

SEA STATEMENT

OF THE

GALWAY COUNTY DEVELOPMENT PLAN 2009-2015

STRATEGIC ENVIRONMENTAL ASSESSMENT



for: Galway County Council

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Galway



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Section 1 Introduction

1.1 Terms of Reference

This is the SEA Statement of the Galway County Development Plan 2009-2015 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 review of the Galway County Development Plan was required to undergo SEA.

The findings of SEA were expressed in an Environmental Report which accompanied the Draft Plan at each stage of the Plan making process. 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 the County.

The Draft Plan and Environmental Report were placed on public display in August 2008. Changes made to the Draft Plan after the period of public display and before adoption were

evaluated for their environmental consequences. On adoption of the Plan, the original Environmental Report was updated in order to take account of these changes, becoming the final Environmental Report which accompanies the adopted Plan.

The Elected Members were required by the legislation to take into account the findings of the Environmental Report before the making of the County Development Plan.

Section 2 How Environmental Considerations were integrated into the County 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, Marine and Natural Resources (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 Galway County Council. Written submissions were received from the EPA, DEHLG and DCMNR which 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 submissions were made by the EPA and the Spatial Policy and Heritage Sections of the DEHLG on the County Development Plan and Environmental Report while they were on public display. These submissions resulted in updating Section 9 (Mitigation Measures) of the Environmental Report.

Further information on how the outputs of scoping consultations informed the process 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 the County 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 in the County helped future growth to be diverted away from these areas.

The sensitivities considered by the SEA included the following:

- Designated ecological sites;
- Shellfish Waters;
- Land cover;
- Soil Type;
- Subsoils;
- Water Framework Directive (WFD) Risk Assessments for Rivers, Surface Water Catchments, Lakes, Transitional Waters, Coastal Waters and Ground Waters;
- WFD Register of Protected Areas;
- EPA River Water Quality Monitoring;
- EPA 2001-2005 Assessment of Trophic Status of Estuaries and Bays 2001-2005;
- Bathing Water Quality Compliance;
- GSI Aquifer Productivity and Vulnerability;
- Flood Channels Scheme;
- IPPC licensed facilities and Waste Licensed Facilities;
- Waste Water Treatment Infrastructure/Capacity Needs;
- Current and predicted drinking water supply demand and supply;
- Drinking water quality;
- Archaeological Heritage;
- Architectural Heritage;
- Landscape Character Areas, Values and Sensitivity Classification; and,
- Focal Points and View.

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

Mitigation measures which arose from these topics and which are included in the Environmental Report are detailed under Section 2.4 of this report.

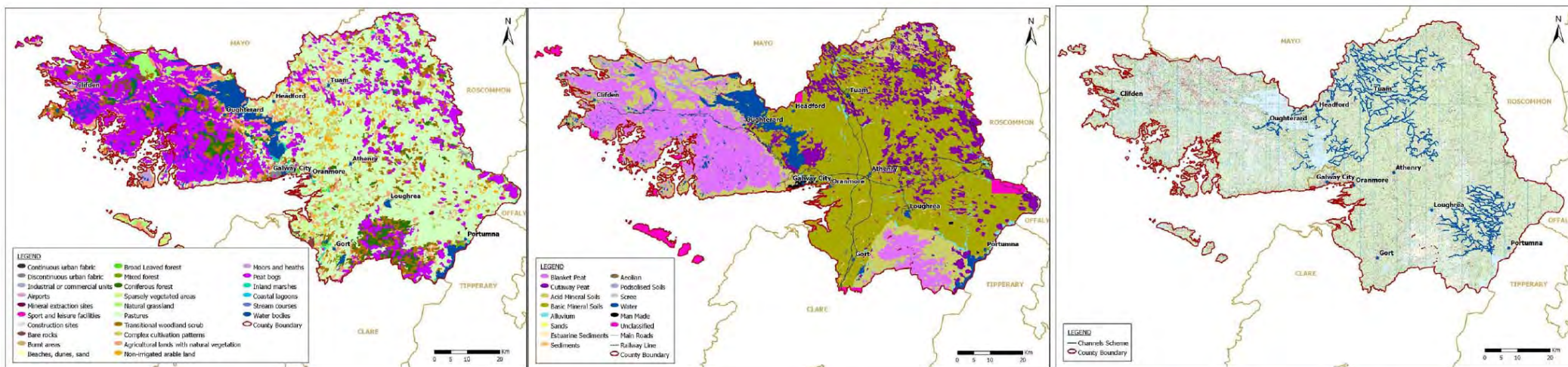
2.3 Early Identification and Evaluation of Alternatives

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

The environmental sensitivities mapping shown on Figure 2.1, Figure 2.2 and Figure 2.3 was used in order to predict and evaluate the environmental effects of implementing the scenarios.

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.

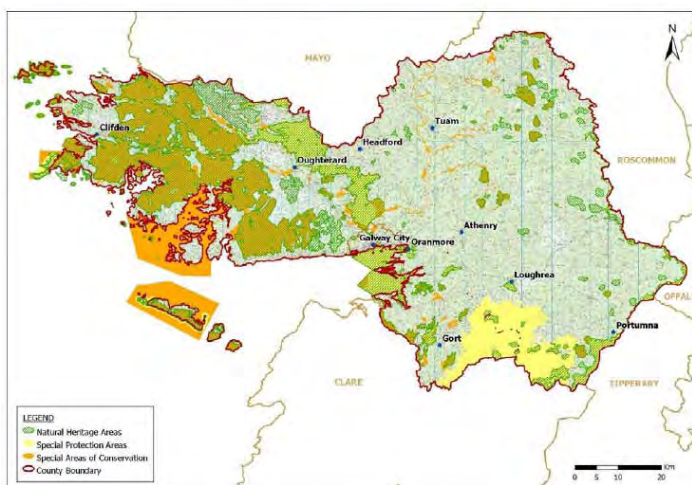
Communication of this evaluation to the Elected Members through the Environmental Report helped the Elected Members to make an informed choice with regard to the making of the County Development Plan.



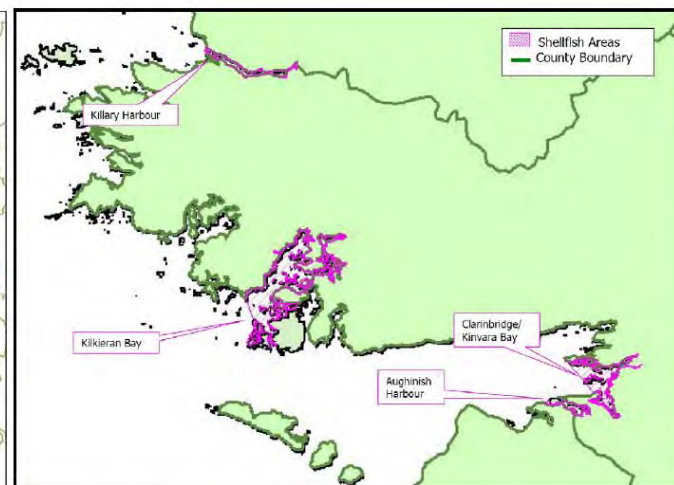
CORINE Land Cover

Soils

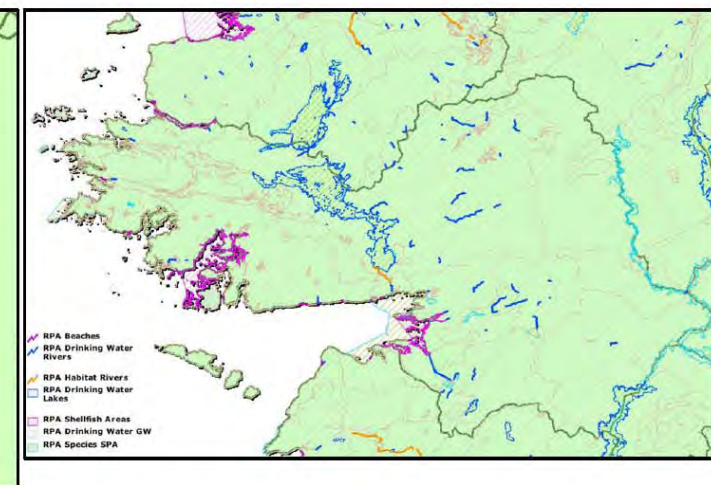
Flood Channels Scheme



Designated Ecological Sites

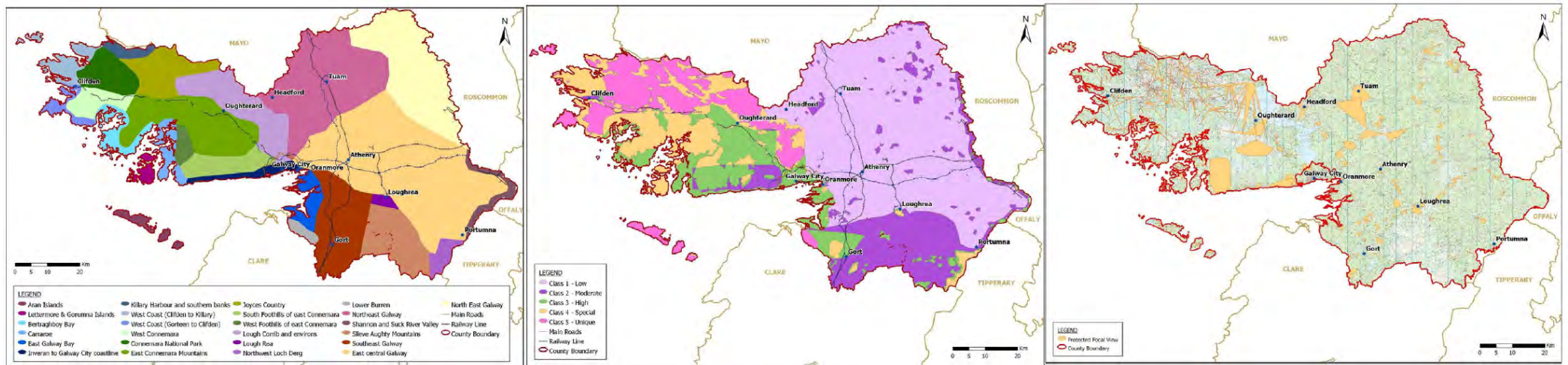


Shellfish Areas



WFD Registers of Protected

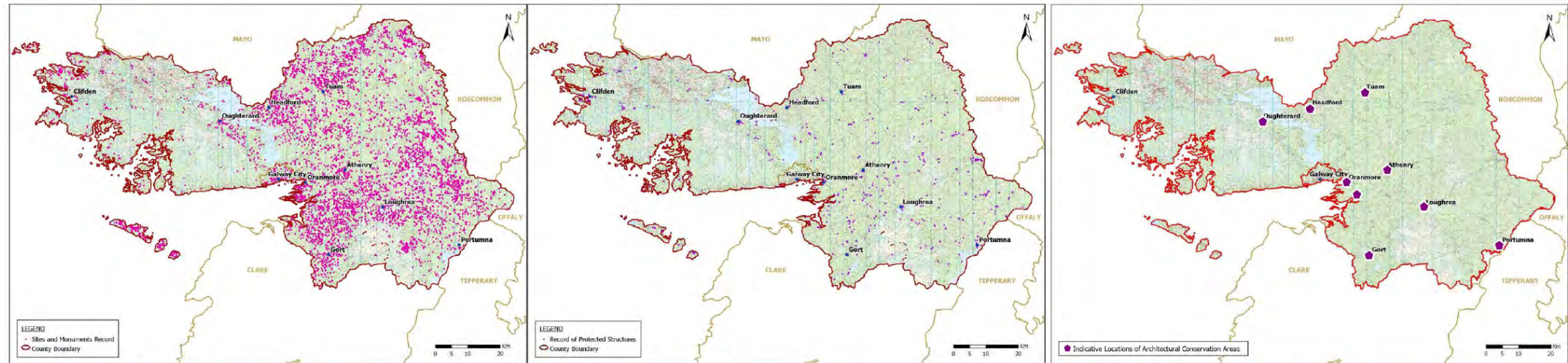
Figure 2.1 Environmental Sensitivities - Plate 1



Landscape Character Areas

Landscape Sensitivity

Focal Points and Views

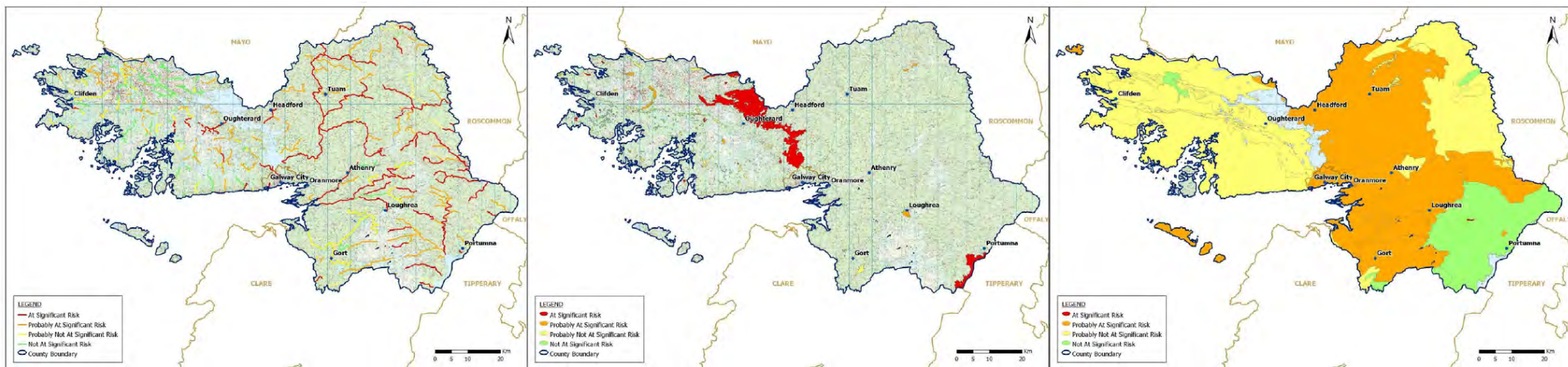


Archaeological Heritage

Protected Structures

Architectural Conservation Areas

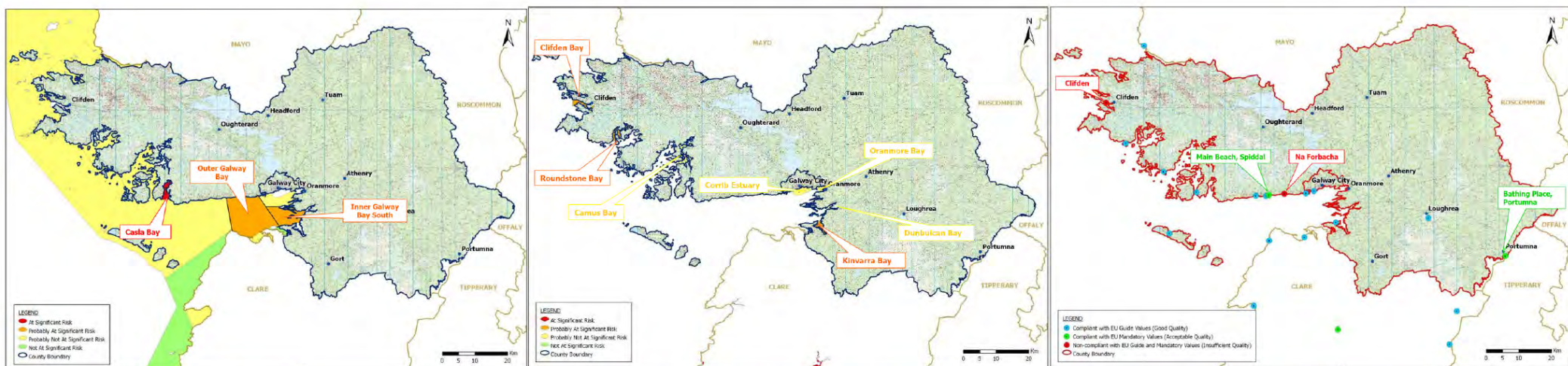
Figure 2.2 Environmental Sensitivities - Plate 2



River Risk Assessment

Lake Risk Assessment

Groundwater Risk Assessment



Coastal Water Risk Assessment

Transitional Waters Risk Assessment

Bathing Water Quality

Figure 2.3 Environmental Sensitivities - Plate 3

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
- Soil and Contamination
- Cultural Heritage
- Landscape
- Air and Climatic Factors
- Transportation
- Waste Management
- Energy/ Energy Conservation

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

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.

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Mitigation measure	Reason for inclusion	Integration into Plan
<i>Biodiversity and Flora and Fauna I</i> The plan shall support achieving the objectives and actions contained in the County Galway Draft Biodiversity Action Plan 2008 - 2013 (Galway County Council, 2008).	Compliance with Habitats Directive	Integrated through Policy HL4
<i>Biodiversity and Flora and Fauna II</i> No projects giving rise to significant adverse direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans or projects) ³ .	Compliance with Habitats Directive	Integrated through Policy HL45
<i>Biodiversity and Flora and Fauna III</i> 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.	Compliance with Habitats Directive	Integrated through Policy HL46
<i>Biodiversity and Flora and Fauna IV</i> Galway County Council shall set up procedures to ensure compliance by subsidiary plan-makers with the requirement of Article 6 of the Habitats Directive for all Land Use Plans.	Compliance with Habitats Directive	Integrated through Policy HL47
<i>Biodiversity and Flora and Fauna V</i> Galway County Council shall undertake Habitat Mapping at an appropriate scale and in accordance with agreed national Habitat Mapping Methodology.	Submission from EPA	Not integrated
<i>Biodiversity and Flora and Fauna VI</i> Galway County Council shall adopt appropriate buffer zones to protect features of European, national, regional county and local importance including rivers and streams from development proposals both in terms of visual and ecological impacts.	Submission from EPA	Partially integrated through DM Standard 39. Protection of the named feature(s) achieved through various Plan provisions.
<i>Biodiversity and Flora and Fauna VII</i> Galway County Council shall ensure the protection of the Biodiversity of the islands off the Galway coast and the islands within the network of lakes in the County.	Submission from EPA	Integrated through Policy HL5
<i>Biodiversity and Flora and Fauna VIII</i> Galway County Council shall ensure the protection of ecological corridors/ ecological networks.	Compliance with Habitats Directive	Integrated through Policy HL48
<i>Biodiversity and Flora and Fauna IX</i> 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.	Compliance with Habitats Directive	Integrated through Policy HL48
<i>Biodiversity and Flora and Fauna X</i> Galway County Council shall make available of funding and resources for undertaking the recommended Habitat Mapping.	Submission from EPA	Not integrated
<i>Biodiversity and Flora and Fauna XI</i> Galway County Council shall, in the initial phase of the habitat survey, focus as a priority on the full range of relevant wetland habitats in the County.	Submission from EPA	Not integrated. Protection of the named feature(s) achieved through various Plan provisions.

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.

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<p><i>Biodiversity and Flora and Fauna XII</i></p> <p>Galway County Council shall protect wetlands, and associated surface and groundwater systems within the Plan area.</p>	Compliance with Habitats Directive	Integrated through Policy HL49
<p><i>Biodiversity and Flora and Fauna XIII</i></p> <p>Galway County Council shall ensure that, in the supply of services and in zoning of lands and authorisation of development, the threatened habitats and species* which occur within and adjoining the Plan area are not placed under further risk of deterioration (habitats) or reduction in population size (species). *As identified in the National Parks and Wildlife "The Status of EU Protected Habitats and Species in Ireland", (NPWS, Department of the Environment, Heritage and Local Government, 2008). Galway County Council shall ensure that plan formulation and development control shall take into account the relevant "Major Pressures reported in the assessment of Habitats and Species" and the "Main Objectives Over The Coming Five Years and Beyond" contained in the above publication.</p>	Submission from EPA	Integrated through Policy HL50
<p><i>Biodiversity and Flora and Fauna XIV</i></p> <p>Galway County Council shall introduce measures to promote and implement the control and management of alien/invasive species and noxious weeds.</p>	Submission from EPA	Integrated through Policies HL82, HL92, HL93 and Objective HL43
<p><i>Water Protection I</i></p> <p>Galway County Council shall address the significant water management issues identified in the Water Matters Consultation publications for the relevant RBDs.</p>	Compliance with Water Framework Directive	Integrated through Policy HL88
<p><i>Water Protection II</i></p> <p>When published, the relevant policies and objectives of the Western and Shannon River Basin Management Plans and associated Programmes of Measures shall be integrated into the Plan through amendment or otherwise.</p>	Compliance with Water Framework Directive	Integrated through Policy HL89
<p><i>Water Protection III</i></p> <p>Galway County Council shall ensure that the ongoing development of Towns and their Environs are undertaken in such a way so as not to compromise the quality of surface water (and associated habitats and species) and groundwater within the zone of influence of the Development Plan area.</p>	Compliance with Water Framework Directive and Habitats Directive	Integrated through Policy HL90
<p><i>Water Protection IV</i></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>	Compliance with Water Framework Directive	Integrated through Policy HL91
<p><i>Bathing Water I</i></p> <p>Galway County Council shall address the issue of Seawater Bathing areas in County Galway failing to meet EU Mandatory and Guide levels as set out in the EC "Directive concerning the Quality of Bathing water (76/160/EEC)", the Bathing Water Directive, as implemented in Ireland by the "Quality of Bathing Water Regulations, 1992, (S.I. No. 155 of 1992)", the Bathing Water Regulations, specifically:-</p> <ul style="list-style-type: none"> • Clifden and Na Forbacha • Spiddal (Main Beach) and Trá Chaladh bhFuinnse • Freshwater Bathing area at Portumna 	Compliance with Bathing Water Directive and Water Framework Directive	Integrated through Policies HL63 and HL65
<p><i>Bathing Water II</i></p> <p>Galway County 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>	Compliance with Bathing Water Directive and Water Framework Directive	Integrated through Objective HL35

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<p><i>Bathing Water III</i></p> <p>Galway County Council shall address the issue of bathing water quality in County Galway and shall put in place appropriate policies and objectives with associated commitment and timescales to ensure the provision of adequate and appropriate wastewater treatment in the County.</p>	<p>Compliance with Bathing Water Directive and Water Framework Directive</p>	<p>Integrated through Policies including HL63 HL65 HL89</p>
<p><i>Bathing Water IV</i></p> <p>Galway County 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>Compliance with Bathing Water Directive and Water Framework Directive</p>	<p>Integrated through Policies including HL63 HL65 HL89</p>
<p><i>Waste Water I</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>Compliance with Water Framework Directive and Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC)</p>	<p>Integrated through Policy IS15</p>
<p><i>Waste Water II</i></p> <p>Galway County Council shall implement the relevant recommendations set out in Urban Waste Water Discharges in Ireland for Population Equivalents Greater than 500 Persons – A Report for the Years 2004 and 2005 Office of Environment Enforcement- EPA, 2007.</p>	<p>Compliance with Water Framework Directive and Urban Waste Water Treatment Directive</p>	<p>Integrated through Policy IS16</p>
<p><i>Waste Water III</i></p> <p>Galway County Council shall provide a larger, state of the art, waste water treatment plant, with adequate capacity to treat foul drainage arising from the drainage network associated with the WWTP Clifden area and shall install temporary waste water treatment in order to improve the quality of the effluent being discharged.</p>	<p>Compliance with Water Framework Directive and Urban Waste Water Treatment Directive</p>	<p>Integrated through Policy IS17</p>
<p><i>Waste Water IV</i></p> <p>Galway County Council shall examine the feasibility of connecting of unsewered, areas including individual properties/ premises, serviced by septic tanks to existing and planned sewer networks.</p>	<p>Compliance with Water Framework Directive and Urban Waste Water Treatment Directive</p>	<p>Integrated through Policy IS18</p>
<p><i>Drinking Water I</i></p> <p>Galway County Council shall ensure conformance with the relevant recommendations set out in The Provision and Quality of Drinking Water in Ireland –A Report for the Years 2006-2007, (Office of Environment Enforcement- EPA, 2007)</p>	<p>Submission from EPA</p>	<p>Integrated through Policies including IS10, IS13 and IS14</p>

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<p><i>Drinking Water II</i></p> <p>Existing and new populations under the CDP shall be served with clean and wholesome drinking water. Galway County Council will achieve compliance as a minimum with the 48 parameters set out under the European Communities (Drinking Water) Regulations (No. 2) 2007 and will resolve any outstanding issues in order to achieve the removal of public water supplies from the EPA remedial action list of public water supplies. Galway County Council shall address the specific issues arising in relation to Public Water Supplies on this list, namely:</p> <ul style="list-style-type: none"> • Address Inadequate Treatment of Cryptosporidium for; Carraroe P.W.S., Cleggan /Claddaghduff, Cornamona P.S., Derryinver P.S., Inisboffin PS., Leenane P.S., Letterfrack PWS (Dawros), Rosmuc P.S., Teeranea/ Lettermore P.S., Tully- Tullycross. • Remedy the Failure to meet E.coli standards in; Clarinbridge/ Kilcolgan RWSS, Craughwell, Inishmore, Kilconnell PWS, Mid Galway. • Investigate and address Elevated Levels of and issues relating to TriHaloMethanes (THMs) in: Galway City Council Public Water S.S., Ballinasloe RWS.S., Ballyconneely P.S., Clifden, Dunmore/ Glenamaddy P.S., Gort, Inishere, Killimor P.W.S., Kinvara P.S., Loughrea P.S., Roundstone P.S., Spiddal P.W.S., Tuam P.S. • Improve Poor Turbidity Removal at: Clonbur P.S., Glenamaddy, Mountbellew P.S., Williamstown P.S. • Investigate and if required possible issues arising from meeting proposed new Bromate standard for: Derryrush P.S., Portumna P.S. • Address Excessive levels of Aluminium in treated water at: Oughterard. 	<p>Compliance with European Communities (Drinking Water) Regulations (No.2), 2007.</p>	<p>Integrated through Policies including IS10, IS13 and IS14</p>
<p><i>Drinking Water III</i></p> <p>Galway County Council shall work to develop an appropriate solution that will involve abandoning or replacing the source, upgrading the treatment facilities or improving management and operational practices for water supplies in areas on the Remedial Action List.</p>	<p>Compliance with European Communities (Drinking Water) Regulations (No.2), 2007.</p>	<p>Integrated through Policies including IS10, IS13 and IS14</p>
<p><i>Drinking Water IV</i></p> <p>Galway County Council shall adopt and implement specific Policies and Objectives regarding the provision of a safe and secure water supply in County Galway.</p>	<p>Submission from EPA</p>	<p>Integrated through Policies including IS10, IS13 and IS14</p>
<p><i>Drinking Water V</i></p> <p>Galway County Council shall ensure the adequacy of the existing water supply in terms of both quality and quantity and the potential risk to human health.</p>	<p>Compliance with European Communities (Drinking Water) Regulations (No.2), 2007.</p>	<p>Integrated through Policies including IS10, IS13 and IS14</p>
<p><i>Drinking Water VI</i></p> <p>Galway County Council shall implement and complete the Groundwater Protection Plan for County Galway.</p>	<p>Compliance with European Communities (Drinking Water) Regulations (No.2), 2007.</p>	<p>Integrated through Policies including IS10, IS13 and IS14</p>
<p><i>Drinking Water VII</i></p> <p>Galway County Council shall prepare a Water Conservation Strategy with Specific Timescales assigned to the preparation of such a strategy with clear responsibilities and timescales for its implementation.</p>	<p>Submission from EPA</p>	<p>Integrated through Objective IS1</p>

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<p><i>Flooding I</i></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. These recommendations are as follows:</p> <ul style="list-style-type: none"> • no new building or new development within 100 m of 'soft' shoreline (Carter (1990) advocated a distance of 50 m); • 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.</p>	<p>Minimisation of flood risk</p>	<p>Not specifically integrated however objective integrated into a number of other Plan provisions such as those relating to flood avoidance</p>
<p><i>Flooding II</i></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>Minimisation of flood risk</p>	<p>Integrated through Objective HL34</p>
<p><i>Flooding III</i></p> <p>Landuses shall not give rise to increases in the run-off characteristics above those that currently exist.</p>	<p>Minimisation of flood risk</p>	<p>Integrated through DC Standard 36</p>
<p><i>Flooding IV</i></p> <p>Galway County Council shall carry out Flood Risk Management in accordance with the approach as adopted by the Office of Public Works (OPW) where there is potential risk of flooding within Galway County.</p>	<p>Compliance with Government planning guidelines entitled "The Planning System and Flood Risk Management" when adopted.</p>	<p>Integrated through Objective HL38</p>
<p><i>Flooding V</i></p> <p>Galway County Council shall provide for appropriate flood risk assessments to be undertaken, where proposed development(s) and proposed zoning in areas within the floodplain of rivers is being considered.</p>	<p>Compliance with Government planning guidelines entitled "The Planning System and Flood Risk Management" when adopted.</p>	<p>Integrated through Objective HL41</p>
<p><i>Flooding VI</i></p> <p>Galway County Council shall adopt appropriate zoning of lands and restriction of use should apply in areas liable to flooding to avoid increased risk of flooding of the lands either within or adjoining the zoned areas.</p>	<p>Compliance with Government planning guidelines entitled "The Planning System and Flood Risk Management" when adopted.</p>	<p>Integrated through Objective HL39</p>
<p><i>Flooding V</i></p> <p>Galway County Council shall include relevant policies and objectives for the provision and promotion of adequate and appropriate Sustainable Urban Drainage Systems (SUDS).</p>	<p>Minimisation of flood risk</p>	<p>Integrated through Policy HL67 and HL70</p>
<p><i>Flooding VI</i></p> <p>It is the policy of Galway County Council to have regard to the Government planning guidelines entitled "The Planning System and Flood Risk Management" in the preparation of plans (both statutory and non statutory) and assessment of planning applications when adopted.</p>	<p>Compliance with Government planning guidelines entitled "The Planning System and Flood Risk Management" when adopted.</p>	<p>Integrated through Objective HL40</p>

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Mitigation measure	Reason for inclusion	Integration into Plan
<p><i>Flooding VII</i></p> <p>Development in areas at risk of flooding, particularly floodplains, shall be avoided by not permitting development in flood risk areas unless: it is fully justified that there are wider sustainability grounds for appropriate development; unless the flood risk can be managed to an acceptable level without increasing flood risk elsewhere; and, where possible, it reduces flood risk overall.</p>	<p>Compliance with Government planning guidelines entitled "The Planning System and Flood Risk Management" when adopted.</p>	<p>Integrated through Objective HL40 Policy HL55 and DM Standard 23</p>
<p><i>Flooding VIII</i></p> <p>A sequential approach to flood risk management based on avoidance, reduction and then mitigation of flood risk as the overall framework for assessing the location of new development in the development planning processes shall be adopted.</p>	<p>Compliance with Government planning guidelines entitled "The Planning System and Flood Risk Management" when adopted.</p>	<p>Integrated through Objective HL40</p>
<p><i>Flooding IX</i></p> <p>Hydrological reports that include flood risk assessments shall accompany applications for planning permission in and adjacent to areas that are liable to flood and these assessments shall be incorporated into the process of making decisions on planning applications.</p>	<p>Compliance with Government planning guidelines entitled "The Planning System and Flood Risk Management" when adopted.</p>	<p>Integrated through Objective HL41</p>
<p><i>Flooding X</i></p> <p>The Planning Authority shall fulfill its responsibilities under the Flood Risk Directive 2007/60/EC.</p>	<p>Compliance with Flood Risk Directive</p>	<p>Integrated through above provisions and HL66</p>
<p><i>Soil and Contamination I</i></p> <p>Galway County 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>Protection of human health and water quality</p>	<p>Integrated through DM Standard 42</p>
<p><i>Soil and Contamination II</i></p> <p>It is the policy of the Council in relation to proposals for developments on land which is or may be contaminated, to require the applicant to engage a suitably qualified consultant to investigate and assess the possibility and extent of contamination and to recommend remediation measures for agreement with the Council.</p>	<p>Protection of human health and water quality</p>	<p>Integrated through DM Standard 42</p>
<p><i>Soil and Contamination III</i></p> <p>The Council will seek to complete a register of contaminated sites detailing those sites likely to be contaminated within the County.</p>	<p>Protection of human health and water quality</p>	<p>Not integrated</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>Compliance with Valletta Convention 1992 and National Monuments Acts</p>	<p>Integrated through Policies HL22 HL23 HL24 HL27 HL28 HL30, Objective HL7 and DM Standard 43</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>Compliance with Valletta Convention 1992 and National Monuments Acts</p>	<p>Integrated through Policies HL22 HL23 HL24 HL27 HL28 HL30, Objective HL7 and DM Standard 43</p>

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Mitigation measure	Reason for inclusion	Integration into Plan
<p>Cultural Heritage III</p> <p>In order to protect, strengthen and improve the presentation and the general character of County Galway and its settlements, alterations and interventions to Protected Structures shall be executed to the highest conservation standards (Venice Charter and subsequent ICOMOS Charters), and shall not detract from their significance or value.</p>	<p>Compliance with Planning and Development Act 2000 and Architectural Heritage and Historic Monuments Act 1999</p>	<p>Objective integrated through various Plan provisions</p>
<p>Cultural Heritage IV</p> <p>New developments shall contribute to improving their surrounding neighbourhood, and not result in any significant loss in the integrity, quality or character of the area, where appropriate. 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. Galway 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>Compliance with Planning and Development Act 2000 and Architectural Heritage and Historic Monuments Act 1999</p>	<p>Objective integrated through various Plan provisions</p>
<p>Cultural Heritage V</p> <p>The Record of Protected Structures shall be extended on a phased basis in order to incorporate recommendations from the National Inventory of Architectural Heritage.</p>	<p>Compliance with Planning and Development Act 2000 and Architectural Heritage and Historic Monuments Act 1999</p>	<p>Integrated through Objective HL1</p>
<p>Cultural Heritage VI</p> <p>Galway County Council shall promote linkages between significant features of archaeological/architectural significance.</p>	<p>Compliance with Planning and Development Act 2000 and Architectural Heritage and Historic Monuments Act 1999</p>	<p>Integrated through Policies ED32 ED44</p>
<p>Landscape I</p> <p>Galway County Council shall promote linkages between established landmarks and landscape features and views, including recognition of these elements when zoning land and when considering individual development proposals.</p>	<p>Protection of the landscape</p>	<p>Integrated through Policies ED32 ED44</p>
<p>Landscape II</p> <p>Planning Applications that have the potential to significantly adversely impact upon landscapes classified as being of Unique, Special or High Sensitivity or upon Protected Focal Points or Views (as identified in the County Galway Landscape Character Assessment) 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.</p>	<p>Protection of the landscape</p>	<p>Integrated through Objective HL44</p>
<p>Air and Climatic Factors I</p> <p>Galway County Council shall protect and improve air quality in areas zoned for increased urban development and transport related development.</p>	<p>Protection of human health and air quality</p>	<p>Integrated through Plan provisions including Policies RT3 RT12 RT 13 RT15 RT19 RT20</p>
<p>Transportation I</p> <p>Galway County Council shall review the transportation proposals of the Plan in light of The Department of Transport 2020 Vision –Sustainable Travel and Transport Public Consultation Document (Feb 2008)</p>	<p>Reducing energy usage, reducing car dependency and minimising increases in greenhouse gas emissions</p>	<p>Multiple Plan provisions for sustainable transport included under the framework of Policy RT1</p>

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Mitigation measure	Reason for inclusion	Integration into Plan
<p>Transportation II</p> <p>Galway County Council shall develop traffic management measures to reduce the potential for traffic congestion and associated vehicular emissions in urban areas where issues relating to traffic congestion and associated vehicular emissions arise.</p>	<p>Reducing energy usage, reducing car dependency and minimising increases in greenhouse gas emissions</p>	<p>Integrated through Plan provisions including Policies RT3 RT12 RT 13 RT15 RT19 RT20</p>
<p>Waste Management I</p> <p>Galway County 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 and the operation and maintenance phases – having particular regard to Best Practice Guidelines on the preparation of Waste Management Plan for Construction & Demolition Projects” July 2006.</p>	<p>Compliance with Best Practice Guidelines on the preparation of Waste Management Plan for Construction & Demolition Projects</p>	<p>Integrated through Objective IS13</p>
<p>Energy/ Energy Conservation I</p> <p>Galway County Council shall promote energy conservation measures in buildings</p>	<p>Reducing energy usage and minimising increases in greenhouse gas emissions</p>	<p>Integrated through Plan provisions including IS41</p>
<p>Energy/ Energy Conservation II</p> <p>Galway County Council shall promote the use of renewable energy systems (e.g. solar, wind, geothermal etc.) within the community.</p>	<p>Reducing energy usage and minimising increases in greenhouse gas emissions</p>	<p>Integrated through various Plan provisions including Policies IS35 IS37 IS39 and IS40</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 Consultations

SEA scoping letters were sent to the DEHLG, DCMNR and EPA.

The responses to these letters were taken into account during the carrying out of the SEA.

A written response was received from the DEHLG covering the following topics:

- Appropriate Assessment Requirements under the Habitats Directive;
- Assessment of the impact of the Plan on biodiversity and flora and fauna;
- Integration of environmental protection objectives into the environmental report;
- Protection of certain species;
- Protection of designated sites and ecological connectivity;
- Identification of likely significant effects in the environmental report;
- Inclusion of mitigation measures in the environmental report;
- Archaeological heritage legislation and international strategic actions to which the SEA must have regard;
- Development issues with regard to archaeological heritage;
- Assessment of the impact of the Plan on archaeological heritage;
- How to define architectural heritage;
- The level of detail at which architectural heritage should be considered;
- Data gaps with regard to architectural heritage;
- How to deal with the 'do-nothing' scenario and monitoring; and,
- Monitoring and cumulative effects.

A written response was received from the EPA which included an SEA Scoping Pack. This document addressed the following topics:

- Water Framework Directive;
- Drinking Water;
- Groundwater Protection;
- Waste Water Treatment;
- Bathing Water;
- Water Conservation;
- Flood Prevention;
- Habitat Mapping;
- Wetlands;
- EU Protected Habitats and Species in Ireland;
- Appropriate Assessment;
- Alien Species and Noxious Weeds;
- Soil and Contamination;
- Waste Management;
- Transportation;
- Human Health - Quality of Life;
- Air and Climatic Factors;
- Energy/ Energy Conservation;
- Cultural Heritage;
- Landscape;
- Monitoring;
- Relevant Strategic Actions;
- Environmental Impact Assessment;
- Strategic Environmental; Assessment;
- SEA and Infrastructure Planning;
- SEA and Plan-making Guidance;
- GIS;
- Obligations with respect to EU and National Environmental Legislation; and,
- Additional Areas for consideration.

The DCMNR provided a written response indicating that they had no comments to make at that time.

3.3 Submissions and Observations

A submission from the EPA raised a number of points with regard to the following topics:

- Integration of SEA and Plan Sustainable Policies and Objectives in Plan
- Definition of Sustainable Development
- Role of County Plan In Zoning of Land
- Spatial Planning and settlement strategy principles

- EPA Ireland's Environment 2008 –“Main Environmental Challenges”
- Water Framework Directive
- Drinking Water
- Bathing Water
- Groundwater Protection
- Waste Water Treatment
- Water Conservation
- Flood Prevention
- Lakes and Beaches Policies
- Habitat Mapping and Wetlands
- Appropriate Assessment
- EU Protected Habitats and Species in Ireland
- Fisheries
- Shellfish Growing Areas
- Invasive Species
- Non-Designated Habitats and Species
- Plan Policies
- Landscape
- Transportation
- Human Health -Quality of Life Air and Climatic Factors
- Waste Management
- Agriculture
- Soil Stability
- Strategic Environmental Assessment (SEA)
- SEA and Infrastructure Planning
- Obligations with respect to national and EU Environmental Legislation
- Consultation
- Non –Technical Summary
- Relationship to other Plans
- Existing Environment
- Alternatives
- Likely significant effects of the Plan
- Mitigation
- Summary and Conclusions

A number of changes were made to the Environmental Report arising from the EPA submission most notably with regard to updating:

- Section 9 Mitigation Measures.

These changes were provided to the Elected Members when they were considering Proposed Amendments and Managers Reports.

The Spatial Policy and Heritage Sections of the DEHLG both made submissions which addressed the following topics:

- World Heritage Site Bid for Clonmacnoise in County Offaly

- Appropriate Assessment
- Housing Strategy, Settlement Strategy, Strategic Corridor, Transportation Issues
- Flood Risk Management
- Water Framework Directive
- Archaeological Heritage

A number of changes were made to the Environmental Report arising from the DEHLG submission most notably with regard to updating:

- Section 9 Mitigation Measures.

These changes were provided to the Elected Members when they were considering Proposed Amendments and Managers Reports.

3.4 Environmental Report

The findings of 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 County Galway.

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.

Amendments made to the Draft Plan at each stage of the process which followed this period of public display 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.

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.

Environmental considerations have also been integrated into the adopted Plan through a number of mitigation measures including certain measures which are set out in Section 9 of the Environmental Report.

Section 4 Alternatives and the Plan

4.1 Introduction

This section details the alternative scenarios which were identified and evaluated for likely environmental and planning effects as part of the SEA process for the Galway County Development Plan and identifies the reasons for choosing the plan, as adopted, in the light of the other reasonable alternatives dealt with.

4.2 Description of Alternative Scenarios

4.2.1 Alternative Scenario 1: *Dispersed Development Strategy*

Alternative Scenario 1: *Dispersed Development Strategy* (Rural Dispersal with Limited Urban Growth) follows a *laissez-faire* approach to development.

The location and nature of development is completely dependent upon market demand and applications are evaluated on a case-by-case basis by the Council - with little consideration of planning or environmental protection - and favourable consideration is given to new development wherever it is applied for across the County.

Development under this scenario is not required to adhere to the strategies that have been developed through current Local Area Plans which are amended to reflect the new County Development Plan.

The creation of critical mass in certain locations is not a consideration in this development strategy and no specific targets for or limitations on growth are set in the settlement strategy.

The influence of Galway City and Tuam on growth within their commuter zones is strong and significant levels of suburbanisation develop along the roads in the vicinity of these settlements.

Low density greenfield ribbon development emanates from existing settlements along the road corridors thereby expanding the footprints of settlements. Extensive areas of weakly controlled rural housing occur:

- throughout the eastern half of the County around the towns of Tuam, Ballinasloe, Claregalway, Athenry, Portumna and Gort;
- in coastal areas stretching from the outer reaches of Galway City westwards to Connemara and on to, and beyond, Clifden;
- in certain areas of inland Connemara;
- between Galway City and Oughterard, Oughterard and Maam and Maam and the environs of Cong adjacent to County Mayo.

Due to the highly dispersed nature of new settlement and the disproportionate occurrence of rural housing; villages and towns weaken. Limited brownfield development occurs in built up areas which are in need of regeneration. Instances of inappropriately scaled and designed development do occur however at certain locations within a number of the County's larger settlements.

In areas outside of the County's towns and villages, natural resource enterprises such as forestry, wind energy and mineral extraction are interspersed with large areas of rural housing.

Wind energy development occurs in the western half of the County and in the Slieve Aughty Mountains. There is no strategy as to how to accommodate this development within these areas.

4.2.2 Alternative Scenario 2: *Structured Development Strategy*

Alternative Scenario 2: *Structured Development Strategy* (Well Developed Urban Structure supporting Diverse Rural Areas) follows a strong yet flexible approach to development, placing emphasis on building critical mass in the Hub

town (Tuam) and at key towns and villages along the strategic development corridors emerging along the new transportation infrastructure (road and rail).

Existing settlement strategy to be rationalised based on existing and proposed service infrastructure whilst providing a focus for the continued support of the rural areas.

Rural populations to be supported through this settlement strategy and through a sustainable, flexible approach to maintaining rural economy and population, balanced against responsible environmental protection.

Some areas of weakly controlled development in rural areas - especially along coasts with reasonable containment of development outside major towns.

Large areas of natural habitat remain in the West of the County interspersed with recreation and tourism enterprises adjoining extensive areas of natural resource enterprises such as forestry, wind energy and mineral extraction.

The east-west central corridor of the County contains the majority of the settlement, infrastructure and enterprise.

Settlement is highly dispersed; villages and towns remain weak - except in tourism areas where they have poor social cohesion.

Growth is distributed across the County, generally in line with the adopted Settlement Hierarchy, also having regard to the National Spatial Strategy (NSS).

4.2.3 Alternative Scenario 3: *Centred Development Strategy*

Alternative Scenario 3: *Centred Development Strategy* (Strong Urban Centres and Rural Protection) focuses on building strong urban centres and generating critical mass in the Galway Gateway, the Tuam Hub and a restricted number of towns to support enhanced infrastructure and services. These settlements would act as focal points for their rural catchments.

Development outside of these centres would be strictly controlled to retain the character of

existing rural areas and a strong environmental protection policy would be implemented.

Growth is distributed across the County in line with the adopted Settlement Hierarchy, also having regard to the National Spatial Strategy (NSS) and the Regional Planning Guidelines. This scenario advocates and implements strong and robust environmental protection policies which are applied to various environmental zones within the County.

The majority of the Coast and the Connemara Highlands are managed and planned as natural amenities subject to strict interpretation of EU Directives - with the exception of areas designated for natural resource enterprises such as forestry, wind energy and mineral extraction. The east of the County supports rural enterprises - based on agri-business, and service functions set in a matrix of strengthening villages and towns as well as some rural settlement in planned areas.

Rural areas of the County sustain recreation and tourism enterprises as well as environmental services. Quality of life is the priority in strong towns and villages. A separate and distinctive coastal complex sustains a mixture of marine enterprises, tourism, settlement, and culture and service facilities in an overwhelmingly natural context.

Rural Settlements would be planned in order to evolve into small mixed use urban centres, providing a range of services and employment to their local population..

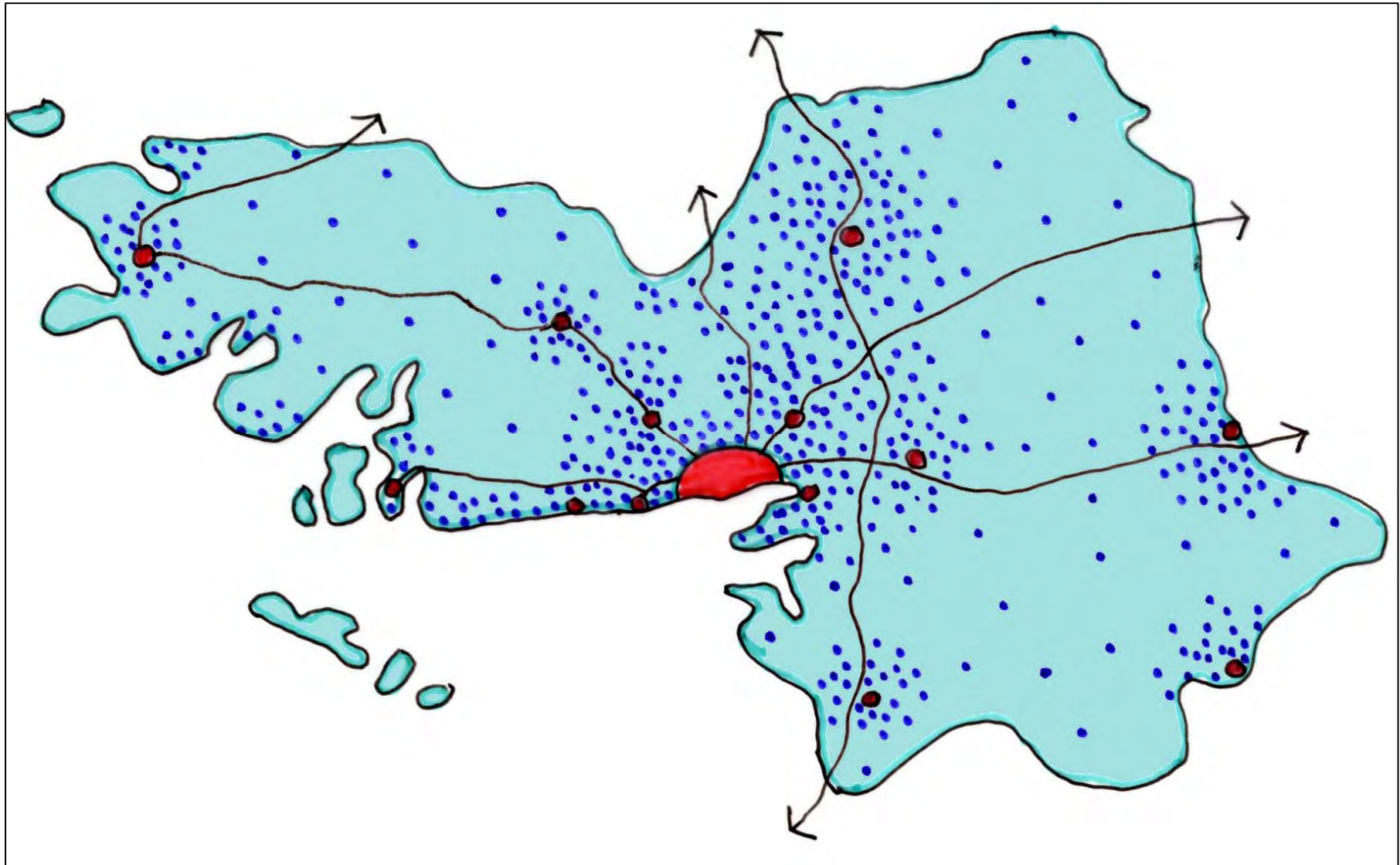


Figure 4.1 Alternative Scenario 1 - *Dispersed Development Strategy (Rural Dispersal with Limited Urban Growth)*

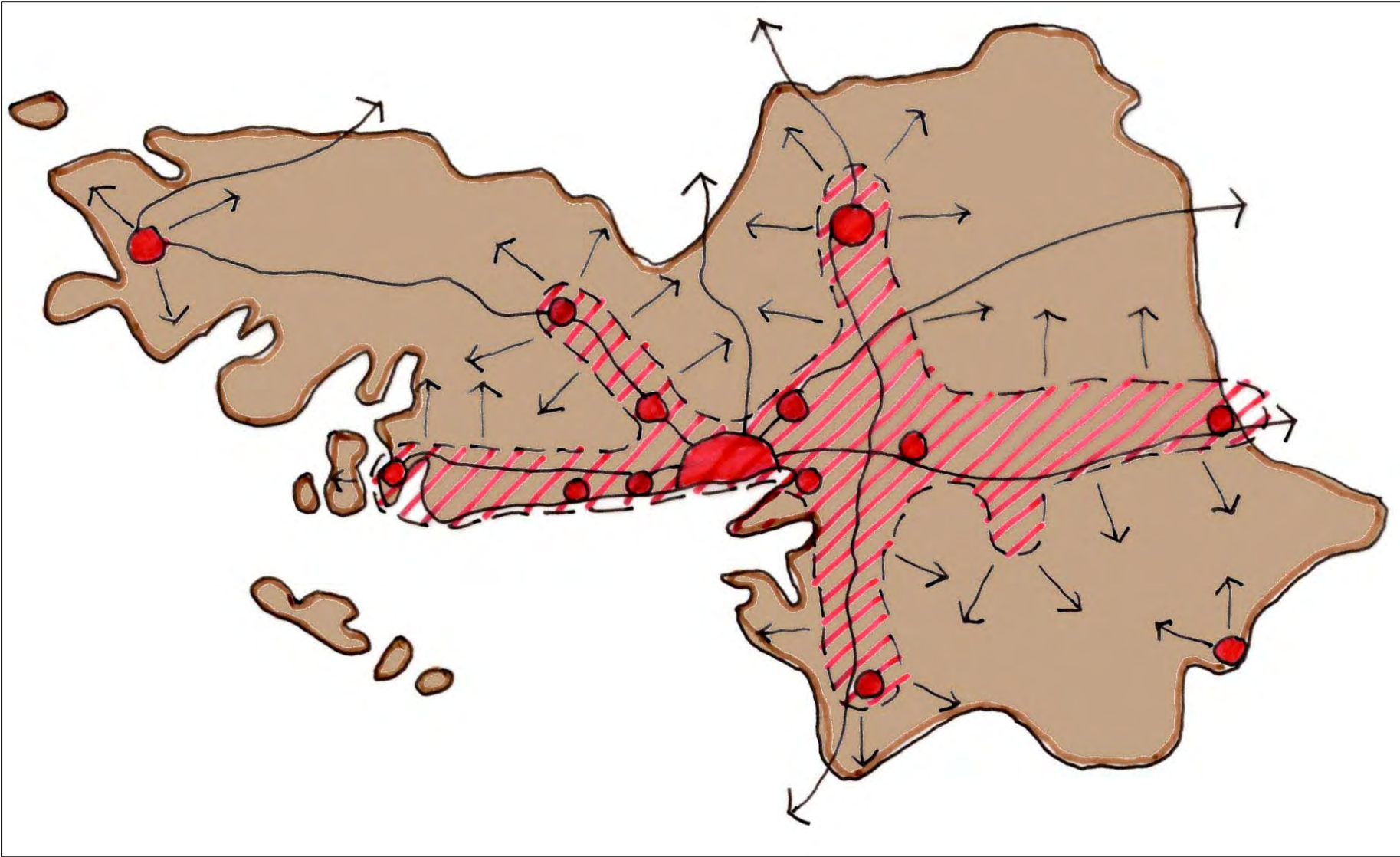


Figure 4.2 Alternative Scenario 2 - *Structured Development Strategy (Well Developed Urban Structure Supporting Diverse Rural Areas)*

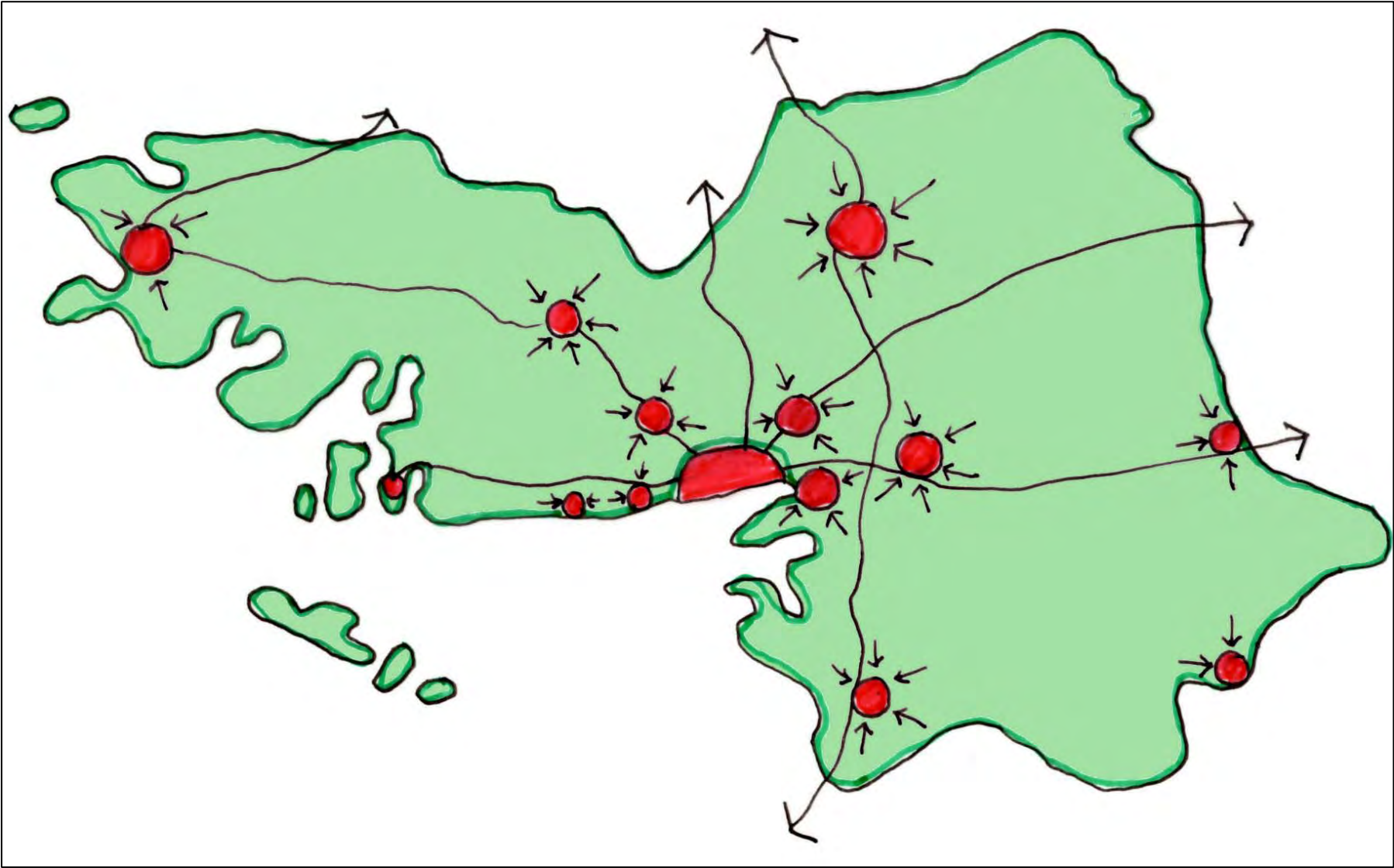


Figure 4.3 Alternative Scenario 3 - Centered Development Strategy (Strong Urban Centres and Rural Protection)

4.3 Evaluation of Alternative Scenario 1: *Dispersed Development Strategy*

4.3.1 Planning Effects

The economic and social implications of this scenario would be significantly negative.

Protecting the County's natural environment and ensuring a degree of stability and certainty in established residential areas with regard to their future development makes for sound planning. However, to ensure that the County's current form and character determines the future shape and scope of the County would in the long run be to the detriment of the County's social, economic and environmental fabric overall.

4.3.2 Environmental Effects

4.3.2.1 Introduction

This Scenario will have different effects in different areas, which are considered on an area-by-area basis below. A number of general impacts will affect all areas under the following headings:

4.3.2.2 General Effects

A. Water

Having regard to the shallow soils, vulnerable aquifers and poor patterns on adequate installation or operation of effluent treatment systems, it is likely that this scenario will lead to significant further declines in the status of surface and groundwaters because of the inadequacy of the infrastructure to collect, treat and dispose of effluents arising. This will have direct, indirect and cumulative effects on human health, economic development and on the resources necessary to sustain designated sites and species.

B. Ecology

Having regard to the significance, sensitivity, extent and integrity of existing designated habitats and species throughout the County - it is likely that this scenario will give rise to many instances of direct, indirect and cumulative effects on designated sites, protected species and the resources necessary to sustain them.

However, it is extremely important to understand, and accept, that these habitats and their associated species are manifestations of a landscape that has been altered and managed by human beings for the majority⁴ of their existence since the last Ice Age. Thus the continuation of human occupancy and use - facilitated by these developments - is a potentially significant positive factor in sustaining the management regime that gives rise to and sustains these designated sites.

C. Landscape

Having regard to the existence of extensive areas of landscapes that are highly valued at a national level as scenic and tourism resources and to the vulnerability of those resources - due to the open and largely unenclosed nature of the landscape - it is likely that this scenario will give rise to many instances of direct, indirect and cumulative effects on the appearance and character of vulnerable and valued landscapes.

However, it is extremely important to understand, and accept, that these landscapes have been altered and managed by human beings for the majority⁵ of their existence since the last Ice Age. Thus the continuation human occupancy and use - facilitated by these developments - is a potentially significant positive factor in sustaining the management regime that gives rise to and sustains these landscapes.

D. Traffic and associated effects

Having regard to the highly dispersed settlement pattern that results from this scenario there are likely to be commensurately high levels of movements of private cars and other transport. This will give rise to increased volumes of traffic with associated congestion and economic losses as well as direct emissions [air, noise and water runoff], energy uses and indirect effects due to the need for new or improved road capacity - resulting in impacts on ecology, landscape, cultural heritage and infrastructure.

⁴ Agriculture in Ireland is estimated to have been a significant environmental modifier for about six thousand years. Unmodified post-Glacial habitats existed for about four thousand years prior to that time.

⁵ Agriculture in Ireland is estimated to have been a significant environmental modifier for about six thousand years. Unmodified post-Glacial habitats existed for about four thousand years prior to that time.

4.3.2.3 Area Effects

A. The Lough Corrib Catchment

Having regard to the high concentrations of designations for scenery, ecology and the extreme vulnerability of surface and ground waters together with the absence of adequate infrastructure and the existing high levels of existing settlements, this area will experience significant additional levels of adverse environmental effects in addition to the existing environmental issues that already occur in this area.

B. The Connemara Highlands

Having regard to the high concentrations of designations for scenery, ecology together with the absence of adequate infrastructure, this area will experience additional levels of adverse environmental effects.

C. The Coast

Having regard to the high concentrations of designations for scenery, ecology and the vulnerability of waters together with the absence of adequate infrastructure and the existing high levels of existing settlements, this area will experience significant additional levels of adverse environmental effects in addition to the existing environmental issues that already occur in this area.

D. East Galway

Having regard to the deeper soils, less vulnerable aquifers, lower concentrations of ecological designations, lower scenic significance, lower concentration of dwelling and greater frequency of existing settlements with associated infrastructure - this area will experience relatively few additional adverse effects on environmental resources - other than those that already exist - with the possible exception of increased vulnerability to flooding in the extreme south-east of the County.

4.4 Evaluation of Alternative Scenario 2: *Structured Development Strategy*

4.4.1 Planning Effects

The approach taken by Scenario 2 - is consistent with national planning policy and aims to maximise urban development on inner suburban and brownfield sites in order to minimise suburban sprawl. The more intensive urban

development provided for by this scenario would enable the delivery of a critical mass of population to underpin new infrastructure and services; in particular, a high quality public transport service for the County.

With future population and economic growth targeted at these key areas, other areas - including existing residential areas - would experience development relative to their carrying capacity which would facilitate the protection of the character and amenity of these areas.

By accommodating new populations through the redevelopment of strategic urban areas within the plan area, this approach would reduce the need to accommodate these populations by way of greenfield development and facilitate the development of sustainable communities where population and employment can be developed in union thereby reducing travel to work times and traffic congestion and encouraging sustainable living patterns. By helping to reduce pressure on greenfield land adverse environmental impacts across the region would be reduced.

This approach is a pragmatic mixture of a *Plan-led* and a *Market-led Approach* - which would allow for the market to dictate where some development takes place.

As the market will react to trends and changes in demand and profitability (e.g. whether it is for commercial or residential development) the nature and type of development delivered will depend on changeable economic circumstances.

This reduces the coherence of the spatial strategy and increases the difficulty of the delivery of infrastructure and sustainable transport systems and communities.

Some areas of the County will lack a coherency of form and character - thereby undermining the creation of sense of place and belonging for future populations - while more urban areas will improve.

4.4.2 Environmental Effects

4.4.2.1 Introduction

This Scenario will have different effects in different areas, which are considered on an area-by area basis below. A number of general impacts will affect all areas under the following headings:

4.4.2.2 General Effects

A. Water

Having regard to the shallow soils, vulnerable aquifers and poor patterns on adequate installation or operation of effluent treatment systems, it is likely that this scenario will help to reduce significant further declines in the status of surface and groundwaters. This is likely to occur because of the provision of additional infrastructure to collect, treat and dispose of effluents arising. This, in turn, will have localised direct, indirect and cumulative positive effects on human health, economic development and on the resources necessary to sustain designated sites and species. While this will help to reduce the effects of new developments, the environmental issues associated with existing developments are likely to persist beyond the current plan period.

B. Ecology

Having regard to the significance, sensitivity, extent and integrity of existing designated habitats and species throughout the County - and in particular in the concentrations in the areas mentioned in Section 4.4.2.3 - it is likely that this scenario will help to reduce direct, indirect and cumulative effects caused by new developments on designated sites, protected species and the resources necessary to sustain them. However the environmental issues associated with existing developments are likely to persist beyond the current plan period.

However, it is extremely important to understand, and accept, that these habitats and their associated species are manifestations of a landscape that has been altered and managed by human beings for the majority⁶ of their existence since the last Ice Age. Thus the reduction of human occupancy and use - due to restrictive rural planning policies in some parts of the County - is a potentially negative factor in contributing to the reduction of the management regime that gives rise to and sustains these designated sites.

C. Landscape

Having regard to the existence of extensive areas of landscapes that are highly valued at a

national level as scenic and tourism resources and to the vulnerability of those resources - due to the open and largely unenclosed nature of the landscape - it is likely that this scenario will reduce direct, indirect and cumulative effects on the appearance and character of vulnerable and valued landscapes. However the environmental issues associated with existing developments are likely to persist beyond the current plan period.

However, it is extremely important to understand, and accept, that these landscapes have been altered and managed by human beings for the majority⁷ of their existence since the last Ice Age. Thus the reduction of continuation human occupancy and use - due to restrictive rural planning policies in parts of the County - is a potentially negative factor in contributing to the reduction of the management regime that gives rise to and sustains these landscapes.

D. Traffic and associated effects

Having regard to the more concentrated settlement pattern that are likely to result from this scenario there are likely to be lower levels of movements of private cars and other transport. This will give rise to stable volumes of traffic with no increases in congestion and economic losses as well as direct reductions in emissions [air, noise and water runoff], energy uses and a reduction of indirect effects due to the need for new or improved road capacity - resulting in fewer impacts on ecology, landscape, cultural heritage and infrastructure.

4.4.2.3 Area Effects

A. The Lough Corrib Catchment

Having regard to the high concentrations of designations for scenery, ecology and the extreme vulnerability of surface and ground waters, localised potential for flooding together with the absence of adequate infrastructure and the existing high levels of existing settlements this area will experience stabilisation of adverse environmental effects as well as an no further declines of existing environmental conditions in this area.

⁶ Agriculture in Ireland is estimated to have been a significant environmental modifier for about six thousand years. Unmodified post-Glacial habitats existed for about four thousand years prior to that time.

⁷ Agriculture in Ireland is estimated to have been a significant environmental modifier for about six thousand years. Unmodified post-Glacial habitats existed for about four thousand years prior to that time.

B. The Connemara Highlands

Having regard to the high concentrations of designations for scenery and ecology together with the absence of adequate infrastructure, this area will experience no additional levels of adverse environmental effects.

C. The Coast

Having regard to the high concentrations of designations for scenery, ecology and the vulnerability of waters together with the absence of adequate infrastructure and the existing high levels of existing settlements, this area will experience stabilisation of adverse environmental effects because of improved environmental infrastructure that will be more economically feasible for areas with concentrated patterns of development.

D. East Galway

Having regard to the deeper soils, less vulnerable aquifers, lower concentrations of ecological designations, lower scenic significance, lower concentration of dwelling and greater frequency of existing settlements with associated infrastructure, this area will experience relatively few additional adverse effects on environmental resources - other than those that already exist and an increase vulnerability to flooding in the south-east of the County⁸.

4.5 Evaluation of Alternative Scenario 3: *Centred Development Strategy*

4.5.1 Planning Effects

This *Plan-led Approach* - would allow for densities to be maximised and efficient use made of serviced land.

A more coherent spatial strategy for the distribution of population will facilitate the delivery of sustainable infrastructure, transport systems and communities.

Areas of the County will have improved coherency of form and character thereby bringing about the creation of sense of place and belonging for future populations.

⁸ The catchments of the Cappagh, Kilcrow, Killadullisk and Killoran Rivers

4.5.2 Environmental Effects

4.5.2.1 Evaluation

This Scenario will have different effects in different areas, which are considered on an area-by area basis below. A number of general impacts will affect all areas under the following headings:

4.5.2.2 General Effects

A. Water

Having regard to the shallow soils, vulnerable aquifers and poor patterns on adequate installation or operation of effluent treatment systems, it is likely that this scenario will help to reduce or prevent significant further declines in the status of surface and groundwaters. This is likely to occur because of the provision of adequate of the infrastructure to collect, treat and dispose of effluents arising. This, in turn, will have direct, indirect and cumulative positive effects on human health, economic development and on the resources necessary to sustain designated sites and species.

B. Ecology

Having regard to the significance, sensitivity, extent and integrity of existing designated habitats and species throughout the County - and in particular in the concentrations in the areas mentioned in Section 4.5.2.3 - it is likely that this scenario will help to avoid or reduce direct, indirect and cumulative effects on designated sites, protected species and the resources necessary to sustain them.

However, it is extremely important to understand, and accept, that these habitats and their associated species are manifestations of a landscape that has been altered and managed by human beings for the majority⁹ of their existence since the last Ice Age. Thus the discontinuation of human occupancy and use - due to restrictive rural planning policies - is a potentially significant negative factor in contributing to the cessation of the management regime that gives rise to and sustains these designated sites.

⁹ Agriculture in Ireland is estimated to have been a significant environmental modifier for about six thousand years. Unmodified post-Glacial habitats existed for about four thousand years prior to that time.

C. Landscape

Having regard to the existence of extensive areas of landscapes that are highly valued at a national level as scenic and tourism resources and to the vulnerability of those resources – due to the open and largely unenclosed nature of the landscape - it is likely that this scenario will avoid or reduce direct, indirect and cumulative effects on the appearance and character of vulnerable and valued landscapes.

However, it is extremely important to understand, and accept, that these landscapes have been altered and managed by human beings for the majority¹⁰ of their existence since the last Ice Age. Thus the discontinuation of continuation human occupancy and use - due to restrictive rural planning policies - is a potentially significant negative factor in contributing to the cessation of the management regime that gives rise to and sustains these landscapes.

D. Traffic and associated effects

Having regard to the concentrated settlement pattern that are likely to result from this scenario there are likely to be commensurately lower levels of movements of private cars and other transport. 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], energy uses and avoidance or reduction of indirect effects due to the need for new or improved road capacity - resulting in fewer impacts on ecology, landscape, cultural heritage and infrastructure.

4.5.2.3 Area Effects

A. The Lough Corrib Catchment

Having regard to the high concentrations of designations for scenery, ecology and the extreme vulnerability of surface and ground waters, localised potential for flooding together with the absence of adequate infrastructure and the existing high levels of existing settlements, this area will experience an avoidance or reduction of adverse environmental effects as well as an improvement of existing environmental issues in this area.

B. The Connemara Highlands

Having regard to the high concentrations of designations for scenery and ecology together with the absence of adequate infrastructure, this area will experience no additional levels of adverse environmental effects.

C. The Coast

Having regard to the high concentrations of designations for scenery, ecology and the vulnerability of waters together with the absence of adequate infrastructure and the existing high levels of existing settlements, this area will experience significant improvements in environmental conditions because of improved environmental infrastructure that will be economically feasible for concentrated patterns of development.

D. East Galway

Having regard to the deeper soils, less vulnerable aquifers, lower concentrations of ecological designations, lower scenic significance, lower concentration of dwelling and greater frequency of existing settlements with associated infrastructure - this area will experience relatively few additional adverse effects on environmental resources - other than those that already exist and an increase vulnerability to flooding in the south-east of the County¹¹.

¹⁰ Agriculture in Ireland is estimated to have been a significant environmental modifier for about six thousand years. Unmodified post-Glacial habitats existed for about four thousand years prior to that time.

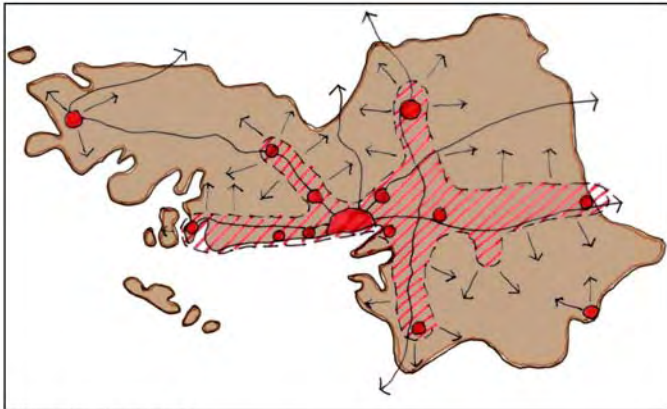
¹¹ The catchments of the Cappagh, Kilcrow, Killadullisk and Killoran Rivers

4.6 Reasons for choosing the plan, as adopted, in light of the other reasonable alternatives dealt with

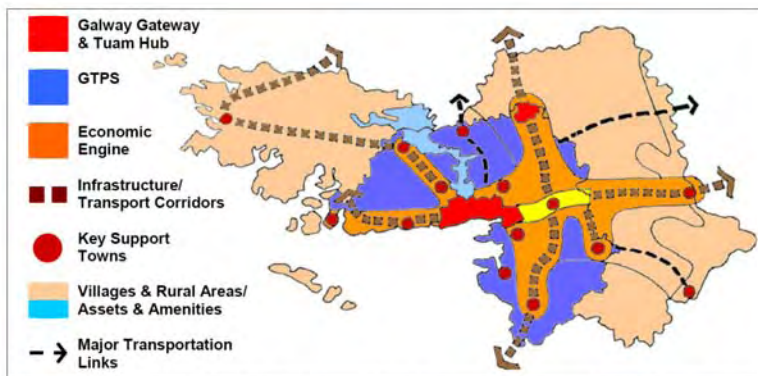
The Alternatives that were examined were produced and evaluated at an earlier - more embryonic - stage to facilitate evaluation and selection of a plan - having regard, *inter alia* to environmental consequences. The figures below illustrate the comparison between the evaluated Preferred Alternative for the Plan [top] and the Spatial Planning and Settlement Strategy for the County from the County Development Plan [below].

In summary the Plan represents a pragmatic recognition and continuation of established patterns and trends of development in County Galway. These have been modified to take account of the significant environmental sensitivities that exist over very large portions of the County with a view to stabilising both environmental conditions and the populations of those communities who continue to sustain these environments.

See also evaluation of Alternative Scenarios provided under Section 4.3 to 4.5 above.



**Alternative Scenario 2 -
Structured Development Strategy
(Well Developed Urban Structure Supporting Diverse Rural Areas)**



Illustrative depiction of the spatial planning and settlement strategy for the County from the County Development Plan

Summary of Principle Environmental Effects

Ecology

Will help to reduce direct, indirect and cumulative effects caused by new developments

Environmental issues associated with existing developments are likely to persist

Water

Will help to reduce significant further declines in the status of surface and groundwaters

Will have localised direct, indirect and cumulative positive effects

Environmental issues associated with existing developments are likely to persist

Landscape

Will reduce direct, indirect and cumulative effects on the appearance and character of vulnerable and valued landscapes

Issues associated with existing developments are likely to persist

Traffic

Lower levels of movements of private cars

Will give rise to stable volumes of traffic with no increases in congestion

Other

Localised potential for flooding in L Corrib Basin

Stabilisation of adverse environmental effects on Coast

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. The SEA Environmental Report puts forward proposals for monitoring the likely significant environmental effects of implementing the County Development Plan (CDP).

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

5.2 Indicators and Targets

Monitoring is based around the indicators which 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 CDP and existing monitoring arrangements will be used in order to monitor the selected indicators. Each indicator to be monitored will be accompanied by the relevant target(s) which were identified with regard to the relevant legislation.

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

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 Galway 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 Galway 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.

5.3.1 Excluded Indicators and Targets

As noted on Table 5.1 below, 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.

In addition, future monitoring data for Indicators C1i (Percentage of population within the plan area travelling to work or school by public transport or non-mechanical means) and C1ii (Average distance travelled to work or school by the population of the County) will not be available until the results of the next CSO Census are made available. It is recommended that data for these indicators be sourced for the SEA of the next review of the Plan.

5.4 Reporting

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

5.5 Responsibility

Galway 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.

The Environmental Report recommends 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;
- 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 Galway County Council</p> <p>Development Management Process in Galway 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>Galway 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 Galway 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>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 W1ib: To improve biotic quality ratings, where possible, to Q5</p>	<p>Environmental Protection Agency</p>
	<p>Indicator W1ii: EPA Trophic Status of Lakes</p>	<p>Target W1iia: To achieve a minimum trophic status of mesotrophic, in line with the requirement to achieve good water status under the Water Framework Directive, by 2015 Target W1iib: To improve trophic status, where possible, to oligotrophic</p>	<p>Environmental Protection Agency</p>
	<p>W2: Trophic Status (ATSEBI)</p>	<p>W2: 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>Environmental Protection Agency</p>
	<p>W3: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</p>	<p>W3: Compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</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>
	<p>W4: Mandatory and Guide values as set by Directive (76/160/EEC)</p>	<p>W4: To achieve - as a minimum - Mandatory values, and where possible to achieve Guide values as set by Directive (76/160/EEC)</p>	<p>Environmental Protection Agency</p>
<p>W5: Number of developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</p>	<p>W5: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</p>	<p>Development Management Process in Galway 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 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 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 Galway 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 or loss entries to the Record of Protected Structures and/or their context within the surrounding landscape where relevant</p> <p>CH2ii: Number of additions to the Record of Protected Structures and the number of additional ACAs, where appropriate</p>	<p>CH1: No unauthorised developments occurring which result in full or partial loss to entries to the Record of Monuments and Places - including Zones of Archaeological Potential - and the context of the above within the surrounding landscape where relevant</p> <p>CH2i: No unauthorised developments occurring which result in physical loss or loss entries to the Record of Protected Structures and/or their context within the surrounding landscape where relevant</p> <p>CH2ii: Make Additions to the Record of Protected Structures and make additional ACAs, where appropriate</p>	<p>Development Management Process in Galway County Council; Complaints from statutory consultees</p> <p>Development Management Process in Galway County Council; Complaints from statutory consultees</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 landscapes which are most valuable and most sensitive to change and protected focal points and views - 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 which are most valuable and most sensitive to change and protected focal points and views - resulting from development which is granted permission under the CDP	Development Management Process in Galway County Council; Complaints from statutory consultees

Table 5.1 Selected Indicators, Targets and Monitoring Sources