

SEA STATEMENT

OF THE

WICKLOW ENVIRONS AND RATHNEW LOCAL AREA PLAN 2008-2014

STRATEGIC ENVIRONMENTAL ASSESSMENT



For: Wicklow County Council

Áras an Chontae
Cill Mhantáin



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Table of Contents

Section 1	Introduction	1
1.1	Terms of Reference	1
1.2	SEA Definition	1
1.3	Legislative Context.....	1
1.4	Content of the SEA Statement	1
1.5	Implications of SEA for the Plan	1
Section 2	How Environmental Considerations were integrated into the Plan.....	3
2.1	Consultations	3
2.2	Early Communication of Environmental Sensitivities	3
2.3	Early Identification and Evaluation of Alternatives.....	3
2.4	Mitigation.....	4
2.5	The Draft Plan and Amendments.....	4
Section 3	Environmental Report and Submissions & Observations.....	9
3.1	Introduction	9
3.2	SEA Scoping Consultations	9
3.3	Submissions and observations	9
3.4	Environmental Report	10
Section 4	Alternatives and the Plan	11
4.1	Introduction	11
4.2	Description of Alternatives.....	11
4.3	Evaluation of Alternatives	14
Section 5	Monitoring	26
5.1	Introduction	26
5.2	Indicators and Targets	26
5.3	Sources	26
5.4	Reporting.....	26
5.5	Responsibility	26
5.6	Thresholds	27

Section 1 Introduction

1.1 Terms of Reference

This is the SEA Statement of the Wicklow Environs and Rathnew Local Area Plan (LAP) 2008-2014 Strategic Environmental Assessment (SEA).

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*

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 Draft Plan and Environmental Report, and
 - any transboundary consultations [these are not relevant to the Wicklow Environs and Rathnew Local Area Plan]
- 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 Wicklow Environs and Rathnew Local Area Plan 2008-2014 was required to undergo SEA.

The findings of SEA were expressed in an Environmental Report which was submitted to the Elected Members alongside the 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 Wicklow Environs and Rathnew.

(2001/42/EC): *Guidelines for Regional Authorities and Planning Authorities* Dublin: Government of Ireland.

Amendments made to the Draft Plan at each stage of the process were evaluated for their environmental consequences and these were presented to the Elected Members in the form of Addenda. On adoption of the Draft Plan, these Addenda were used to update the original Environmental Report into a final Environmental Report which accompanies the adopted Plan.

At each stage of the process the Elected Members were required by the legislation to take into account the Environmental Report - including the Addenda - before the adoption of the plan.

Section 2 How Environmental Considerations were integrated into the Plan

2.1 Consultations

SEA scoping consultations with the competent environmental authorities - the Environmental Protection Agency, the Department of the Environment, Heritage and Local Government and the Department of Communications, Marine and Natural Resources - informed the type of environmental issues which were chosen to be dealt with by the SEA as well as the level of detail with which these issues were addressed.

Further information on how the outputs of scoping consultations informed the process is provided under Section 3.2.

2.2 Early Communication of Environmental Sensitivities

2.2.1.1 Introduction

Significant 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 Wicklow Environs and Rathnew would be most sensitive to development and would suffer the most adverse effects if growth was to be accommodated in those areas.

The sensitivities were communicated to the Plan-making team on a regular basis from the outset of the Plan preparation process. By identifying areas with the most limited carrying capacity in the Plan area the making of recommendations to divert growth away from these areas was facilitated.

A number of sensitivities in Wicklow Environs and Rathnew which were identified and communicated to the Plan making team are shown on Figure 2.1.

2.2.1.2 GIS Mapping including Overlay mapping

A Geographical Information System (GIS) was used in order to map the sensitivities identified above. The GIS allowed for each of these sensitivities to be weighted and mapped overlapping each other in order to identify where most sensitivities in the Plan area occur. Figure 2.2 shows one of these overlays for the Plan area.

Environmental sensitivities are indicated by colours which range from extreme vulnerability (red) to high vulnerability (orange) to moderate vulnerability (yellow) to 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 housing developments, gradually causes a slow deterioration of a resource, such as water quality. Providing this information to the Plan-making team enabled the integration of environmental considerations into the Plan.

2.3 Early Identification and Evaluation of Alternatives

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

Communication of this evaluation enabled the Plan-making team to make an informed choice as to which alternative to put before the Elected Members as the Draft Local Area Plan.

Communication of this evaluation to the Elected Members through the Environmental Report enabled the Elected Members to make an informed choice with regard to the adoption of the Local Area Plan.

GIS software enabled the mapping of the areas of each scenario which would be most likely to be impacted upon.

2.4 Mitigation

Environmental considerations have also been integrated into the adopted Plan through a number of mitigation measures² which were recommended to be integrated in the Plan both through communication with the plan-makers and within the Environmental Report.

Measures recommended by the Environmental Report and are shown on Table 2.1.

- All mitigation measures have been integrated into the Plan by Objectives HER2 and SS5.

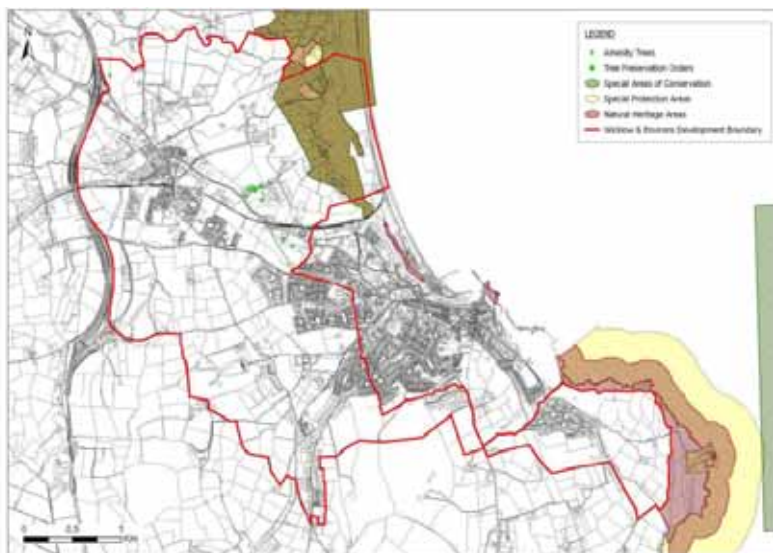
2.5 The Draft Plan and Amendments

The Draft LAP that emerged from the Plan preparation process and Amendments to this Draft Plan were each placed on public display for various periods of time during which submissions and observations were invited.

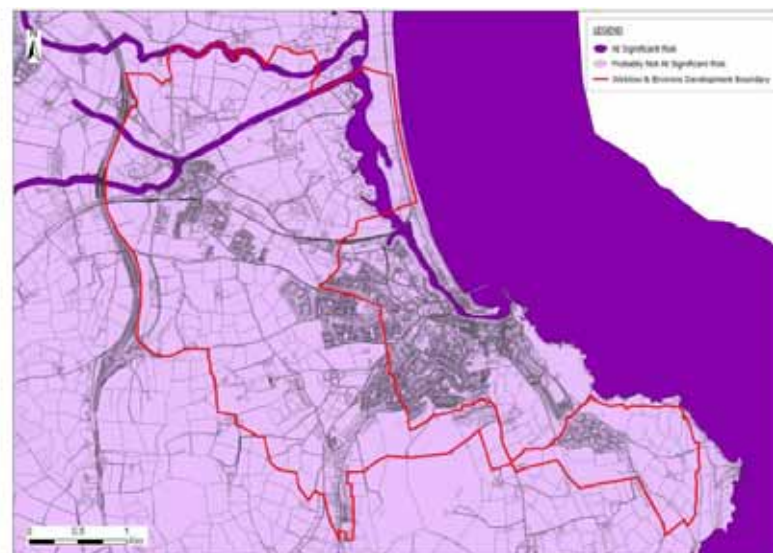
At the end of each of these periods a report was prepared by the Manager proposing changes which arose from certain submissions and observations made during the relevant display period to, where relevant, the Draft Plan or the Amendments.

On each of these occasions, in order to enable the Elected Members make an informed decision an Addendum to the Environmental Report detailing the environmental consequences of changes to the Draft Plan or Amendments contained in the Manager's Report accompanied the Manager's Report.

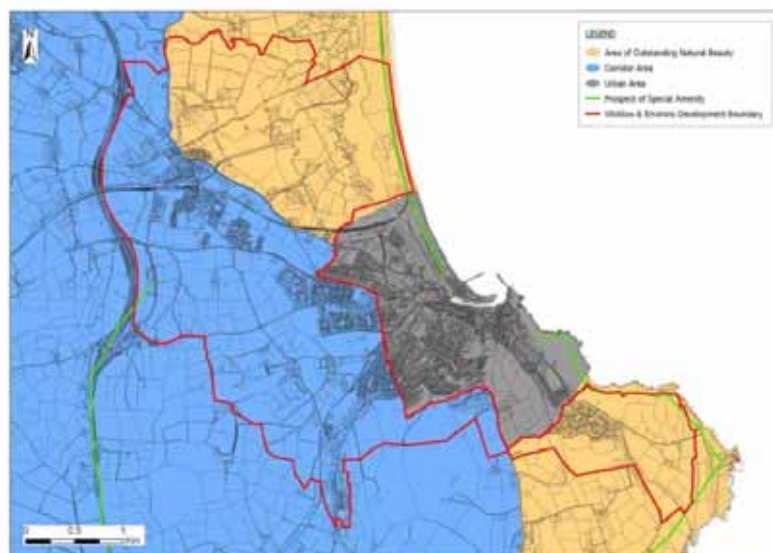
² Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing a human action, be it a plan, programme or project. Mitigation measures can be roughly divided into those that: prevent effects; reduce 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.



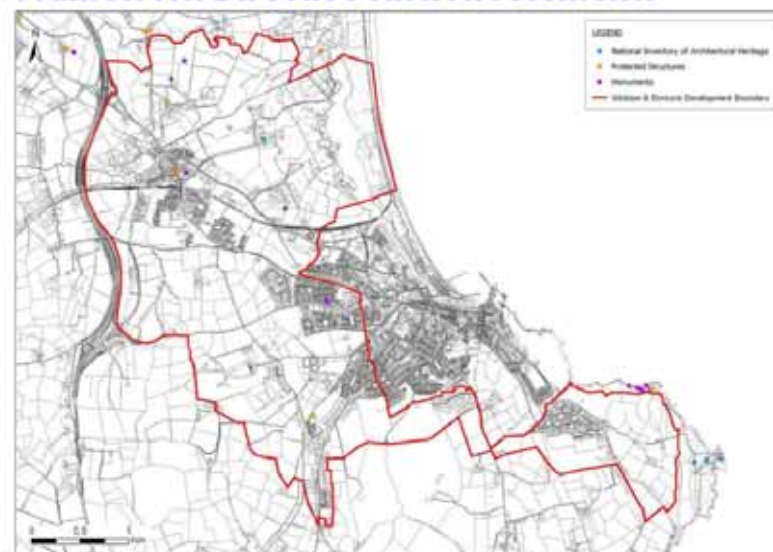
Designated Ecological Sites



River, Ground, Transitional and Coastal Water Framework Directive Risk Assessments



Landscape Characterisation and Prospects of Special Amenity



National Monuments and Protected Structures

Figure 2.1 Environmental Sensitivities

Maps of sensitivities were weighted and mapped overlapping each other in order to identify where most sensitivities within and surrounding the Plan area occur

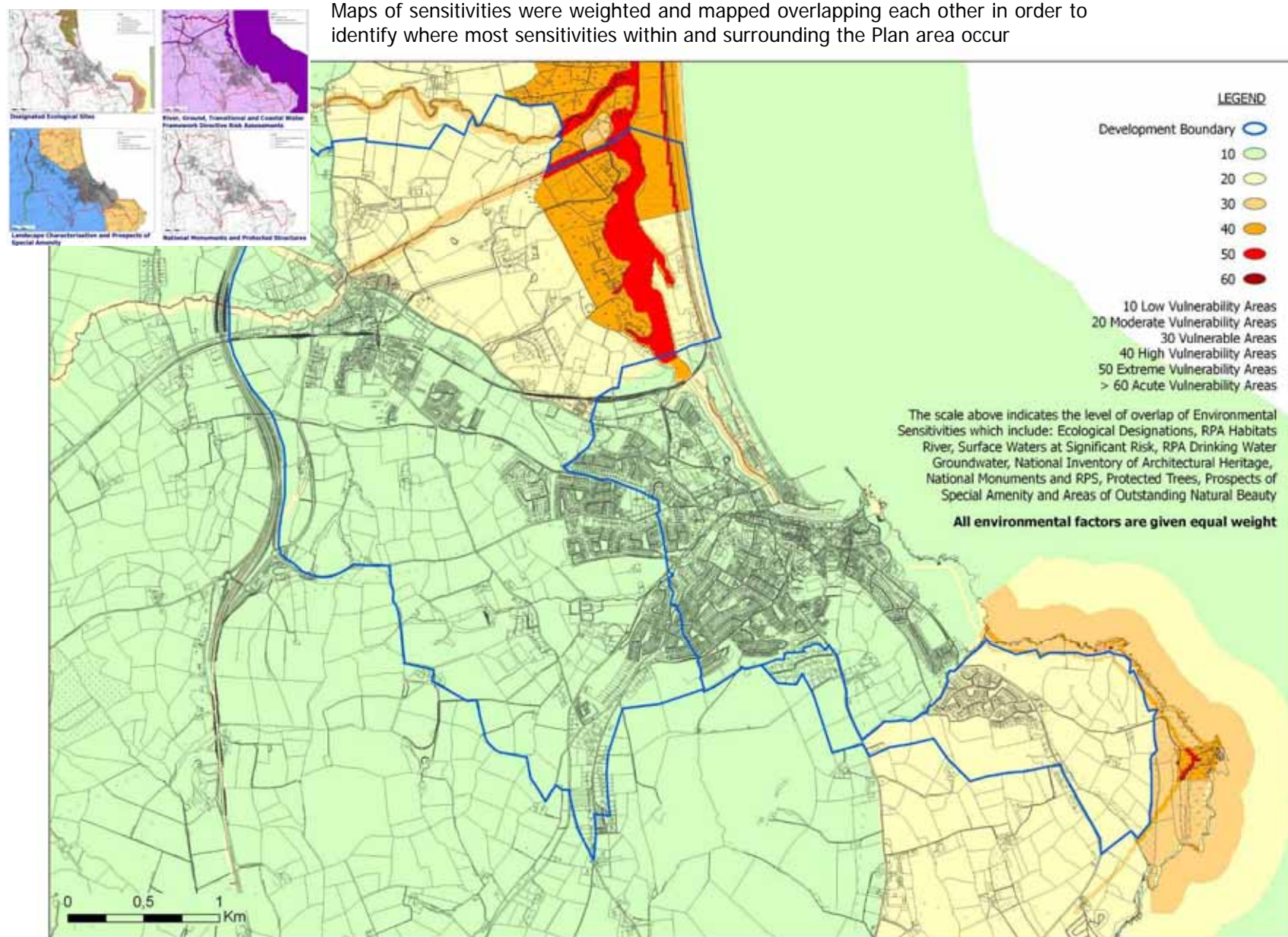


Figure 2.2 Overlay of Environmental Sensitivities

Reference	Recommendation
MM1: Designated Ecological Sites	<p>Planning applications where part or all of the subject site lies within a zone that extends from the boundary of any designated ecological site to the next field boundary or to a distance of 50 metres, whichever is closer, must be accompanied by an eco-hydrological assessment. This must comply with Section 18 of the European Communities (Natural Habitats) Regulations 1997 and identify and evaluate the direct and indirect effects which the development would be likely to have upon the designated site, ecological connectivity and drainage. Such planning applications must also be accompanied by evidence of consultation between the applicant and the National Parks and Wildlife Service about the assessment.</p> <p>The need for eco-hydrological assessments for planning applications outside this zone shall be decided upon on a site by site basis depending on local ecological and drainage conditions and other factors as appropriate. In such cases the applicant should consult with Wicklow County Council's Planning Department about the need for such an assessment.</p>
MM2: Watercourses	<p>Planning applications within a horizontal distance of 10 m from the banks of rivers and streams must demonstrate that any development would not impact upon the aquatic biodiversity of the streams and rivers or the habitats which sustain them.</p> <p>The development of greenway linkages at certain locations - including along the Rathnew River and along the stream in the vicinity of the Marlon Reservoir - should be examined with the objective of facilitating non-motorised transport modes.</p>
MM3: Ecological Networks	<p>Planning applications must: identify all ecological corridors (including hedgerows and masonry stone walls), likely to be significantly affected, which are present on the relevant lands; identify any losses to these corridors which would result if the application in question was granted and; show that such losses would be fully offset if the application was to be granted through the replacement of the relevant corridors, with corridors composed of similar species or materials, before any losses to the existing corridors occur.</p> <p>Where such opportunity exists between high value biodiversity areas applicants should be encouraged to enhance existing networks or create new networks between local biodiversity areas.</p>
MM4: Water Quality Protection	<p>In order for permission to be granted to new developments, there must be sufficient capacity available to appropriately treat the waste water resulting from such developments.</p> <p>New development must be served by either:</p> <p>a. Providing new capacity for public waste water treatment either through the provision of a new public waste water treatment plant or through allocation of additional capacity to a existing waste water treatment plant(s) and extending the existing public waste water treatment catchment to serve developments within the plan area</p> <p>Or:</p> <p>b. Treating waste water through the use individual waste water treatment systems, such as septic tanks.</p> <p>If development is served by 'b' then the conditions outlined in the EPA's (2000) 'Wastewater Treatment Manuals Treatment Systems for Single Houses' (as updated by upcoming revisions) shall be complied with, and:</p> <p>(i) Planning applications must demonstrate that discharges to waters resulting from the granting of the application will comply with standards established under the relevant River Basin Management Plan or interim recognized standards pending adoption of the relevant River Basin Management Plan</p> <p>(ii) Applicants must submit a site suitability report alongside the planning application which outlines the likely effects on water quality which will be caused as a result of use of the relevant single waste water treatment system on site. This report shall be carried out by an appropriately qualified person. The appropriateness of the qualifications of such a person will be decided by the Planning Authority.</p> <p>(iii) The applicant, if successful with the relevant application, shall submit certification from an appropriately qualified person stating that the treatment system and associated percolation / filter area have been installed in accordance with the requirements of the EPA's (2000) 'Wastewater Treatment Manuals - Treatment Systems for Single Houses' (as updated by upcoming revisions). The applicant shall also submit agreement to maintain the complete system in accordance with the manufacturer's maintenance recommendations, for the lifetime of the system.</p> <p>Note: If capacity in a public waste water treatment scheme is not made available to all development within the plan area in the long term then existing septic tanks, percolation areas and proprietary effluent systems may require to be upgraded in the long term in line with the conditions specified above and a monitoring system set up to the same effect.</p>

Reference	Recommendation
MM5: River Basin District Management Plan	When published, the relevant policies and objectives of the Eastern River Basin Management Plan should be integrated into the Local Area Plan through amendment or otherwise.
MM6: Archaeological Heritage	Planning applications within or adjacent to a buffer zone of 30m from a Site on the Sites and Monument Register must be accompanied by: an archaeological assessment detailing the impacts which the relevant development would have on archaeology in the area, including those impacts relating to the context of archaeology in the surrounding landscape.
MM7: Architectural Heritage	Planning applications within the Local Area Plan area may be required to be accompanied by an assessment to be undertaken by a certified conservation architect detailing the impacts of the relevant development upon the special interest and character of the surrounding architectural heritage. The planning authority should be consulted at an early stage in this regard in order to determine whether there is a need for such an assessment.
MM8: Landscape	Planning Applications that have the potential to impinge upon the integrity of significant landscape resources may be required to be accompanied by an assessment of the potential landscape and visual impacts of the proposed development - demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape.
MM9: Designated Ecological Sites II	No projects giving rise to significant adverse direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans or projects) ³ .

Table 2.1 Mitigation Measures from Environmental Report

³ 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.

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 Consultations

Strategic Environmental Assessment scoping letters were sent to the Department of the Environment, Heritage and Local Government (DEHLG), Department of Communications, Marine and Natural Resources (DCMNR) and Environmental Protection Agency (EPA).

The responses to these letters were taken into account during the carrying out of the Strategic Environmental Assessment.

The Responses were as follows:

- Written response dated 15 October 2007 received from DEHLG covering the following topics:
 1. Archaeological heritage legislation and international strategic actions to which the SEA must have regard;
 2. Development issues with regard to archaeological heritage;
 3. Assessment of the impact of the LAP on archaeological heritage;
 4. Appropriate Assessment Requirements under the Habitats Directive;
 5. Assessment of the impact of the LAP on biodiversity and flora and fauna;
 6. Policy relating to the removal of hedgerows and trees; and,
 7. Protection of badger's, bats and wetlands under the Wildlife Acts and Habitats Directive.

- Written response dated 17 October 2007 received from DEHLG covering the following topics:

1. Planning and Development Act 2000 requirements with regard to Local Area Plans and architectural heritage;
2. Recommendation to investigate architectural heritage within Plan area as part of the Plan preparation process;
3. Architectural heritage recommendations for the protection and conservation of architectural heritage;
4. How to define architectural heritage;
5. The level of detail at which architectural heritage should be considered;
6. Data gaps with regard to architectural heritage;
7. How to deal with the 'do-nothing' scenario and monitoring; and,
8. Monitoring and Cumulative Effects.

3.3 Submissions and observations

3.3.1 Department of Environment, Heritage and Local Government

The only submission on the Environmental Report was received from the Department of Environment, Heritage and Local Government (DEHLG) dated 27 February 2008.

The Department considered the report satisfactory with regard to archaeological heritage.

With regard to potential impacts upon Natura 2000 sites, the Department outlined requirements with regard Appropriate Assessment under the Habitats Directive.

Revisions to designated ecological site boundaries were noted.

3.3.2 Response to the submission

1. An appropriate assessment screening report was prepared and this accompanies the adopted Local Area Plan.
2. The following mitigation measure was prepared for the revised environmental report and integrated into the Local Area Plan.

MM9: Designated Ecological Sites II

No projects giving rise to significant adverse direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans or projects)⁴.

3. Arising from the inclusion of the above mitigation measure certain parts of the assessment included in the Environmental Report were required to be updated.

Environmental Report into a final Environmental Report which accompanies the adopted Plan.

These amendments included alterations of, additions to and removal of Draft Plan provisions.

At each stage of the process the Elected Members were required by the legislation to take into account the Environmental Report - including the Addenda - before the adoption of the Plan.

3.4 Environmental Report

The findings of SEA were expressed in an Environmental Report which was submitted to the Elected Members alongside the 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 Wicklow Environs and Rathnew.

Amendments made to the Draft Plan at each stage of the process were evaluated for their environmental consequences and these were presented to the Elected Members in the form of Addenda. On adoption of the Draft Plan, these Addenda were used to update the original

⁴ 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.

Section 4 Alternatives and the Plan

4.1 Introduction

This section details the alternatives which were identified and evaluated for likely environmental and planning effects as part of the SEA process for the Wicklow Environs and Rathnew Local Area Plan.

4.2 Description of Alternatives

4.2.1 Scenario 1 *Minimal Development Envelope*

Characteristics of this Scenario (see Figure 4.1) include extensive transitional zones between developed areas and open countryside formed by areas zoned for various categories of open space and amenities. In particular it provides a very significant and proactive protection for the rising lands to the south of the town that are visually conspicuous as well to the equally conspicuous western shore of Broad Lough. Development west of the town is largely contained - both visually and physically - between the Motorway and the rising ground around Tinahilly house.

4.2.2 Scenario 2 *Moderate Development Envelope*

Characteristics of this Scenario (see Figure 4.2) are similar to Scenario 1 with the following exceptions that have environmental consequences: the employment area impinges further northward along the natural habitats of the Murrough⁵; there is no protection afforded to the rising ground to the south of the town; there is less open space around the perimeter of the town; housing begins to encroach closer to the southern boundaries of the Broad Lough⁶, and; development along the northern boundary has no zoned transition between development land and unzoned agricultural lands.

This scenario would include the following Local Objectives:

⁵ The Murrough SPA 004186; The Murrough NHA 000730; The Murrough Wetlands cSAC 002249

⁶ Ibid.

- Local Objective 1: Planning applications on this site must be accompanied by an eco-hydrological assessment. This must comply with Section 18 of the European Communities (Natural Habitats) Regulations 1997 and identify and evaluate the direct and indirect effects which the development would be likely to have upon the designated site, ecological connectivity and drainage. Such planning applications must also be accompanied by evidence of consultation between the applicant and the National Parks and Wildlife Service about the assessment.
- Local Objective 3: to provide for the development of greenway linkages with the objective of facilitating non-motorised transport modes.

4.2.3 Scenario 3 *Maximum Development Envelope*

This Scenario (see Figure 4.3) represents a further intensification of the developments and associated impacts noted in Scenario 3. This Scenario envisages no transition between any zoned land and the unzoned rural areas. It proposes visually conspicuous development on rising lands in many locations – most notably south of the town, along the shore of Broad Lough, and on rising ground to the south-west of the town. It will significantly and adversely affect habitats and ecological process on wetland to the north of the town as well as along the western shore of Broad Lough and along the Murrough itself. It extends development beyond the boundary of the motorway and will lead to unsustainable patterns of local and personal mobility. The proposed area of high density Residential development will be inherently visually conspicuous on account of the existing topography.

This scenario would include the following Local Objectives:

- Local Objective 2: to provide for a major out of town shopping centre
- Local Objective 3: to provide for medium density housing with views of the Murrough

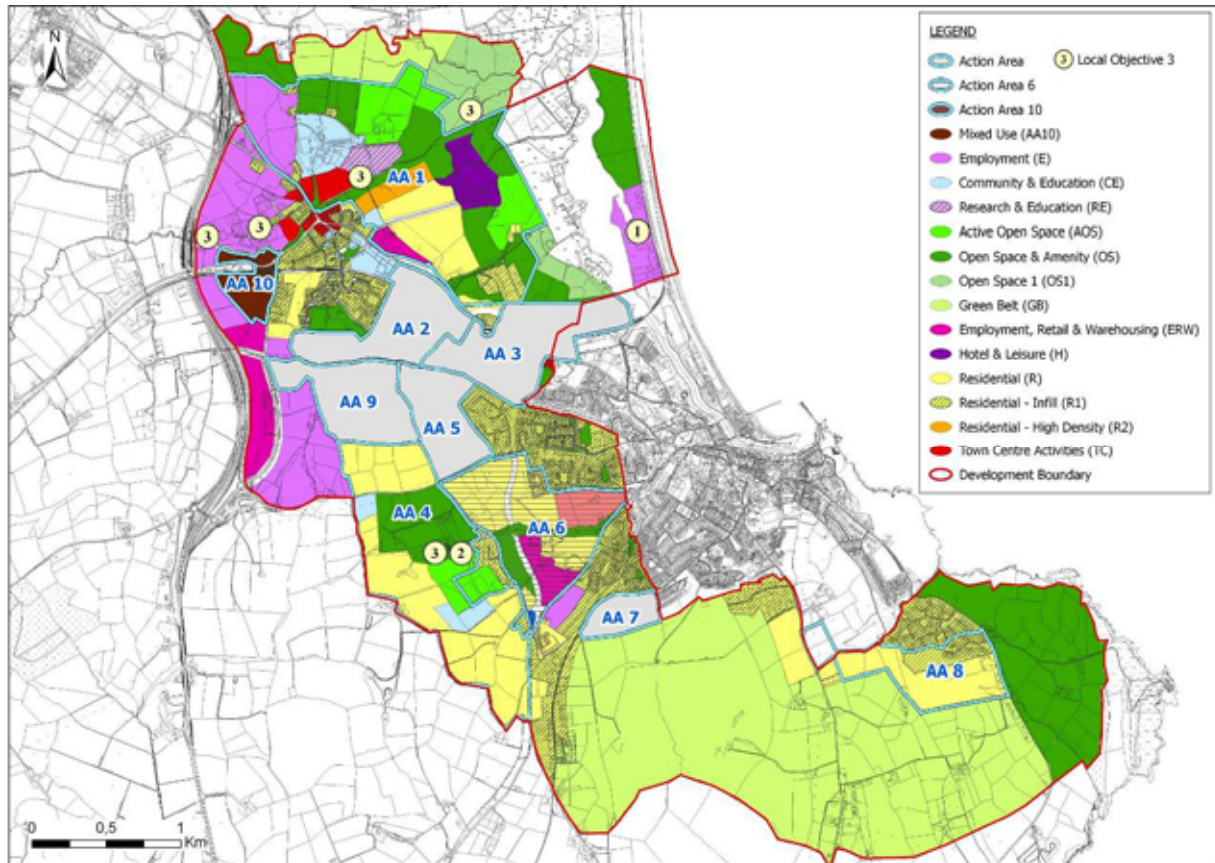


Figure 4.1 Scenario 1 *Minimal Development Envelope*

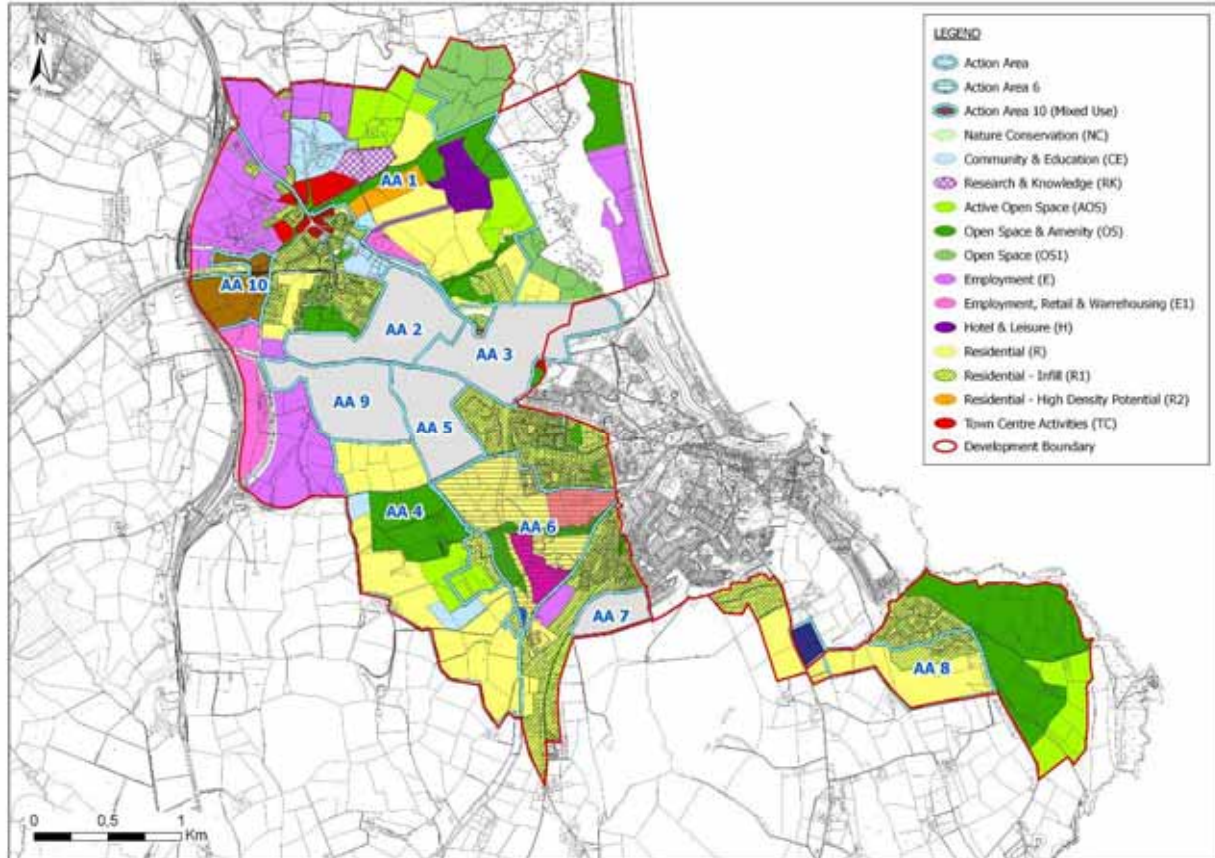


Figure 4.2 Scenario 2 *Moderate Development Envelope*

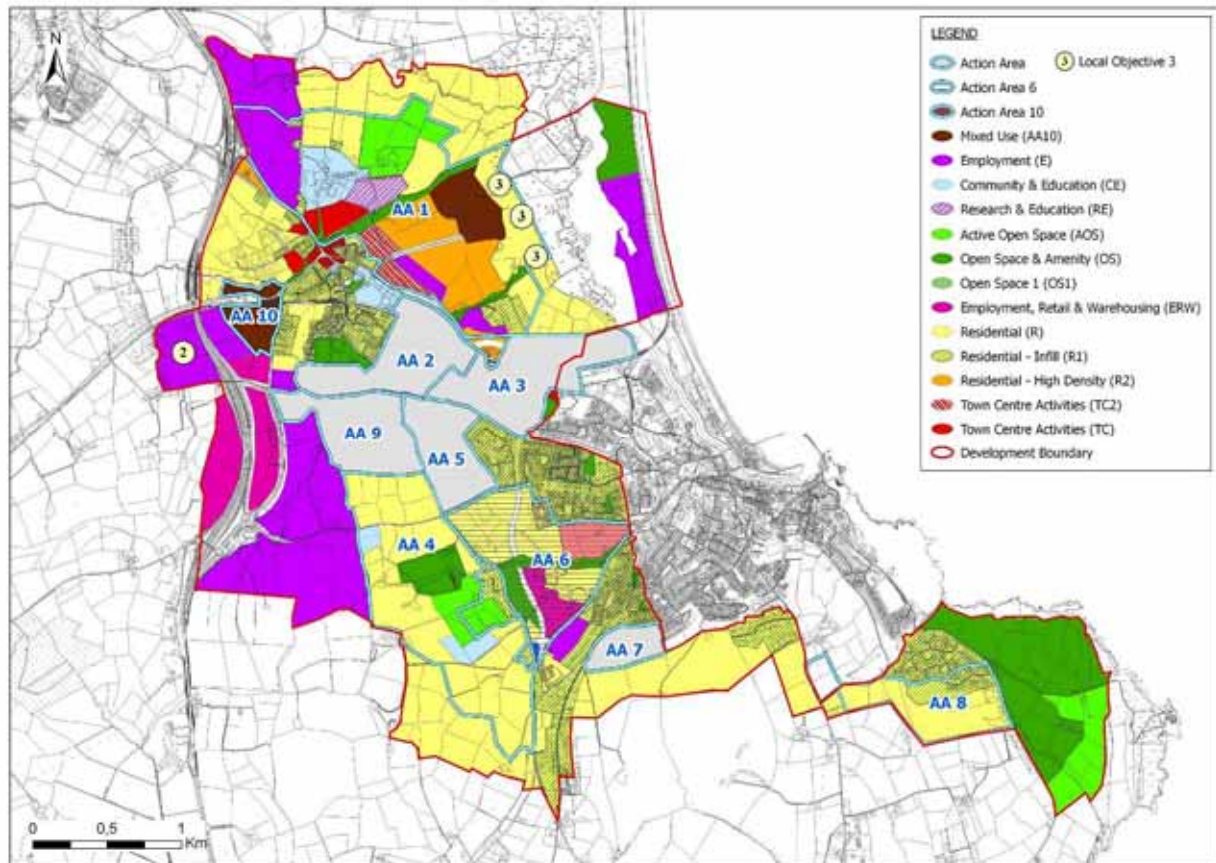


Figure 4.3 Scenario 3 *Maximum Development Envelope*

4.3 Evaluation of Alternatives

4.3.1 Methodology

4.3.1.1 Existing Environment

Use was made of the description of the environmental baseline, including the maps which spatially represent components of the environmental baseline in order to identify how each alternative scenario would impact upon the environment.

4.3.1.2 Overlay Mapping

In order to identify the extent to which environmental sensitivities are likely to be impacted upon by implementation of the Plan and alternatives, overlay mapping was also used.

4.3.1.3 Strategic Environmental Objectives (SEOs)

Based on an understanding of the existing and emerging environmental conditions in the Wicklow Environs and Rathnew area a series of SEOs were developed in order to assess the likely environmental effects which would be caused by implementation of each of the four alternative scenarios described and mapped in Section 6. The alternatives are evaluated using compatibility criteria (see Table 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 county 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, 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	Mitigation Measure Code(s) (see Section 9) - to be filled in on all tables
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Table 4.1 Criteria for appraising the effect of Plan provisions on Strategic Environmental Objective

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 ⁷
W1	To maintain and improve, where possible, the quality of rivers
W2	To prevent pollution and contamination of ground water
A1	To minimise increases in travel related greenhouse emissions to air
M1	To serve new development with appropriate waste water treatment
CH1	To protect the archaeological heritage of Wicklow Environs and Rathnew 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 Wicklow Environs and Rathnew'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 Wicklow Environs and Rathnew's sensitive landscape features and designated scenic views.

Table 4.2 Strategic Environmental Objectives (SEOs)⁸

⁷ SEO S1 was identified as conflicting with SEOs CH1 and CH2

⁸ Strategic Environmental Objectives (SEOs) are methodological measures which are developed from international, national and county policies which generally govern environmental protection objectives and against which the environmental effects of the Plan can be tested. The SEOs are used as standards against which the development strategies, policies and objectives of the Plan, including the zoning provisions and, can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated against.

4.3.2 Evaluation against Baseline

4.3.2.1 Scenario 1 *Minimal Development Envelope*

With the exception of the inadequacy of the wastewater treatment facilities – this Scenario has the least environmental effect. It has very good protection - using zoned buffer lands - of important ecological and visual amenities. The resultant settlement pattern is tightly concentrated which will promote sustainable patterns of mobility and the layout and boundaries conform well to topography.

4.3.2.2 Scenario 2 *Moderate Development Envelope*

This scenario lacks the extensive buffer protection of Scenario 1. Otherwise it provides a fairly compact layout that currently respects, but does not actively protect, environmental sensitivities. Failure to provide waste water treatment infrastructure and capacity in line with population growth would be likely to result in significant adverse impacts upon surface, estuarine and coastal waters at significant risk of meeting objectives under the Water Framework development, upon biodiversity and flora and fauna and upon human health.

4.3.2.3 Scenario 3 *Maximum Development Envelope*

This Scenario will give rise to significant and adverse environmental affects on the ecology, scenery and services of the area on account of encroachment onto rising ground around the town, excessive proximity of unsuitable landuses to the Broad Lough, dense development on elevated topography, development beyond the motorway and the absence of any transitional uses.

As is the case with Scenario 1 and Scenario 2, failure to provide waste water treatment infrastructure and capacity in line with population growth would be likely to result in significant adverse impacts upon surface, estuarine and coastal waters at significant risk of meeting objectives under the Water Framework development, upon biodiversity and flora and fauna and upon human health.

4.3.2.4 Summary of Analysis

On the basis of this analysis Scenario 1 minimal Footprint - emerges as the most environmentally sustainable alternative. However, having regard to Planning considerations, While Scenario 2 emerges as the alternative that balances environmental protection with economic and social development. Scenario 3 will cause significant and long-term adverse effects on the ecology, scenery and services of the area.

4.3.3 Evaluation against Overlay Mapping

Tables 4.3 to 4.5 quantify the vulnerability areas which are likely to be impacted upon by the areas of each Scenario which are most likely to come under development pressure i.e. those areas zoned: Action Area; Mixed Use; Employment; Community and Education; Research and Education; Employment, Retail and Warehousing; Hotel and Leisure; Residential; Residential - Infill; Residential - High Density, and; Town Centre Activities. These areas were mapped (see Figures 4.4 to 4.7) and calculated using GIS software.

The measurements indicated that:

- Scenario 3 would be likely to result in more adverse environmental impacts than each of the other two Scenarios.
- If mitigated, Scenarios 1 and 2 would be likely to result in a lesser frequency and magnitude of impacts than Scenario 3.
- Scenario 3 is the scenario with the greatest amount of high vulnerability areas covered by development pressure areas and the only scenario for which extreme vulnerability areas are covered by development pressure areas.

Vulnerability Area	Area (km ²)	% of Development Pressure Areas covering each Vulnerability Area
Low	10.70	76.2
Moderate	3.26	23.2
Vulnerable	0.08	0.6
High	0.01	0
Extreme	0	0
Acute	0	0
Total	14.05	100

Table 4.3 Environmentally Vulnerable Areas most likely to be affected by Scenario 1

Vulnerability Area	Area (km ²)	% of Development Pressure Areas covering each Vulnerability Area
Low	10.71	71.9
Moderate	4.00	26.8
Vulnerable	0.14	0.9
High	0.04	0.3
Extreme	0.01	0.1
Acute	0	0
Total	14.90	100

Table 4.4 Environmentally Vulnerable Areas most likely to be affected by Scenario 2

Vulnerability Area	Area (km ²)	% of Development Pressure Areas covering each Vulnerability Area
Low	14.26	70.2
Moderate	5.58	27.5
Vulnerable	0.38	1.9
High	0.07	0.3
Extreme	0.01	0.1
Acute	0	0
Total	20.30	100

Table 4.5 Environmentally Vulnerable Areas most likely to be affected by Scenario 3

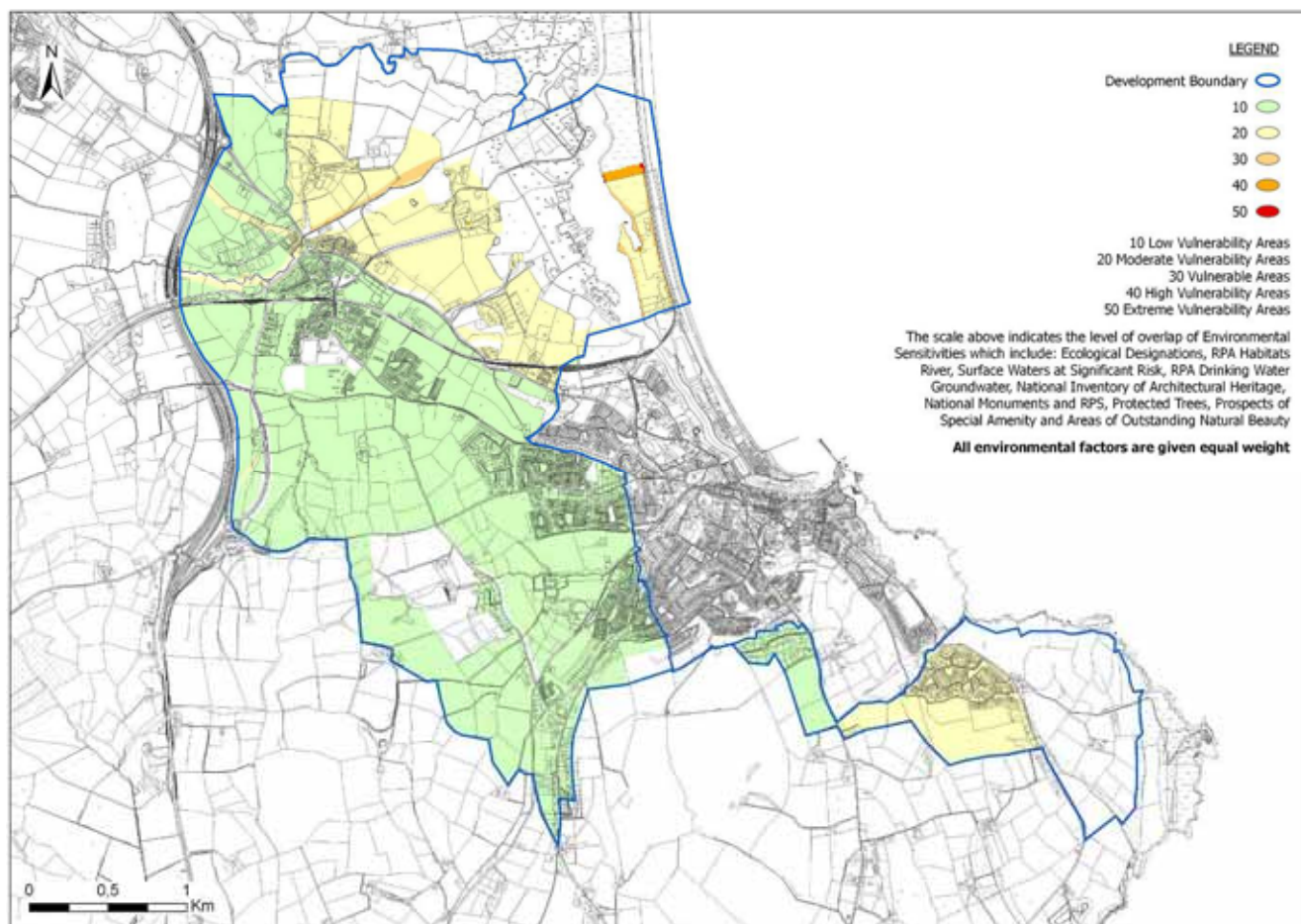


Figure 4.4 Overlay of Environmental Sensitivities and Development Pressure Areas of Scenario 1

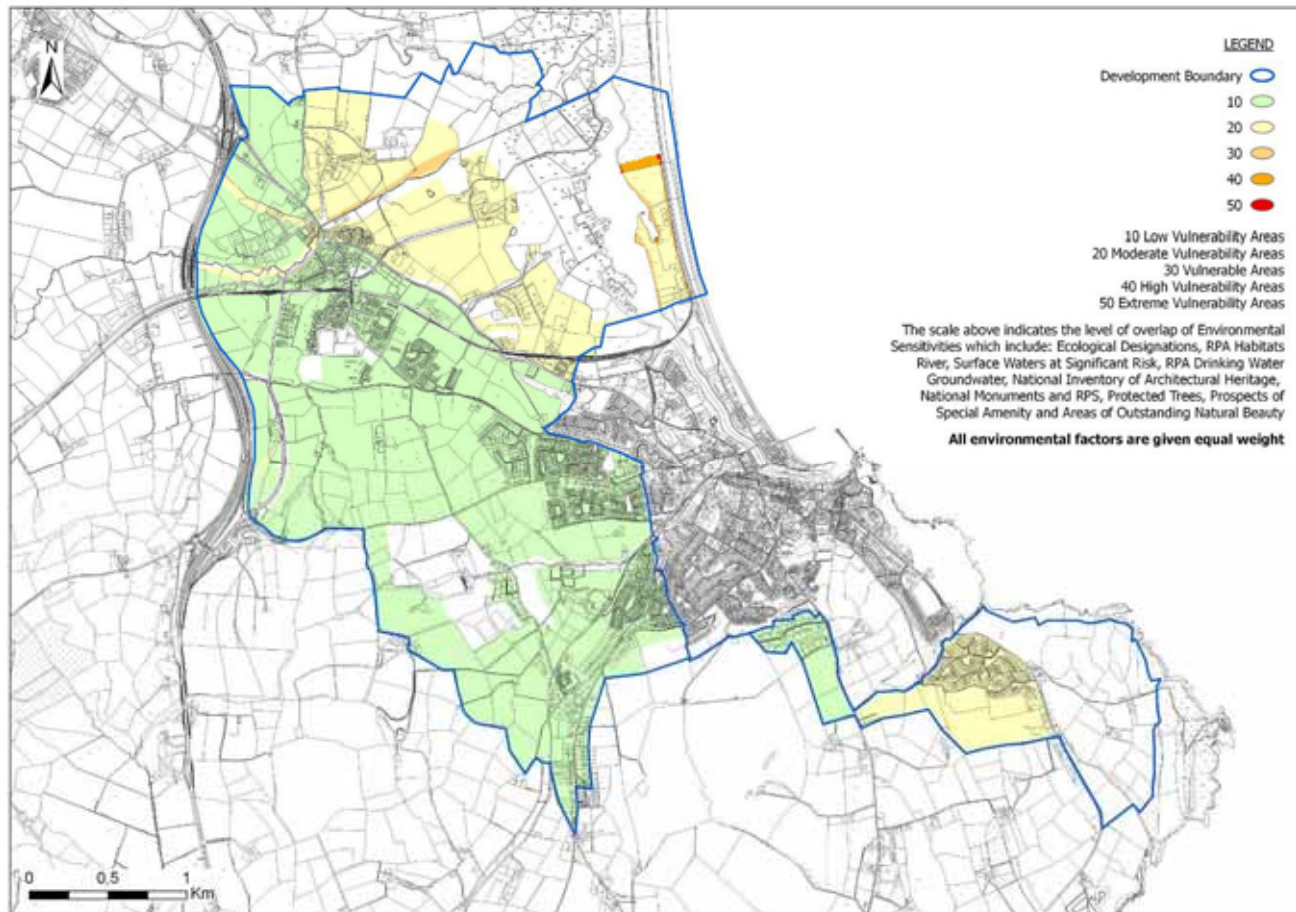


Figure 4.5 Overlay of Environmental Sensitivities and Development Pressure Areas of Scenario 2

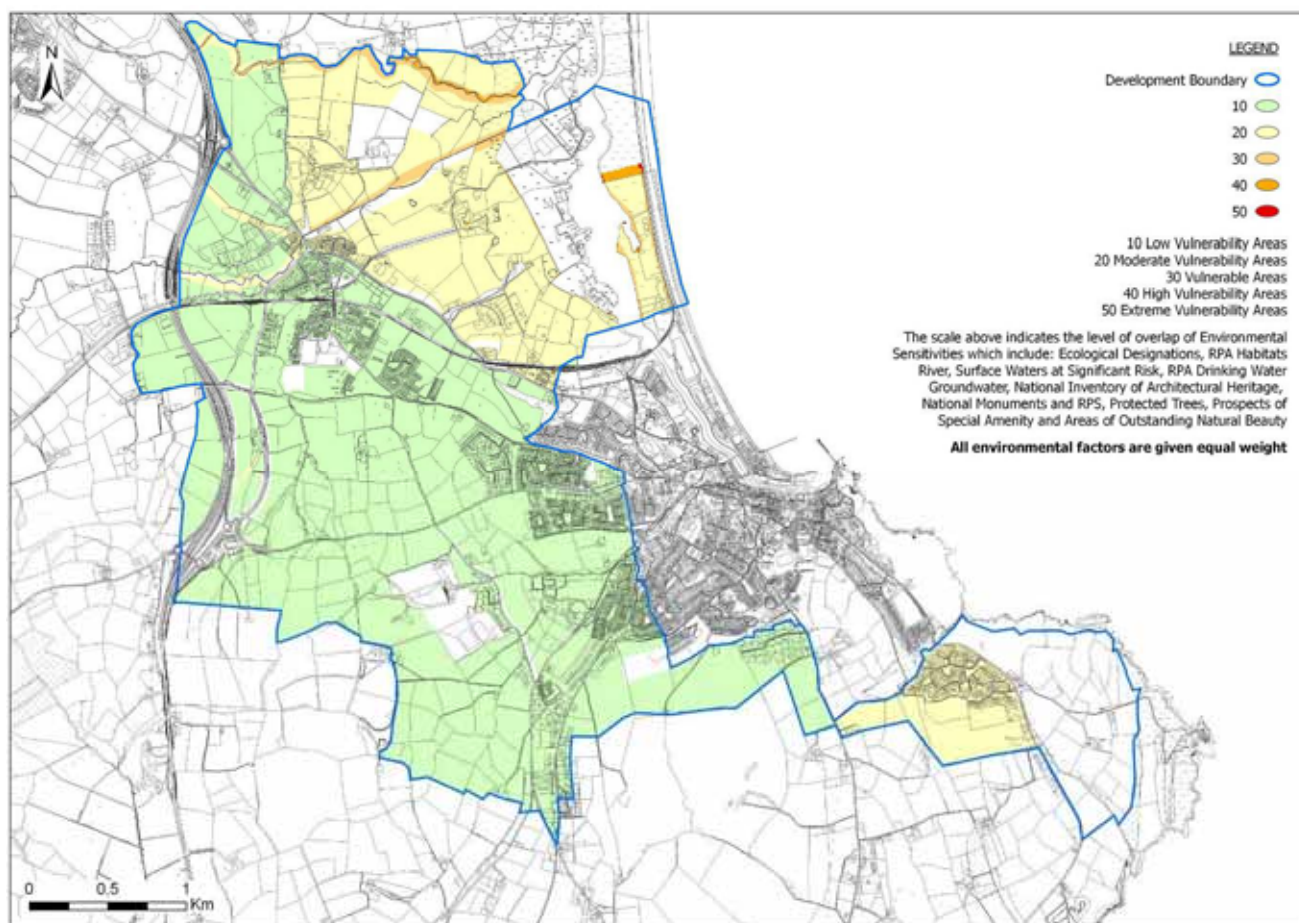


Figure 4.6 Overlay of Environmental Sensitivities and Development Pressure Areas of Scenario 3

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- 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	<u>Mitigation</u> <u>Measure</u> <u>Code(s)</u> (see Section 9)
Alternative Scenario 1	B1 B2 B3 A1 L1 S1		M1 HH1 W1 W2 CH1 CH2				MM2 MM3 MM4 MM5 MM6 MM7
Alternative Scenario 2	S1		M1 HH1 W1 W2 CH1 B1 B2 B3 CH2 L1 A1				MM1 MM2 MM3 MM4 MM5 MM6 MM7 MM8 MM9
Alternative Scenario 3		B1 B2 L1 S1 A1	M1 HH1 W1 W2 B3 CH1 CH2				MM1 MM2 MM3 MM4 MM5 MM6 MM7 MM8

Table 4.6 Evaluation of Alternative Scenarios against SEOs

Table 4.6 summarises the evaluation of Alternative Scenarios 1, 2, and 3 against the Strategic Environmental Objectives (SEOs).

4.3.5 The Preferred Alternative

On the basis of the above analysis the SEA determined that Scenario 1 would be likely to improve the status of a number of the SEOs and this Scenario emerged as the most environmentally sustainable option.

The SEA determined that, if unmitigated, Scenarios 2 and 3 would be likely to result in a number of adverse environmental impacts.

Having regard to Planning considerations, Scenario 2 was identified as providing a better balance between environmental protection and economic and social development and therefore this Scenario was deemed to provide the most overall sustainable option.

Under Scenario 2, potential conflicts with environmental objectives can largely be offset by appropriate mitigation measures, as indicated on Table 4.6. Significant adverse impacts on designated ecological sites (The Murrough SPA 004186; The Murrough NHA 000730; The Murrough Wetlands cSAC 002249) will be avoided by compliance with, inter alia, mitigation measure MM9.

The Draft LAP that emerged from the Plan preparation process corresponded to Scenario 2.

4.3.6 Differences between the Preferred Alternative and the adopted Plan

4.3.6.1 Introduction

The Draft LAP that emerged from the Plan preparation process - which corresponded to Scenario 2 - was placed on public display for a period of time during which submissions and observations were invited.

A report was prepared by the County Manager proposing changes to the Draft Plan which arose from certain submissions and observations made during this period. This report was considered by the Elected Members alongside the Draft Plan and Environmental Report.

The Elected Members accepted most of the changes contained in the Manager's Report and proposed a number of modifications to these changes.

The modifications were placed on public display for a second period of time during which submissions and observations were invited. A second report was prepared by the County Manager proposing changes to the modifications which arose from certain submissions and observations. This report was considered by the Elected Members alongside the modifications and an addendum to the Environmental Report.

The Elected Members accepted most of the changes to the modifications contained in the Manager's Report and made a number of final amendments to the modifications before adopting the LAP.

The LAP which was adopted (see Figure 4.9) corresponds closely to Scenario 2 however a number of changes have been made to the Scenario 2 land use zoning map.

Significant changes occur in the north of the Plan area and are detailed below.

4.3.6.2 Changes to Scenario 2

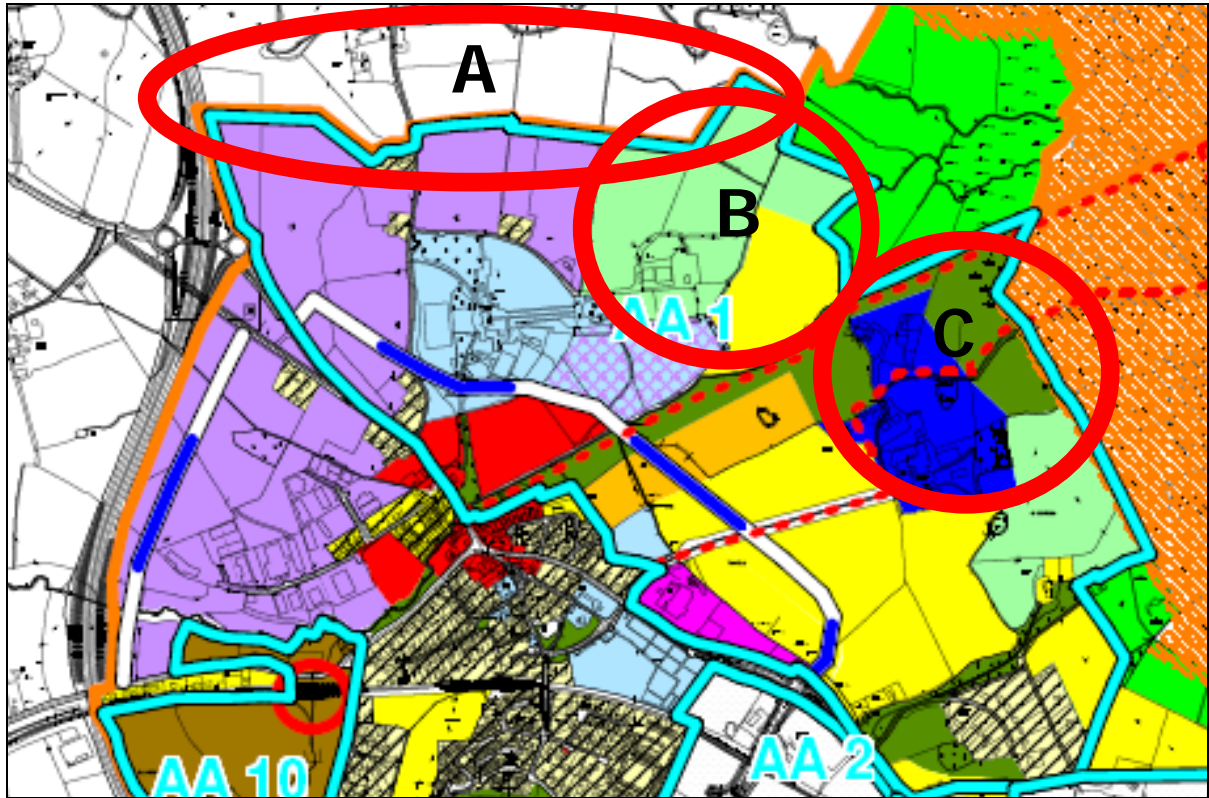


Figure 4.7 Old Zoning Map - Scenario 2/Draft LAP

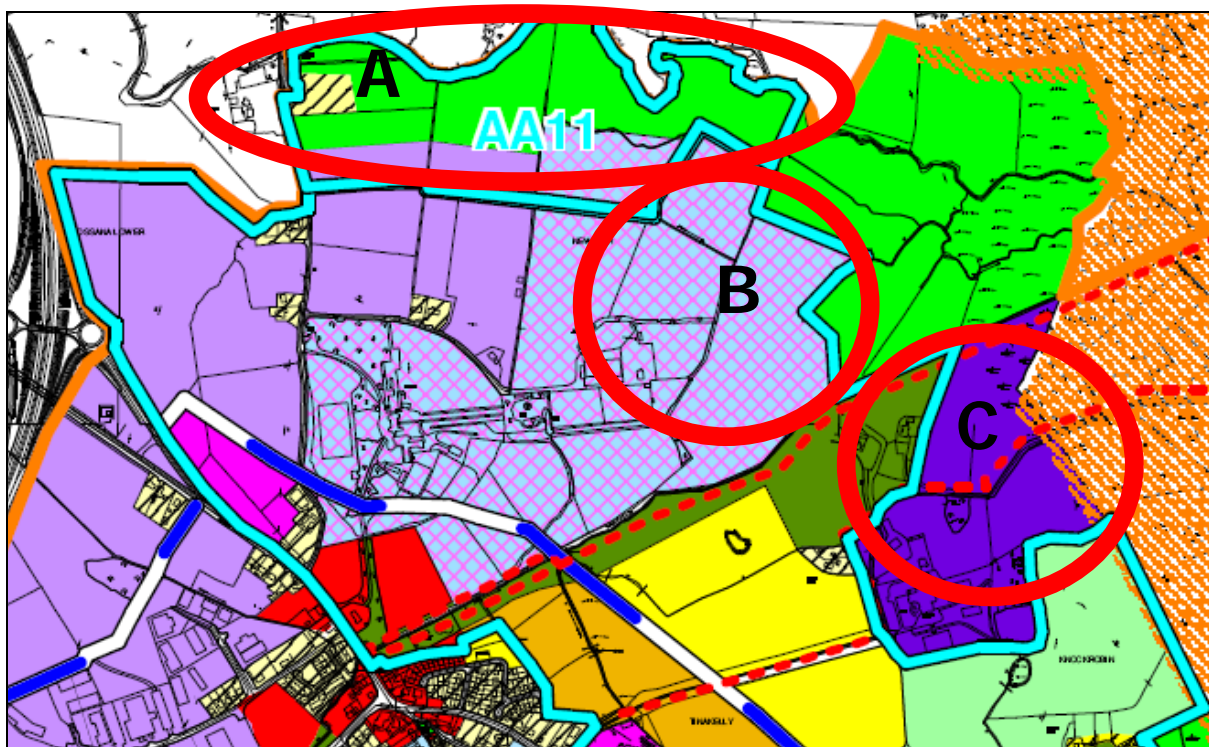


Figure 4.8 Revised Zoning Map - Adopted LAP

Action Area 11

The expansion of the development boundary northwards into Action Area 11 (see A on maps above).

The objectives of Action Area 11 are to:

- Provide for Employment uses on lands measuring 3.55 ha, which shall be in keeping and connected to the employment lands within Action Area 1. The use of these employment lands will require the development of high quality environments that will not adversely affect the natural environment of the area and accordingly height and site development standard restrictions will be employed accordingly. These developments should employ a plot ratio in accordance with the County Development Plan; small building units will be encouraged with high quality landscaping. The development of these lands shall include an overall site master plan that incorporates details such as phasing, planting, landscaping, the use proposed and the visual impact of the development. The amenities of adjoining properties shall be protected.
- Reserve 3.41 ha for the future expansion of the College Campus zoning.
- Reserve 16.96 ha of land as solely Open Space.
- A Flood Impact Assessment shall be prepared relating to the development of this Action Area.

This change would be likely to have a potential conflict with status of SEOs S1 and B3 - due to the addition of greenfield area into the Plan area - and SEO HH1 - due to flooding potential. However, such conflict would be likely to be mitigated by complying with mitigation measures integrated into the LAP, including all those recommended in the Environmental Report (see Table 2.1), as well as by the measures relating to Open Space and a Flood Impact Assessment which are included as part of the objectives of Action Area 11.

Research and Knowledge Zoning

The replacement of Active Open Space and Residential Zoning with Research and Knowledge Zoning in Action Area 1 (see B on maps above).

This change would be likely to have a potential conflict with status of in particular SEOs S1, B3 and L1 - due to the addition of greenfield area into the Plan area which would be likely to be mitigated by complying with mitigation measures integrated into the LAP, including all those recommended by the Environmental Report (see Table 2.1).

Hotel and Leisure Zoning

The replacement of Active Open Space and Amenity and Active Open Space Zoning with Hotel and Leisure Zoning (see C on maps above).

This change would have a potential conflict with status of SEOs B1, B2, B3 and L1 however such conflict would be mitigated by complying with mitigation measures integrated into the LAP, including all those recommended by the Environmental Report (see Table 2.1).

If any development was to be allowed at this site then it would have to comply with all mitigation measures.

It is noted that the ecological and hydrological assessment which is included as part of the change will conform to Mitigation Measure 1 identified in the Environmental Report and integrated into the LAP. Mitigation Measure 1 reads:

Planning applications where part or all of the subject site lies within a zone that extends from the boundary of any designated ecological site to the next field boundary or to a distance of 50 metres, whichever is closer, must be accompanied by an eco-hydrological assessment. This must comply with Section 18 of the European Communities (Natural Habitats) Regulations 1997 and identify and evaluate the direct and indirect effects which the development would be likely to have upon the designated site, ecological connectivity and drainage. Such planning applications must also be accompanied by evidence of consultation between the applicant and the National Parks and Wildlife Service about the assessment.

The need for eco-hydrological assessments for planning applications outside this zone shall be decided upon on a site by site basis depending on local ecological and drainage conditions and other factors as appropriate. In such cases the applicant should consult with Wicklow County Council's Planning Department about the need for such an assessment.

It is noted that such an assessment would be required to take into account, inter alia, lands used for roosting by birds for which the adjacent SPA has been designated.

In addition, it is noted that Mitigation Measure 9, viz.:

No projects giving rise to significant adverse direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans or projects)⁹.

is also required to be complied with.

⁹ 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.

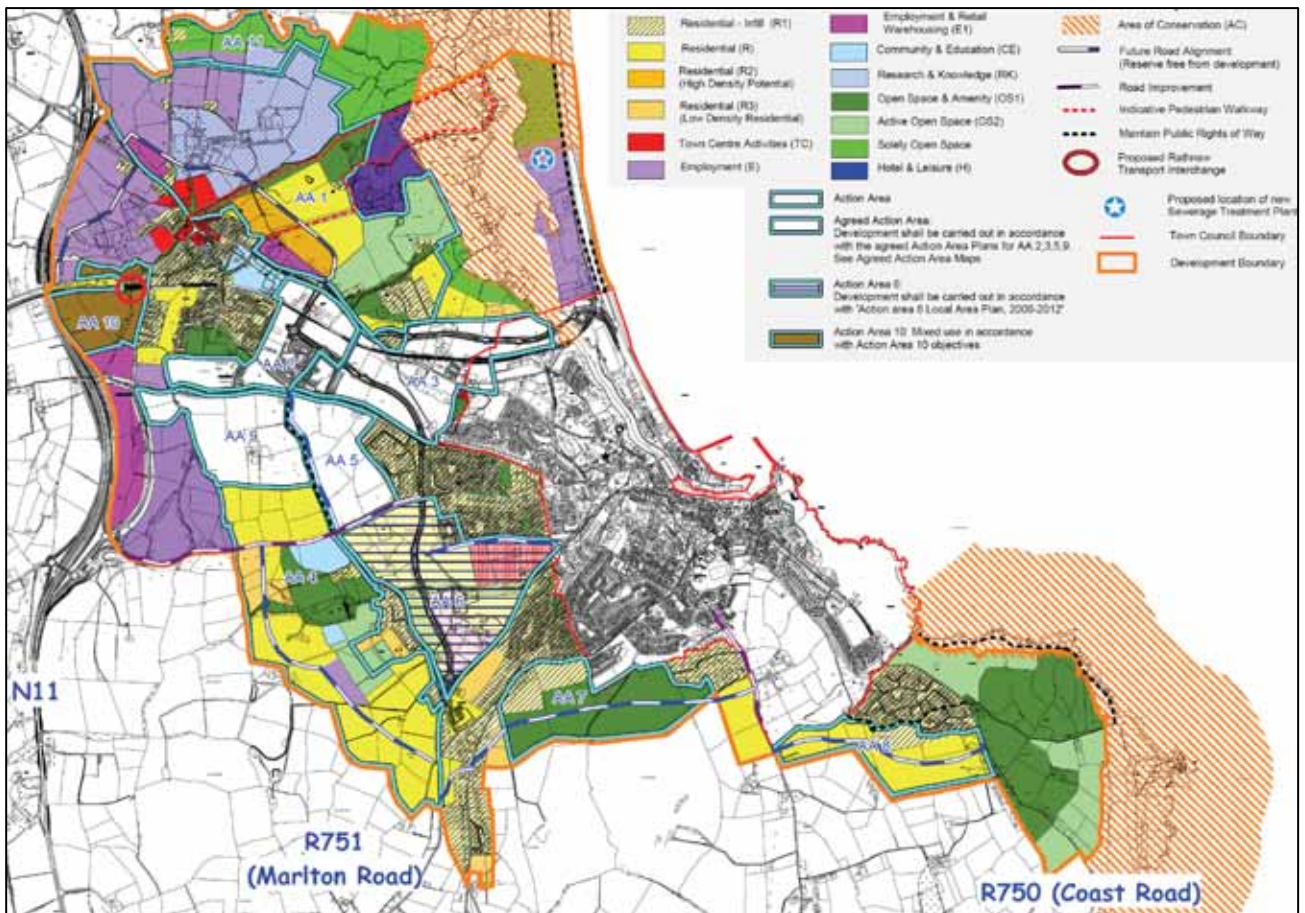


Figure 4.9 The Adopted Plan

Section 5 Monitoring

5.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This SEA Environmental Report put forward proposals for monitoring the LAP which are adopted alongside the LAP.

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 LAP is achieving its environmental objectives and targets - measures which the LAP 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 will be given to indicators which are relevant to the likely significant environmental effects of implementing the LAP and existing monitoring arrangements will be used in order to monitor the selected indicators. Each indicator to be monitored will be accompanied by the relevant target(s) which were identified with regard to relevant environmental protection legislation.

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

5.3 Sources

Measurements for indicators should come from existing monitoring sources and no new monitoring should be required to take place. Existing monitoring sources exist for each of the indicators and include those maintained by Wicklow 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 Wicklow County Council will provide passive monitoring of various indicators and targets on an application by application basis. Where significant adverse effects 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.

5.3.1 Excluded Indicators and Targets

As noted on Table 5.1, monitoring data on Indicator W2 (Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC) may not be available for the preliminary monitoring evaluation as the groundwater threshold values to which this indicator relates have not yet been identified by the EPA.

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

5.4 Reporting

A preliminary monitoring evaluation report on the effects of implementing the LAP will be prepared within two years of the making of the plan.

5.5 Responsibility

Wicklow County Council are responsible for collating existing relevant monitored data, the preparation of a monitoring report, the

publication of this report and, if necessary, the carrying out of corrective action.

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

5.6 Thresholds

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

- boil notices on drinking water;
- fish kills;
- 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 LAP.

Environmental Component	Selected Indicator(s)	Selected Target(s)	Sources
Biodiversity, Flora and Fauna	<p>B1: Percentage of relevant habitats and designated ecological sites lost as a result of implementation of the LAP</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 LAP</p> <p>B3: Percentage loss of connectivity between areas of local biodiversity as a result of implementation of the LAP – 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 LAP</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 LAP</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 LAP</p>	<p>CORINE Mapping, DEHLG Records & Development Management Process in Wicklow County Council</p> <p>Development Management Process in Wicklow County Council & Consultation with the National Parks and Wildlife Service</p> <p>Remote sensing of trees and hedges combined with CORINE mapping</p>
Population and Human Health	HH1: Occurrence (any) of a spatially concentrated deterioration in human health	HH1: No spatial concentrations of health problems arising from environmental factors	Wicklow County Council, EPA, Health and Safety Authority
Soil	S1: Area of brownfield land developed over the plan period	S1: Reduced availability of brownfield land (subject to availability on the open market, the demand for such land and the ability for such lands to be sustainably re-used within the provisions of the LAP) at the end of the LAP lifespan	Development Management Process in Wicklow County Council

Environmental Component	Selected Indicator(s)	Selected Target(s)	Sources
Water	<p>W1: Biotic Quality Rating (Q Value)</p> <p>W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</p>	<p>W1i: To maintain a biotic quality rating of Q4, in line with the requirement to achieve good water status under the Water Framework Directive, by 2015</p> <p>W1ii: To improve biotic quality ratings, where possible, to Q5</p> <p>W2: Compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</p>	<p>EPA</p> <p>As noted under Section 5.3.1, monitoring data may not be available for this indicator when the monitoring evaluation is being prepared.</p>
Air and Climatic Factors	<p>A1i: Percentage of population within the plan area travelling to work or school by public transport or non-mechanical means</p> <p>A1ii: Average distance travelled to work or school by the population of the Wicklow Environs and Rathnew area</p>	<p>A1i: An increase in the percentage of the population travelling to work or school by public transport or non-mechanical means</p> <p>A1ii: A decrease in the average distance travelled to work or school by the population of the Wicklow Environs and Rathnew area</p>	<p>Central Statistics Office:</p> <p>As noted under Section 5.3.1, future monitoring data may not be available for these indicators until results from the next Census are made available.</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 LAP</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 LAP</p>	<p>Development Management Process in Wicklow County Council</p>

Environmental Component	Selected Indicator(s)	Selected Target(s)	Sources
Cultural Heritage	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.	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.	Development Management Process in Wicklow County Council
	CH2: Number of unauthorised developments occurring which result in physical loss or loss entries to the Record of Protected Structures and/or their context within the surrounding landscape where relevant.	CH2: No unauthorised developments occurring which result in physical loss or loss entries to the Record of Protected Structures and/or their context within the surrounding landscape where relevant.	Development Management Process in Wicklow County Council
Landscape	L1: Number of complaints received from statutory consultees regarding avoidable impacts on the landscape - especially with regard to Wicklow Environs and Rathnew's sensitive landscape features and designated scenic views - resulting from development which is granted permission under the LAP	L1: No developments permitted which result in avoidable impacts on the landscape - especially with regard to Wicklow Environs and Rathnew's sensitive landscape features and designated scenic views - resulting from development which is granted permission under the LAP	Development Management Process in Wicklow County Council

Table 5.1 Selected Indicators and Targets for Monitoring