

- Scenario 1 would be likely to impact upon a significantly greater extent of vulnerable areas (12.10 km²) than Scenario 2 (8.57 km²);
- 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.

4.3.3 Evaluation against Environmental Baseline⁵

4.3.3.1 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.

4.3.3.2 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 consumption⁶. The National Routes would be compromised by becoming increasingly congested. The cumulative impact of development would impact adversely on the natural environment.

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

⁵ 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 4.5.

⁶ SEOs C1 and C2

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.

4.3.3.3 Environmental Effects

A. Water

This scenario poses particular challenges for water quality⁷.

- 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 county⁸.

It will give rise to un-coordinated development that occurs across the two *Major Ecological Corridors*⁹ within the County.

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

⁷ SEOs W1, W2, W3 and M1

⁸ SEOs B1, B2 and B3

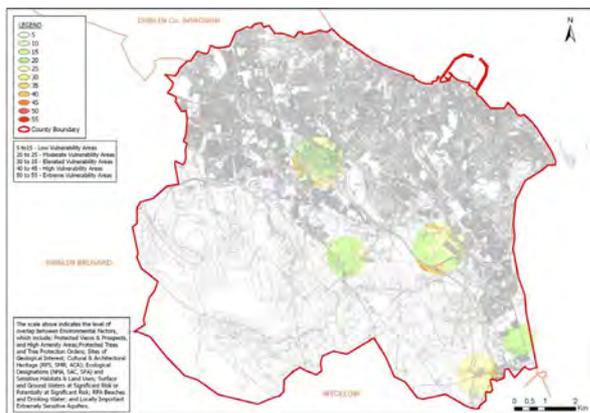
⁹ As identified at Appendix 10 of the Dun Laoghaire Rathdown County Council; *Biodiversity Study* Jan 2008]

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 County¹⁰.

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 structures¹¹.

4.3.3.4 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.

4.3.3.5 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 horizons¹². The rural environment will be protected as a resource, while the rural economy will be supported through diversification.

¹⁰ SEO L1
¹¹ SEO CH2
¹² SEOs C1, C2 and M1

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.

4.3.3.6 Environmental Effects

A. Water

This has a positive effect on water in the following ways¹³:-

- 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 ecology¹⁴.

- 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 corridors¹⁵ in the detail of LAPs for Cherrywood, Kiltiernan, Old Conna and Woodbrook.

¹³ SEOs W1, W2, W3 and M1

¹⁴ SEOs B1, B2 and B3

¹⁵ As identified at Appendix 10 of the Dun Laoghaire Rathdown County Council; *Biodiversity Study* Jan 2008]

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.

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 location¹⁶.

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 transport¹⁷. 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]¹⁸, energy uses¹⁹ 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 infrastructure²⁰.

E. Cultural Heritage²¹

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.

¹⁶ SEO L1

¹⁷ SEOs C1 and C2

¹⁸ SEOs W1, W3, W4, C1 and HH1

¹⁹ SEOs C1 and C2

²⁰ SEOs B3, CH1, CH2 and L1

²¹ SEOs CH1 and CH2

4.3.3.7 Evaluation of Alternative Scenario 3: *Minimalist Approach*

4.3.3.8 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 dispersal²².

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 usage²³.

4.3.3.9 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 effluent²⁴ 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, extensive, indirect adverse effects on water quality²⁵.

B. Ecology

A cessation or significant slowing of development will reduce the extent, magnitude

²² SEOs W1, W3, M1, C1 and C2

²³ SEOs C1 and C2

²⁴ SEO M1

²⁵ SEOs W1, W2 and W3

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 benefit²⁶.

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 benefit²⁷.

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 services²⁸. 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 utilisation and noise. This is likely to give rise to extensive, indirect adverse effects on traffic²⁹.

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 benefit³⁰.

²⁶ SEOs B1, B2 and B3

²⁷ SEO L1

²⁸ SEOs C1 and C2

²⁹ SEOs C1 and C2

³⁰ SEOs CH1 and CH2

4.3.4 Evaluation against SEOs

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs - would be mitigated	Uncertain interaction with status of SEOs	Neutral Interaction with status of SEOs	No Likely interaction with status of SEOs
Alternative Scenario 1 <i>Market-Led Growth</i>		B3 HH1 S1 W1 W2 W3 W4 C1 C2 M1 CH2 L1	B1 B2 CH1			
Alternative Scenario 2 <i>Selective Concentrations along Public Transport Corridors</i>	CH2 (as a result of avoiding the most sensitive areas) B1 B2 B3 (as a result of avoiding development in sensitive areas) C1 C2 W1 W2 W3 HH1 M1	CH2 (as a result of residual impact in Old Conna)	L1 S1 W4 CH1 B3 (Localised, as a result of greenfield development)			
Alternative Scenario 3 <i>Minimalist Approach</i>	B1 B2 B3 S1 L1 W4 CH1 CH2 C1 C2 (Reduction in traffic generation in Plan area) W1 W2 W3 (Direct Localised effects)	C1 C2 C1 C2 (Generation of growth outside of Plan area with no accompanying public transport infrastructure) W1 W2 W3 M1 HH1 (due to retarding the attainment of satisfactory discharge levels over a wide area)				

Table 4.5 Evaluation of Alternative Scenarios against SEOs

Table 4.5 summarises the evaluation of Alternative Scenarios 1, 2 and 3 against the Strategic Environmental Objectives (SEOs).

4.4 Conclusions; Reasons for choosing the plan in light of the other reasonable alternatives dealt with

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 2.4 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.

Section 5 Monitoring Measures

5.1 Introduction

The SEA Directive requires that the likely significant environmental effects of the implementation of plans and programmes are monitored. This Section and Section 10 of the Environmental Report contain 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 Plan is achieving its environmental objectives and targets - measures which the Plan can help work towards - whether these need to be reexamined and whether the proposed mitigation measures are being implemented.

5.2 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.

Table 5.1 shows the indicators and targets which have been selected with regard to the monitoring of the plan.

5.3 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.

5.4 Excluded Indicators and Targets

As noted in Table 5.1, 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.

5.5 Reporting

A preliminary monitoring evaluation report on the effects of implementing the Plan will be prepared to coincide with the Manager's report to the elected members on the progress achieved in securing Plan 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.

5.6 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.

5.7 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
Biodiversity, Flora and Fauna	<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 & Development Management Process in Dún Laoghaire-Rathdown County Council</p> <p>Development Management Process in Dún Laoghaire-Rathdown County Council & Consultation with the National Parks and Wildlife Service</p> <p>CORINE mapping and possibly new habitat mapping for the County</p>
Population and Human Health	<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>
Soil	<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>Water</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 5.3.3, 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
Air and Climatic Factors	<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>
Material Assets	<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>
Cultural Heritage	<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
Landscape	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 5.1 Selected Indicators, Targets and Monitoring Sources