

Meath County Development Plan 2013–2019

Volume 4
Strategic Environmental
Assessment (SEA) &
Natura Impact Report



comhairle chontae na mí
meath county council



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1

Introduction and Background

1.1

Purpose of SEA Statement

This document is the Strategic Environmental Assessment (SEA) Statement for the Meath County Development Plan 2013-2019.

The main purpose of the SEA Statement is to provide information on the decision-making process and to document how environmental considerations, the views of statutory consultees and other submissions received during the consultation phases have been taken into account in the adopted Plan, together with the arrangements put in place for monitoring, thereby bringing more transparency to the decision-making process.

The SEA process thereby assists in and improves the quality of the plan making process by:

- Facilitating the identification and appraisal of alternative plan strategies;
- Raising awareness of the environmental impacts of the plan's implementation; and
- Encouraging the inclusion of measurable targets and indicators to aid monitoring.

1.2

Legislative Context

The requirement to carry out Strategic Environment Assessment stems from the Strategic Environmental Impact Assessment Directive (2001/42/EC). The objective of SEA is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development throughout the member states of the EU.

The Directive has been introduced into Irish Law through the:

- European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, S.I. No. 435 of 2004, European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, and
- Planning and Development (Strategic Environmental Assessment) Regulations 2004, S.I. 436 of 2004, as amended by S.I. No. 200 of 2011 European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment)

Regulations 2011 and S.I. No. 201 of 2011 Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011, respectively.

Section 13(l) (1) of S.I. 436 of 2004 sets out the requirements of the SEA Statement as follows:

- how environmental considerations have been integrated into the plan,
- how the following has been taken into account during the preparation of the plan:
 - the environmental report;
 - submissions and observations made on the Draft Plan and Environmental Report; and
 - consultations with other Member States (if any).
- the reasons for choosing the plan, as adopted, in the light of the other reasonable alternatives dealt with, and
- the measures decided upon to monitor the significant environmental effects of implementation of the plan.

The SEA has also been informed by guidance issued by statutory authorities, namely

- **Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland – Synthesis Report** (Environmental Protection Agency, 2003),
- **Implementation of SEA Directive 92001/42/EC: Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Local Authorities and Planning Authorities** (Department of the Environment, Heritage and Local Government, 2004), and
- **SEA Pack (Updated August 2012)** (Environmental Protection Agency, 2012)

1.3

SEA Process

The Meath County Development Plan 2013-2019 required Strategic Environmental Assessment, in accordance with the legislation as outlined above. An Environmental Report prepared to accompany the Draft Meath County Development Plan was submitted for consideration together with the Draft Plan. The Environmental Report provides an understanding of the consequences for the environment of carrying out the Plan as proposed.

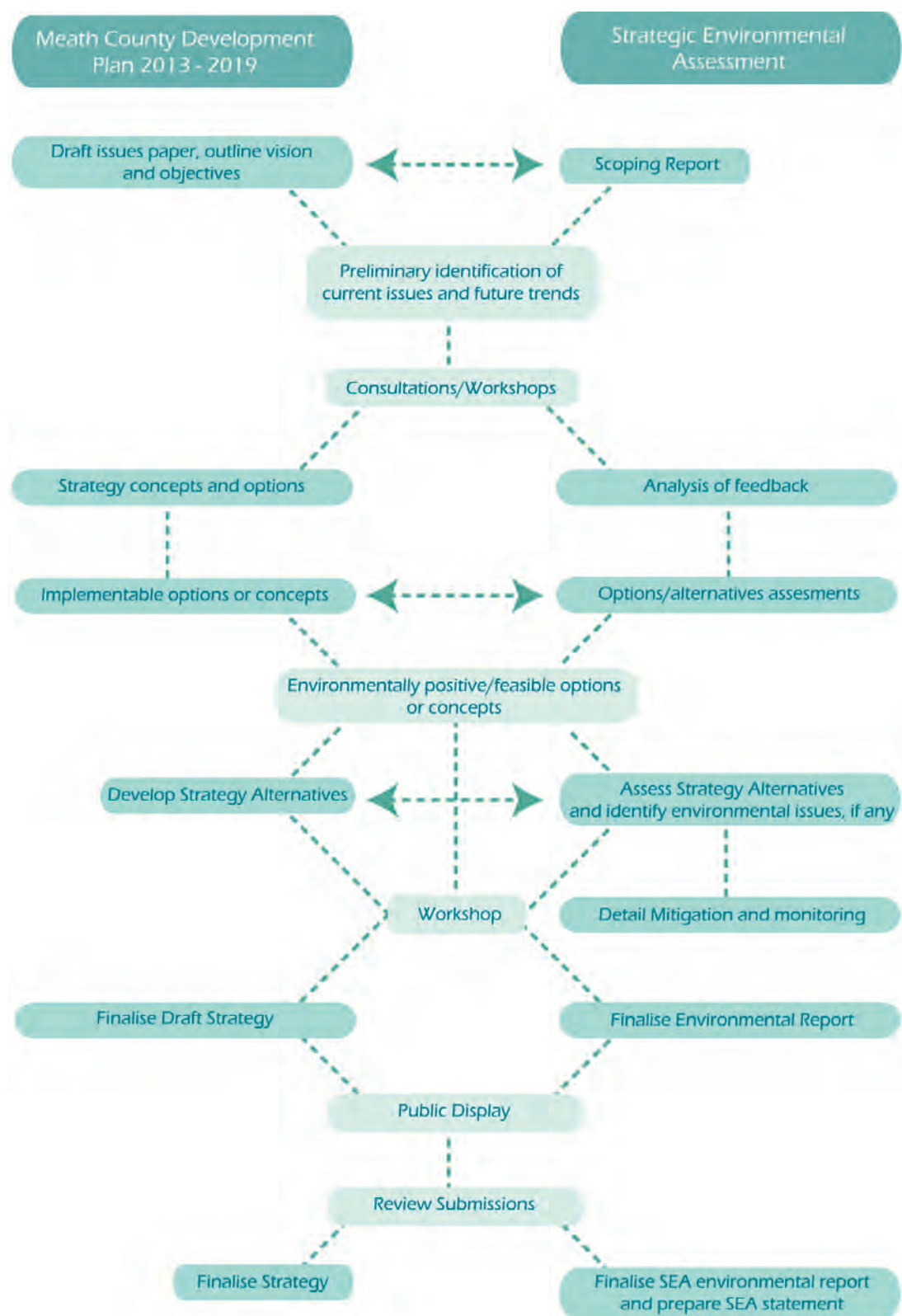
Submissions on the Draft Plan and Environmental Report were evaluated at each stage in the process of making the Plan. This enabled the proper assessment of the effect on the environment of proposed changes and amendments. The Elected Members of Meath County Council are obliged to take the Environmental Report into account in making the Development Plan.

The legislation and guidelines governing the SEA process state that the processes of

preparing the Development Plan, SEA and Appropriate Assessment (AA) should be integrated and prepared in an iterative manner. The Environmental Report (ER) outlines the how the SEA process was carried out in tandem with the preparation of the Meath County Development Plan 2013–2019 and its accompanying AA. The SEA process, which included Strategic Review meetings and SEA/AA/Development Plan workshops, ensured that the Plan was informed by environmental considerations from the outset. The SEA Team were fully involved in the analysis of development options and were in a position to make suggestions throughout the process of the Plan preparation to ensure that environmental considerations and environmental effects were considered in the formulation of strategic goals and development objectives.

Table 1.1 provides a summary of the integrated nature of the Development Plan Review and SEA process.

Table 1.1 Meath County Development Plan: Integrated Development Plan and SEA Process



2

Integration of Environmental Considerations into the Plan

2.1

Purpose of SEA Statement

Environmental considerations were integrated into the Development Plan making process at all stages.

This initially comprised detailing of the baseline situation and identification and mapping of environmental constraints and sensitivities so as to ensure that the strategy for the development of the county was either

diverted away from the most sensitive areas or that appropriate mitigation measures were integrated into the Plan as it was prepared.

As the Plan developed, environmental considerations were directly considered at a number of stages in the SEA process as set out in Table 2.1.

Table 2.1 Key Stages of SEA

Stage	Description
Screening	<p>The screening process is the first stage of the Strategic Environmental Assessment. Screening assesses the requirement to undertake a Strategic Environmental Assessment.</p> <p>Under the Planning and Development Act 2000-2011 full Strategic Environmental Assessment is mandatory for the Meath County Development Plan 2013-2019.</p>
Scoping	<p>Scoping of the Meath County Development Plan 2013-2019 was carried out in accordance with Article 5 (4) of the SEA Directive (2001/42/EC).</p> <p>The principal purpose of the Scoping Stage is to decide upon the range of issues and level of detail to be included in the Environmental Report. An overview of the relevant environmental issues requiring further analysis is provided for consideration in the Environmental Report and ultimately in the Development Plan itself.</p> <p>In highlighting some of the significant issues at an early stage, the scoping process ensures that the issues are firmly to the forefront when considering each of the policies and objectives of the Plan and reduces the possibility of relevant issues not being addressed.</p>
Scoping Consultation with Environmental Authorities	<p>Submissions were received from the Department of Arts, Heritage and the Gaeltacht, Environmental Protection Agency and Louth County Council.</p>
Scoping Report	<p>Submissions received from Environmental Authorities were reviewed and incorporated into the process as appropriate.</p>

Stage	Description
Preparation of ER & Draft Meath County Development Plan 2013-2019	<ul style="list-style-type: none"> • A multi-disciplinary team was established to create policy consistent documents and to examine the effects on the environment of implementing the objectives and policies. • Objectives created in Development Plan were assessed in ER and Development Scenarios for the County were examined. • Feedback from on-going Plan preparation process & ER preparation. Favoured scenario chosen. • Mitigation measures discussed, reviewed and selected. • Implementation and Monitoring incorporated into existing methods.
Preparation of Amendments to the Draft Meath County Development Plan and Screening for effects on the environment	Review and screening of proposed amendments for potential impacts on environment.
Making of Meath Development Plan 2013-2019 and revised Environmental Report	<p>Review of final amendments for impacts on environment.</p> <p>Finalising SEA Environmental Report and Natura Impact Report (NIR)</p> <p>Preparation of SEA Statement (this document)</p>
Monitoring the County Development Plan	Monitoring significant environmental effects over the lifetime of the Meath County Development Plan 2013-2019

2.2 Scoping

On the 2nd March 2011 Meath County Council published formal notification of the Review of the Meath County Development Plan 2007-2013, issued a Strategic Issues Paper for the County Development Plan 2013-2019 and commenced pre-draft consultation on the Draft Meath County Development Plan 2013-2019. Submissions were accepted until 29th April 2011.

Prior to statutory scoping of the Meath County Development Plan, and in addition to a full review of submissions received at pre-draft consultation (see Section 3.2 below), a Strategic Review Meeting was held between the SEA/AA/Development Plan Team and the EPA so as to establish principles for the review of the County Development Plan. The meeting clarified issues surrounding the methodology, structure and key environmental issues for

the preparation of the SEA, AA and the Draft Development Plan.

Statutory scoping of the Meath County Development Plan 2013-2019 was carried out in accordance with Article 5 (4) of the SEA Directive (2001/42/EC). The principal purpose of the Scoping Stage is to decide upon the range of issues and level of detail to be included in the Environmental Report.

Scoping involved formal consultation with the statutory consultees providing such bodies with an opportunity to comment on highlighted issues and proposed methodology. Under the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 the statutory consultees for County Meath comprise:

- The Environmental Protection Agency.
- The Minister for Environment, Community and Local Government.
- The Minister for Agriculture, Marine and Food.
- The Minister for Communications, Energy and Natural Resources.
- The Minister for Arts, Heritage and the Gaeltacht.
- Any adjoining planning authority whose area is contiguous to the area of a planning authority which prepared a plan, – in this case counties include Fingal, Kildare, Offaly, Westmeath, Monaghan, Cavan and Louth.

A Scoping Report was prepared in order to facilitate consultation with statutory consultees.

Consultees were requested to review the content of the report and to comment, as appropriate on aspects they believe may require particular consideration in the preparation of the Draft Development Plan and associated SEA Environmental Report and Appropriate Assessment documentation.

The Scoping Report was issued to the consultees in February 2012 and formal responses were received from:

- Department of Arts, Heritage and the Gaeltacht.
- Environmental Protection Agency (EPA).
- Louth County Council.

A review of the scoping submissions is provided at Section 3.3 below.

2.3

Environmental Baseline Data

The baseline data assists in assessing the current state of the environment, facilitating the identification, evaluation and subsequent monitoring of the effects of the Plan. Thus, this information creates a platform whereby existing issues relevant to the Plan area can be quantified (where possible) or qualified thereby ensuring that the implementation of the Plan does not exacerbate these issues.

Baseline data was collected, based on the environmental topics described in the SEA Directive i.e. relating to biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage, and landscape. The Directive requires that information be focused upon relevant aspects of the environmental

characteristics of the area likely to be significantly affected by the Plan and the likely change, in either positive and negative terms. The baseline data was collated from currently available and relevant data sources and appropriate mapping prepared. A selection of the mapping prepared and included in the Environmental Report is included in Section 6 Mapping of this Statement.

The process allowed for an early identification of potential environmental issues / pressures requiring attention in this formulation of the Draft Development Plan see Table 2.2. Specifically a number of key recommendations were made to the Plan-making team for consideration of measures aimed to address the specific issues raised.

Table 2.2 Summary of Environmental Issues / Pressures (from SEA Scoping Report)

Topic	Environmental Issues/Pressures
Biodiversity, Fauna and Flora	<p>The natural heritage of County Meath is an important asset and a unique resource. The variety of habitats distributed throughout Meath are focused around the Boyne and Blackwater rivers as well as along the short coastline which supports a wide range of rare or threatened flora and fauna species. Protecting and conserving these habitats is critically important, not just to the residents of the County but also in a national and international context.</p> <p>Within the County there are a number of areas designated for protection under the Natura 2000 network. These include 8 candidate Special Areas of Conservation (cSAC) and 4 Special Protection Areas (SPA). In addition there are 3 Natural Heritage Areas (NHA) and 28 proposed Natural Heritage Areas (pNHA). Furthermore, a range of other non-designated habitats exist within the County and play a significant role in the natural environment, these include inland waters, wetlands and raised bog.</p> <p>Certain developments and activities associated with agricultural activities, afforestation, urban developments, windfarms, quarries, tourism, peat extraction, commercial fishing, ports and airports and a wide range of infrastructural works (including road works, water abstraction, wastewater disposal) that are located within, or close to, ecologically sensitive sites can give rise to significant environmental pressures.</p> <p>Within Meath the protection of coastal areas, wetlands and the avoidance of the spread of invasive species are major issues.</p>
Population and Human Health	<p>Significant increases in population as experienced in County Meath over the past decade, in addition to their activities and settlement patterns, have placed increased pressure on biodiversity, water quality, landscape, cultural heritage and air.</p> <p>In particular, increased pressure on water quality arising from pollution can have a significant impact on human health. Individual and cumulative changes in the quality of the natural and built environment at local, regional and national level have the potential to impact to varying degrees on human health and wellbeing.</p> <p>Unsustainable commuting patterns are a particular concern in County Meath.</p>

Topic	Environmental Issues/Pressures
Soil & Geology	<p>Soil is lost annually through the development of agricultural land. The number of hectares, which are rezoned annually on a countrywide basis is not known, nor is the quantity of soil loss through surface sealing. Urban environments have greatly changed in Ireland with the centre of cities and towns being subjected to depopulation with growth focused on the periphery of these areas. With urban expansion, agricultural land surrounding cities and towns as well as green areas within them are subjected to increasing pressures.</p> <p>The type and depth of soil has direct implications on water movement which can lead to increased pollution threats if not properly considered. Land spreading of both organic and artificial fertilizers, the use of pesticides / herbicides / fungicides can, if inappropriately used and particularly when adverse weather conditions prevail, be carried from the point of use to rivers, lakes and ground water resources. Land spreading of farm effluent and application of fertilisers in agricultural areas is a delicate balance, particularly on low permeability soils with possible implications on water quality (also discussed later). Also in certain areas the soil's poor percolation characteristics render them unsuitable for conventional septic tank methods of domestic effluent disposal. This has implications for rural housing.</p> <p>These activities can lead to soil degradation including loss of organic matter, decline in soil fertility, acidification, loss of soil stability, increasing soil erosion, soil compaction, contamination, loss of biodiversity and loss of soil to buildings and infrastructure.</p> <p>Adverse environmental impacts can occur from extractive industries, from both existing quarries and new quarry extensions if not appropriately managed. Extraction ultimately leads to the removal of a resource within a given area and can lead to localised environmental issues. The implications of this for the natural and cultural environment can potentially result in the landscape being eroded, archaeological heritage being lost, and pollution occurring. There are 73 registered quarries in County Meath.</p>
Water	<p>The principal threat to water is pollution which can adversely impact on all parts of the water cycle from groundwater to rivers, lakes estuaries and coastal waters. In simple terms pollution means the presence of a harmful substance such as a poisonous metal or pesticide, a nutrient or silt. Urban and rural development including wastewater and surface water disposal, landfills, quarries, contaminated lands, illegal dumping, agricultural activity, water recreational activities and afforestation can have significant impacts on water quality.</p> <p>Estimates of nutrient input into waters within the Eastern River Basin indicate that municipal and industrial discharges produce approximately 60% of the yearly phosphorus load with the remainder coming from diffuse sources such as agriculture. There have been growing concerns over the capacity of wastewater treatment works within smaller towns to cope with their expanding populations. Many treatment plants serving populations of less than 500 people provide inadequate treatment before discharge to surface waters. However it is the accumulative effect of discharges from these treatment plants which is of most concern.</p> <p>Flood risk is a concern within the County with approx 4% of all properties recorded in the An Post Geo-directory being located in areas with a high to moderate probability of flooding from rivers.</p>

Topic	Environmental Issues/Pressures
Air and Climate	Air quality within the Plan area is generally good. Increased greenhouse gas emissions have been linked with climate change resulting in increases in the intensity and frequency of flooding. Of particular concern is the high dependency on the use of the private car within the County.
Material Assets – Transportation	The residents of County Meath rely heavily on the use of private cars for transport. Travel patterns show that a high proportion of residents commute long distances by car to school and work, with the latter mostly to Dublin.
- Waste Management	In 2009, over 75% of occupied households in County Meath were serviced by a kerbside separated collection system for dry recyclables. However significant additional progress is required in terms of providing a 3-bin collection service to cater for the separate collection of organics.
- Water Supply	Significant water capacity issues exist within the water treatment plants which supply the County. Stalleen Water Treatment Works is nearing capacity. The current water supply situation places a constraint on additional large-scale development in the environs of Drogheda, Dunboyne, Clonee and other areas within the County.
- Wastewater	There is currently a challenge to provide sufficient wastewater treatment infrastructure in the County to serve the existing and future population.
Energy	County Meath is overly reliant on external and non renewable energy sources.
Cultural Heritage	Meath is known as the Heritage Capital of Ireland. It contains many sites of international heritage significance, including the World Heritage Site of Brú na Bóinne and the Hill of Tara. It is essential that the valuable heritage assets of the County are protected from pressures that can arise from certain developments and activities on or near such sites of heritage value.
Landscape	<p>County Meath has a rich and varied landscape with historic features dating back to prehistory and many well-known tourist attractions related to its heritage.</p> <p>The County retains a strong connection with traditional agriculture and the landscape supports a wide range of ecological habitats despite the rapid growth in its resident population. The Landscape Character Assessment for Meath has identified that the unprecedented population growth experienced in the County as a threat to its landscapes and historic settlement structure. Modern unsympathetic development is also a threat to the landscape quality. In many areas of the County hedgerows have been removed and replaced with post and wire fencing resulting in an open and more diminished landscape condition.</p>
Interrelationship	Cumulative impacts and interaction of abovementioned items can also give rise to increased pressure on the environment. The impacts and interactions will obviously vary in extent and nature. In particular, issues regarding water quality, climate change and flooding cross a number of environmental areas. Population increase and changes in human activities and settlement patterns can also impact on a wide range of environmental areas.

2.4 Pre-draft 'Work-in-Progress' Plan Stage

A working version of the Draft Development Plan was circulated to the Elected Members in advance of formal public display of a Draft Plan. The members made submissions to amend the working Draft Plan and these submissions were assessed against a series of Strategic Environmental Objectives (SEOs)

(see Section 2.5 below). The resulting motions were presented by the Manager to the Council, together with the SEA and AA assessment, and considered at a Special Planning Meeting on the 8th May 2012. A description of the issues raised and their consideration for impacts on the environment is set out below in Section 3.4.

2.5 Environmental Report

The Environmental Report is prepared alongside the Draft Development Plan process and investigates, describes and evaluates the effects on the receiving environment of implementing the Plan. The report also assesses and identifies development alternatives for the county and identifies the environmentally preferred development strategy.

The preparation of the Environmental Report influenced the formulation of the Development Plan in a number of distinct ways:

- It encourages the wide use of background environmental data and formally connects this data to the making of the plan.
- It determined the Strategic Environmental Objectives (SEOs) against which the policies and objectives of the plan were assessed.
- The Strategic Environmental Objectives (SEOs) will form the basis for the future on-going monitoring of the Development Plan.
- The Environmental Report determined that the 'Structured Development Strategy' option provides the most sustainable and appropriate environmental approach to the future development of the county, when assessed against the Strategic Environmental Objectives.

- It provides greater transparency to the public as to how environmental issues are incorporated and assessed in the plan-making process.

Key issues were identified in the Environmental Report across each of the environmental areas. These were largely based on the key environmental factors as identified at the Scoping stage, as set out in Table 2.1 above. The full review of key issues is set out in Chapter 4 of the Environmental Report.

The Strategic Environmental Objectives (SEOs) are measures against which the environmental effects of the Draft Development Plan are tested in order to identify where significant adverse impacts are likely to occur. The Strategic Environmental Objectives are derived from EU and National Strategies and Plans relevant to the development of County Meath. The Strategic Environmental Objectives are listed in Table 2.3 below.

In accordance with the Directive and SEA Guidelines, the policies and objectives of the Draft Plan were assessed against the SEOs for likely effects on the environment. The impacts were identified in terms of quality of impact, significance of impact and duration of impact.

Table 2.3 Strategic Environmental Objectives (SEOs)

Environmental Parameter	No.	Objective
Biodiversity	B1	Conserve the diversity of habitats and protected species avoiding irreversible losses.
	B2	Promote measures to protect biodiversity by creating and improving habitats, where possible.
	B3	Provide opportunities for sustainable public access to wildlife and wild places at appropriate locations.
	B4	Avoid damage by development to designated wildlife sites and protected species.
Population	P1	Improve people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns
Human Health	H1	Minimise noise, vibration and emissions from traffic, industrial processes and extractive industry
Soil	S1	Maintain the quality of soils
	S2	Maximise the sustainable re-use of brownfield lands, and maximise the use of the existing built environment rather than developing greenfield lands
	S3	Minimise the consumption of non-renewable sand, gravel and rock deposits
	S4	Minimise the amount of waste to landfill
Water	W1	Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems
	W2	Promote sustainable water use based on a long-term protection of available water resources
	W3	Reduce progressively discharges of polluting substances to waters
	W4	Mitigate the effects of floods and droughts including vulnerability to climate change (i.e. extreme weather, sea level rise, coastal erosion)
Air	A1	Reduce all forms of air pollution
	A2	Minimise emissions of greenhouse gases to contribute to a reduction and avoidance of human-induced global climate change
	A3	Reduce waste of energy, and maximise use of renewable energy sources
	A4	Assess, plan and manage adaptation to climate change impacts
	A5	Reduce the need to travel

Environmental Parameter	No.	Objective
Material Assets	MA1	Maximise use of the existing built environment
	MA2	Avoid flood risk and/or coastal erosion in selecting sites for development
	MA3	Maintain water abstraction, run-off and recharge within carrying capacity (including future capacity)
	MA4	Maintain the quality of and access to assets such as aquifers, aggregates, ports, motorways, and all physical and social infrastructures.
Cultural Heritage	CH1	Promote the protection and conservation of the cultural heritage, including architectural and archaeological heritage
Landscape	L1	Conserve and enhance valued natural and historic landscapes, their character and features within them

The process identified that there appeared to be a lack of SEA-specific monitoring of the effects of implementation of the previous County Development Plan. However, monitoring of the environment under national monitoring programmes is being carried out (e.g. water quality, air quality etc.). The SEA made specific recommendation for implementation of formal monitoring of the new Plan. As a result the Meath County Development Plan 2013-2019 includes specific objectives (i.e. IMP & MON OBJ 1; IMP & MON OBJ 2 and IMP & MON OBJ 3) that consider Implementation and Monitoring of the Plan.

Nevertheless, a full review of other supporting plans was prepared in the course of the review of the development plan, which informed the preparation of the Plan and Environmental Report. These supporting plans included:

- County Meath Strategic Flood Risk Assessment and Mapping
- County Meath Green Infrastructure Strategy
- County Meath Wetlands and Coastal Habitats Survey
- Full review of all Views and Prospects in County Meath
- Meath Housing Strategy

2.6

Mitigation

Chapter 8 of the Environmental Report sets out a series of general and specific mitigation measures. General mitigation is outlined in terms of Zoning, Planning, Enforcement, Cooperation with Other Authorities, Environmental Awareness and Green Infrastructure.

Specific mitigation is detailed in terms of:

- Biodiversity and Natural heritage
 - Designated Areas
- Woodlands, Hedgerows and Trees
- Soils and Geology
- Water
 - Surface Waters
 - Groundwater
 - Coastal Waters
 - Flooding
- Material Assets: Water
 - Water Supplies
 - Wastewater Treatment
- Material Assets: Transport
 - Transportation General
 - Public Transport
 - Walking and Cycling
 - Road Network
- Material Assets: Waste Management
- Landscape and Visual Amenity

- Cultural Heritage
 - General
 - Brú na Bóinne UNESCO World Heritage Site
- Protected Structures
 - Architectural Conservation Areas
 - Archaeology
- Air Quality

2.7

Consideration of Alternatives

The SEA Directive (Article 5) recommends that alternative development scenarios for the plan are included for assessment. Alternatives need to be '**realistic and capable of implementation**' and should represent a range of different approaches within the statutory and operational requirements of the

particular plan. In the case of the Development Plan, three approaches were undertaken. The alternative scenarios put forward are considered viable, realistic and implementable for the purposes of the assessment. These are discussed in detail in Section 4 of this SEA Statement.

3

Submissions and Observations

3.1

Introduction

Environmental considerations were integrated into the Development Plan making process at all stages.

This section sets out the significant issues that were raised prior to, during and after the preparation of the Draft Meath County Development Plan 2013-2019. Formal submissions were made at the following stages:

- Public Consultation Pre-draft Stage: 2nd March to 29th April 2011.
- SEA Scoping Consultation: February 2012.

- Elected Members Consultation Work-in-Progress pre-Draft Stage: April 2012.
- Public Consultation / Display of Draft Plan and Environmental Report: 25th May to 3rd August 2012
- Public Consultation / Display of proposed Amendments to the Draft Plan and Screening of Effects of the Amendments on the Environment: 12th October to 8th November 2012.

Each stage is now considered in turn as follows:

3.2

Public Consultation Pre-draft Stage: 2nd March to 29th April 2011

Pre-draft Public Consultation regarding the Meath County Development Plan 2013-2019 commenced in March 2011 with the publication of the 'Strategic Issues Paper' outlining the review of the Meath County Development Plan 2007 and the preparation of the Meath County Development Plan 2013-2019. The 'Strategic Issues Paper' was displayed on the local authority website and a number of public consultation workshops were held around the county during the course of the pre-draft public consultation stage (2nd March to 29th April 2011).

In July 2011, Meath County Council prepared the Manager's Report on Pre Draft Public Consultation Stage. Sixty-seven submissions were received including submissions from, or on behalf of, the general public; businesses, statutory consultees (including An Taisce, Dublin Regional Authority, National Roads Authority, The Heritage Council), community, cultural, sporting and tourists groups, utility providers, etc.

A wide range of issues were raised, principally focused on:

- Strategic Planning, including Core Strategy;
- Population, Settlement and Housing;
- Economic Development and Employment, including Retail and Tourism;
- Urban and Architectural Design;
- Physical Infrastructure, including Energy, Water Supply, Surface Water and Wastewater Treatment;
- Transportation, including Public Transport, Roads and Traffic, Parking, Cycling and Walking;
- Rural Development, including Rural Housing, Rural Enterprise and Amenity Use;
- Community, Recreation and Open Space;
- Environment, including Climate Change, SEA and AA and Flooding;
- Heritage and Conservation, including Natural, Built and Archaeological Heritage;
- Miscellaneous Aspects.

The submissions were considered in the drafting of the Environmental Baseline Data, Scoping Report and fed into the Plan making process for the Draft Development Plan.

3.3 SEA Scoping Consultations: February 2012

A Scoping Report was prepared in order to facilitate consultation with statutory consultees. Said consultees were requested to review the content of the report and to comment, as appropriate on aspects they believed may require particular consideration in the preparation of the Draft Development Plan and associated SEA Environmental Report and Appropriate Assessment documentation.

The Scoping Report was issued to the consultees in February 2012 and formal responses were received from:

- Department of Arts, Heritage and the Gaeltacht.
- Environmental Protection Agency (EPA).
- Louth County Council.

The primary issues raised in the responses related to:

- Sources of potential information of assistance in the preparation of the SEA and AA;
- In relation to protection of Archaeological Heritage: Regard to International and

European Conventions; National Policies Plans and Programmes; and Relevant Policies and Plans at County Level;

- Provision of adequate and appropriate wastewater treatment infrastructure;
- Provision of adequate and appropriate drinking water to service target population;
- Flooding;
- Protection of biodiversity, in particular Natura 2000 Sites and NHAs / pNHAs;
- Identification of environmental sensitivities/ vulnerabilities adjacent to the county;
- Incorporation of SUDs (sustainable urban drainage) technologies and Green Infrastructure into the Plan;
- Highlight and address any potential data gaps;
- Protection of rural landscape;
- Consideration of Local Biodiversity Areas;
- Green Infrastructure connections to surrounding counties;
- Transboundary issues;
- Technical and procedural advice on making of Plan, SEA and AA.

The submissions were considered in the Plan making process for the Draft Development Plan and in the drafting of the Environmental Report.

3.4 Elected Members Consultation Pre-draft WIP Plan Stage: April 2012

A working version of the draft Development Plan was circulated to the Elected Members of Meath County Council in advance of the formal public display of a Draft Plan. The members made submissions based on the working Draft Plan. The submissions were subject to SEA and AA assessment and eighty-eight resulting motions were presented by the Manager to the Council, together with the SEA and AA assessment, and considered at a Special Planning Meeting on the 8th May 2012.

The 88 motions related to all aspects of the Draft Plan, with particular focus on Core Strategy (21 number); Economic Development Strategy (13 number); Transportation (16 number); and Cultural and Natural Assets (12 number).

The SEA assessment noted that 53 of the motions were either already adequately covered in the existing Work-in-Progress (WIP) Draft Plan; had no effect on environmental objectives or were not applicable to the County Development Plan (e.g. where applicable to lower level plans / LAPs etc.). 19 motions had potential for negative impact and 15 had potential for positive impact. Depending on its implementation one motion relating to play and recreation had potential for either slight positive or negative impact.

All motions were subject to SEA and AA review and comment. As examples of the SEA input, the SEA assessment noted that one motion recommending the removal of all trees along county roads had potential for

significant negative environmental impact in terms of landscape and natural assets and recommended that the motion be declined. The Council subsequently accepted the recommendation to decline the motion.

The SEA assessment considered that a motion to develop and enhance the Sister Cities Project between Meath County Council and the Town of Cary in North Carolina had potential for positive effect on human beings and economic development.

In other situations the SEA Assessment noted that where motions had potential for negative environmental effect, the assessment recommended appropriate mitigation of such negative effects should the motion be accepted. As an example, the SEA assessment recommended that promoting tourist development on the coast would require appropriate environmental protection of sensitive and protected coastal habitats and landscapes.

3.5

Public Consultation Draft Stage: 25th May to 3rd August 2012

The Draft Meath County Development Plan 2013-2019, together with accompanying Environmental Report (Strategic Environmental Assessment (SEA)) and Natura Impact Statement (Appropriate Assessment (AA)), was put on public display from Friday 25th May to Friday 3rd August 2012. Written submissions or observations with respect to the Draft Development Plan and/or Environmental Report and/or Appropriate Assessment were invited from members of the public and other interested parties.

A total of 139 submissions were received from, or on behalf of, the general public; businesses; community, cultural, sporting and tourist groups; third-level institutions; elected members; local, town and county councils; utility providers; An Taisce; Department of Arts, Heritage and the Gaeltacht; Department of Environment, Community and Local Government; Dublin Regional Authority; Environmental Protection Agency; Fáilte Ireland; Inland Fisheries Ireland; National Roads Authority; National Transport Authority; The Heritage Council and The Office of Public Works.

A wide range of issues were raised, relating to all areas of the Draft Development Plan, but focusing, in particular on Core Strategy (Chapter 2); Settlement Strategy and Housing (Chapter 3), Economic Strategy (Chapter 4), Cultural and Natural Assets (Chapter 9) and Protected Views and Prospects (Appendix 12).

The County Manager prepared a report on the submissions received, listing the persons or

bodies who made submissions, summarising the issues raised and providing a response and making recommendations in relation to the manner in which those issues should be addressed in the Development Plan.

During the preparation of the Manager's Report each of the submissions made and the associated issues raised was subject to full SEA review and comment and a workshop was held with the Elected Members of Meath County Council in the finalisation of the report on the submissions.

Seven submissions raised issues in relation to the Strategic Environmental Assessment. Many submissions noted that the SEA report adequately covered the necessary themes around the Draft Plan, and the EPA welcomed and acknowledged **"the inclusion of many of the issues highlighted in their scoping submission"**.

A summary of the 7 SEA-related submissions and an outline of the responses is set out in Table 3.1. The complete review and SEA response is included in the SEA Environmental Report at Appendix 1: Manager's Report Draft Meath County Development Plan 2013-2019: 14th September 2012.

The Manager's Report on submissions to the Draft Meath Development Plan 2013-2019 included SEA review and comments, and was issued to the Elected Members of the Council on 14th September 2012 and subsequently considered at a Special Planning Meeting on the 24th September 2012.

3.6

Public Consultation Amendments Stage: 12th October to 8th November 2012

Amendments arising from the submissions to the Draft Plan Stage were put on public display between Friday 12th October and Thursday 8th November 2012. A total of 26 written submissions were received on foot of the display and as before, each submission was carefully reviewed and screened for their potential environmental impact.

This stage related to the display of proposed amendments and as such submissions may only relate to such specific amendments. Further modification of an amendment may only be made where it is minor in nature and therefore not likely to have significant effects on the environment or adversely affect the integrity of a European Site.

A total of 26 submissions were received from, or on behalf of, the general public; businesses; community and cultural groups; elected members; An Taisce; Department of Arts, Heritage and the Gaeltacht; Department of Education and Skills: Forward Planning Section; Dublin Airport Authority; Environmental Protection Agency; Failte Ireland; Inland Fisheries Ireland; Louth County Council; National Roads Authority and National Transport Authority.

A wide range of issues were raised, relating to most areas of the Draft Development

Plan. Many issues raised related to aspects other than the proposed amendments and same were not considered further. Issues of relevance related in particular to Core Strategy (Chapter 2); Economic Strategy (Chapter 4), Cultural and Natural Assets (Chapter 9) and Protected Views and Prospects (Appendix 12).

One submission from the Irish Wind Energy Association **welcomed the statement that Chapter 4 of the SEA Environmental Report will be reviewed to incorporate any relevant findings from the SEAI Wind Atlas into the baseline information for the County.**

The submissions to proposed amendments resulted in 12 Manager's Recommendations for minor changes to the Draft Development Plan. The SEA assessment found that while many recommendations for proposed changes helpfully clarify the position of the Development Plan, none gave rise to SEA issues. The recommendations were accepted by the Council at the Special Planning Meeting on the 17th December 2012.

The complete review and SEA response is included in the SEA Environmental Report at Appendix 2: Manager's Report Proposed Amendments to Draft Meath County Development Plan 2013-2019: December 2012.

Table 3.1 Overview of Submissions relating to SEA / Environmental Report made during Public Display of Draft Plan Stage (25th March to 3rd August 2012)

Sub No.	Submission from	Main Issues Raised together with Outline of Response
2006	Dublin and Mid-East Regional Authorities	<p>It may be useful to highlight how the SEA process affected the policies during the plan making process e.g. by identifying those which were new additions, or where wording of policies were amended/revised to take account of SEA impacts or how SEA have informed plan policies.</p> <p>From the outset of the preparation of the Draft Meath County Development Plan the SEA team worked iteratively with the Development Plan team to ensure that environmental considerations were a central factor during the formulation of the policies and objectives of the Plan.</p> <p>This iterative process involved providing guidance to the Development Plan team in addition to ongoing assessment and amendment of policies and objectives at the pre draft stage and throughout. Thus the draft SEA Report and Development Plan are interwoven with considerable inputs provided by the SEA team into the preparation of the draft Development Plan.</p> <p>Further to this and as per EPA guidance, the SEA Report has been drafted in a manner to produce a document which is clear and concise.</p> <p>It is considered impractical and confusing to show where the SEA team proposed wording amendments to particular policies/objectives and therefore this is not included in the Environmental Report.</p>
2024	Mary McCloskey	<p>Noise mapping is incorrect.</p> <p>Noise map will be reviewed and corrected as appropriate.</p>
2025	Louth County Council	<p>Request that the extent of buffer zones around Natura 2000 sites be stated in the SEA report and Development Plan.</p>
2050	Environmental Protection Agency	<p>1. Requirement to prepare SEA Statement.</p> <p>This will be prepared in accordance with Article 9 of the SEA Directive.</p> <p>2. Suggests inclusion of cumulative sensitivity map for county.</p> <p>GIS mapping was prepared during the SEA process in order to facilitate an understanding of the existing environmental characteristics of the Plan area. It is considered that the mapping in its current form adequately highlights areas of sensitivity within the County which have potential for significant environmental effects.</p>

Sub No.	Submission from	Main Issues Raised together with Outline of Response
2050 contd.	Environmental Protection Agency	<p>3. Consider incorporating the requirements if the Regional Planning Guidelines and implementing a Core Strategy approach for each alternative.</p> <p>Due care and consideration of the issue of alternative development scenarios was discussed in detail with the Plan preparation team. The alternatives put forward were in accordance with Article 5 of the SEA Directive “reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme”. In addition the significant environmental effects of the alternatives selected were assessed and documented.</p> <p>The alternatives put forward for assessment were based on the full implementation of the core strategy; the alternatives documented and discussed in the SEA Environmental Report were considered viable approaches to achieving the aims of the core strategy through various development scenarios. As a result it is not considered necessary to embellish the section further.</p> <p>4. Section 2.9 (Environmental Assessment of the Development Plan) should summarise how environmental vulnerabilities/sensitivities identified in the previous Plan and SEA process have changed to date.</p> <p>This is not required as the state of the existing environment as documented in the Environmental Report is based on the most up to date information available, most of which supersedes the data used to compile the previous environmental report.</p> <p>5. Consideration to be given in Section 2.12 Technical Difficulties Encountered / data gaps identified, as appropriate.</p> <p>Data gaps are identified in Section 4.2 of the Environmental Report.</p> <p>6. Provide reference in Section 3.3.7 Energy to SEI’s Offshore Renewable Energy Development Plan.</p> <p>Agreed.</p> <p>7. Section 3.4.2 Regional Planning Guidelines for the greater Dublin Area (2010-2022) should include a section on the role of the Regional Planning Authorities and should also refer to the requirements of implementing a Core Strategy approach to the development of land use plans.</p> <p>Agreed.</p>

Sub No.	Submission from	Main Issues Raised together with Outline of Response
2050 contd.	Environmental Protection Agency	<p>8. Section 3.4.8 to include reference to Eastern CFRAMS.</p> <p>Agreed.</p> <p>9. Make reference to EU's Common Implementation Strategy for the Water Framework Objective (2000/60/EC) – Guidance Document 20, in particular Section 3.5 Key Issues for Article 4.7.</p> <p>Agreed.</p> <p>10. Add 'at appropriate locations' to Strategic Environmental Objectives (SEO) B3.</p> <p>Agreed.</p> <p>11. Clarification of consideration of proposed deep water port at Gormanston in Table 7.1 SEA Assessment Summary.</p> <p>No Policy or Objective for specific deep water port at Gormanston in Draft Development Plan. ED POL 9 relates to a potential new deep water port in East Meath – and as such no specific site or detail is available. ED POL 10 and 11 will ensure that any such port and related landside development will be subject to full environmental assessment.</p> <p>12. Quantum of residential zoning.</p> <p>Issue for plans that are subsidiary to County Development Plan.</p> <p>13. De-zoning / re-zoning lands in settlements at significant risk of flooding (Flood Zones A & B).</p> <p>Already largely covered by WS POL 28 – also text to be added to strengthen position of Development Plan and lower level plans which deal with specific zonings.</p> <p>14. Development Plan Monitoring.</p> <p>Implementation and Monitoring objective to be inserted in Development Plan.</p> <p>15. Insert target / indicator for monitoring spread of invasive species within county.</p> <p>Agreed.</p>
2090	Department of Arts Heritage and the Gaeltacht	SEA Issues were raised related to AA and Draft Development Plan.

Sub No.	Submission from	Main Issues Raised together with Outline of Response
2113	Irish Wind Energy Association (IWEA)	<p>Recommend relaxation allowing the consideration of wind energy infrastructure in Natura 2000 Sites.</p> <p>This is sufficiently dealt with under Section 11.15.2 of the Draft Development Plan and relaxing is not supported by SEA.</p> <p>IWEA website has been updated and corrected – SEA Report to reflect this.</p> <p>New information from IWEA will be reviewed.</p>
2115	Inland Fisheries Ireland	<p>Notes that Section 4.9.5 of SEA Report infers current impact if wastewater discharges us based on 2005 census data. This should be updated to 2011 census.</p> <p>Section 4.9.5 of SEA Report will be updated.</p>

4

Consideration of Alternatives

4.1

Introduction

The issue of alternatives is a critical function of the SEA process and is necessary to evaluate the likely environmental consequences of a range of alternative development strategies for the county within the constraints imposed by environmental conditions. The alternative plan scenarios were considered at an early stage of the process and through an iterative process with the Development Plan, SEA and AA teams the most appropriate development plan scenario was selected.

Article 5 of the SEA Directive requires the consideration of reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme and the significant environmental effects of the alternatives proposed. In accordance with SEA guidelines the alternatives put forward should be reasonable, realistic and capable of implementation. They should also be in line with the appropriate strategic level at which the Plan will be implemented within the

national planning hierarchy. The Meath County Development Plan 2013-2019 will be framed within a policy context set by a hierarchy of national and regional level strategic plans as well as the Irish and European legislative framework. Therefore, the options for alternatives are limited, and a scenario such as the 'do-nothing' situation has not been included as it is neither reasonable nor realistic.

The alternatives proposed have been assessed against the relevant Strategic Environmental Objectives (SEOs) established for the key aspects of the environment likely to be affected by the Plan's implementation. The evaluation process resulted in the identification of potential impacts and informed the selection of the preferred development scenario for the Meath County Development Plan 2013-2019. This determination sought to understand whether each alternative was likely to improve, conflict with, or have a neutral interaction with the environment of the county.

4.2

Alternative Plan Scenarios

The vision statement of the Meath Development Plan 2013-2019 is for:

Meath to be a county that fosters sustainability throughout its vibrant communities, dynamic economy and unique cultural and natural heritage.

At the outset of the Development Plan review process, a number of development scenarios were highlighted based on the current and predicted future needs of the county as well as the statutory and operational requirement of preparing the Plan. In broad terms the scenarios were grouped into three viable but different approaches. Each scenario has a differing outcome both in planning terms and in terms of the environmental consequences and these are discussed further below.

The three alternative development strategies considered for the Draft Development Plan are broadly defined as:

- Scenario 1 - Dispersed Growth around existing Settlements
- Scenario 2 - Structured Development Strategy
- Scenario 3 - Centred Development Strategy

4.2.1 Alternative Plan Scenario 1: Dispersed Growth around existing Settlements

Alternative Plan Scenario 1 places very few restrictions on development throughout the Plan area. The development of critical mass in certain locations is not taken into consideration in this development strategy and no specific targets or limitations on growth are set in the settlement or core strategies of the Development Plan.

In summary the 'Dispersed Growth around Existing Settlements' approach would have the following results:

- No clearly definable settlement strategy;
- A deterioration in the rural landscape and natural environment;
- Serious traffic congestion and disruption to existing residents throughout the settlements;
- Inadequate environmental measures, leading to a sub-standard environmental quality;
- Impact negatively on the visual amenity and potential of the plan area; and
- Domination of market forces resulting in piecemeal development.

The development scenario would result in an unacceptable level of ribbon development throughout the plan area. Consolidation of clusters would not take place. The provision of key services such as water supply and wastewater treatment would become costly in both financial and environmental quality terms. Overall the settlement structure of Meath would be weakened and no part of the County would be allowed to develop the critical mass to support essential services and infrastructure. There would be a loss in the quality of life for the inhabitants of such clusters and the landscape of the area would undoubtedly suffer.

4.2.2 Alternative Plan Scenario 2: Structured Development Strategy

The second alternative, 'Structured Development Strategy', would constitute a strong yet flexible approach to development, based on a well-developed urban structure supported by diverse rural areas.

This alternative would be based around the planned growth of the county and a sustainable settlement structure based on the Core Strategy which creates balanced and sustainable development throughout the county.

In this scenario the components of sustainable development, i.e. economic development, social well-being, and environmental protection are integrated in the Plan. Meath County Council would facilitate development throughout the county based on the principles of good design, good siting and technical considerations where local need exists and where the applicant would contribute to the rural community and rural economy. The following are key elements of this strategy:

- Emphasis is placed on supporting the growth of the polycentric gateway and primary economic growth towns within the county. These areas are linked by multi-modal corridors and focussed on the identified Core Economic Areas within the county in accordance with the Regional Planning Guidelines for the Greater Dublin Area.
- Development will be directed towards the metropolitan area of the county and to key towns and villages along the strategic development corridors throughout the county. This aim of this scenario is to build a critical mass in the metropolitan area and at key towns and villages along the strategic development corridors in accordance with the Settlement and Core Strategies.
- By concentrating development in such a manner and achieving a critical mass in the metropolitan area and at key towns and villages this scenario places an emphasis on improving public and private transport and other service infrastructure along these strategic development corridors.
- This scenario complies with the policies and objectives of the National Spatial Strategy and Regional Planning Guidelines for the Greater Dublin Area as growth is distributed across the County Settlement structure in accordance with adopted settlement and core strategies; i.e. Large Growth Towns I and II, Moderate Sustainable Growth Towns, Small Towns, Villages and Rural Area.

- The metropolitan area and Large Growth Towns I and II and Moderate Sustainable Growth Towns would contain the majority of the population growth, infrastructure and enterprise.
- The rural areas of the county will continue to be supported through a sustainable, flexible approach to maintaining the rural economy and population, balanced against responsible environmental protection;

Under this scenario the following results are envisaged:

- Implementation of Settlement Strategy and promotion of key settlements;
- Key areas for growth will be identified and promoted;
- Strategic or key routes and linkages will be identified and preserved;
- There will be a high level of environmental protection;
- Valuable natural resources such as water quality are protected.

4.2.3 Alternative Plan Scenario 3: Centred Development Strategy

The third alternative development scenario considered was the Centred Development Strategy (Strong Urban Centres and Rural Protection) which focuses on building strong urban centres and generating critical mass in the metropolitan area and at key towns i.e. in the Large Growth Towns I and II, Moderate Sustainable Growth Towns and Small Towns. These towns would act as focal points for their rural catchments. Development outside of these centres would be strictly controlled and a strong rural protection policy would be implemented.

The following are the key elements of this development strategy:

- Emphasis on achieving critical mass in the metropolitan area and key towns through the strategic development of this area of the County.
- Strict control of development outside of the Metropolitan area and the key towns.

This development scenario would have significant negative impacts on the viability of the villages and rural areas within Meath. Such areas would experience a decline in population and as a consequence rural based enterprise would be affected.

Under this scenario the following results are envisaged:

- Implementation of Settlement Strategy and promotion of key settlements;
- Key areas for growth will be identified and promoted;
- Strategic or key routes and linkages will be identified and preserved;
- There will be a high level of environmental protection;
- Valuable natural resources such as water quality are protected;
- No allowance for natural growth of Villages or Graigs in County Meath;
- Rural populations would not be supported;
- Population decline in unsupported rural areas;
- Negative impact on rural community of Meath;
- Decline in viability of agriculture, horticulture and other rural based enterprises;
- Such an overly constrained strategy would constitute an imbalanced approach to the future development of County Meath.

4.3

Assessment of Alternative Plan Scenarios

A summary matrix of the assessment of the Alternative Plan Scenarios is provided at Table 4.1.

On the basis of the above analysis, Alternative 1, 'Dispersed Growth', which involves minimal intervention in terms of any planning within the county and essentially allows for developer-led

growth through a short-term economic, social and environmental approach, would be likely to have negative impacts on the environmental receptors throughout the county.

The matrix (Table 4.1) shows that this option of developing a pattern of dispersed growth

around existing settlements, which would allow development of all areas with little control exerted, would present significant environmental problems and would be contrary to the principles of sustainable development. This option would not allow for the orderly and sustainable development of the county and is therefore not considered as a desirable option for Meath.

Alternative 3, the 'Centred Development Strategy', would place restrictions on development in the rural areas of the county. This scenario would also be prescriptive and restrictive on social and economic development in the villages and rural areas of Meath and would therefore not be sustainable, as it would fail to account for both the physical and human environment. This scenario would also be contrary to the policies and objectives of the rural and settlement strategies of the Regional Planning Guidelines for the Greater Dublin Area.

Alternative 2, the 'Structured Development Strategy' was considered as the preferred scenario, and is the one which formed the basis of the preparation of the Meath County Development Plan 2013-2019. This option represents a pragmatic recognition and continuation of established patterns of development in the county. The strategy seeks to modify these patterns to have regard to the significant environmental sensitivities that exist throughout the County with a view to stabilising both environmental conditions and the populations of those communities who continue to sustain these environments.

Mitigation measures which attempt to prevent, reduce, and as fully as possible, offset any significant adverse effects on the environment of implementing Alternative 2 as the preferred development strategy are recommended in Chapter 8 of the Environmental Report following evaluation of Plan Objectives in Chapter 7 of the Environmental Report.

Table 4.1 Assessment Matrix of Alternative Scenarios against Environmental Receptors

	Human Beings	Soil and Geology	Flora and Fauna	Water Quality			Air Quality	Climate Change	Landscape	Noise	Cultural Heritage	Material Assets			
				Surface Water	Groundwater	Flooding						Wastewater Treatment	Water Supplies	Transport	Waste Management
Alternative 1: Dispersed Growth															
Alternative 2: Structured Development Strategy															
Alternative 3: Centred Development Strategy															



Potential positive impact
Potential negative impact

5

Monitoring

5.1

Introduction

Under the Planning and Development Act, 2000 - 2011, the County Manager is required to prepare a progress report on the implementation of the Plan. Given that the environment is a significant consideration then the progress report will include the key findings of the environmental monitoring programme as outlined in this section of the SEA Statement and Chapter 8 of the Environmental Report.

Monitoring of the County Development Plan and its implications on the environment is paramount to ensure that the environment is not adversely affected through the implementation of the Plan. Under Article 10 of the SEA Directive monitoring must be carried out of the significant environmental effects directly related to the implementation of the Plan **“in order to, inter alia, identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action.”** The Department of the Environment, Community and Local Government Guidelines on SEA recommends that monitoring does not require new research activity; existing sources of information can be used and the task of data collection can be shared.

While considerable environmental data is directly available to the Council such as water quality, recycling rates etc., other sources of information will be accessed to provide a comprehensive view of the impact of the Plan. In this regard the Local Authority will work with other agencies with environmental mandates to gather data for the purposes of monitoring the implementation of the Plan. Therefore, while monitoring specific elements of the environment is not strictly the preserve of the Council, the Council will continue to liaise and work with the Environmental Protection Agency, The National Parks and Wildlife Service, The Fisheries Board, as well as others in the pursuit of environmental conservation and protection through existing environmental monitoring procedures.

In order to support these requirements the Council has included specific objectives (i.e. IMP & MON OBJ 1; IMP & MON OBJ 2 and IMP & MON OBJ 3) on Implementation and Monitoring within the Meath County Development Plan 2013-2019.

5.2

Monitoring Indicators

It is proposed to base monitoring on a series of indicators which measure changes in the environment, especially changes which are critical in terms of environmental quality, for example water or air pollution levels. The indicators aim to simplify complex interrelationships and provide information about environmental issues which is easy to understand. A list of environmental indicators is provided in Table 5.1. The indicators are based on the Strategic Environmental Objectives presented in Chapter 5 of the Environmental Report and have been derived from knowledge of the existing environmental issues within the Plan area and also from legislation, guidelines

and higher level Plans.

Furthermore, it is proposed to use a Geographical Information System (GIS) based monitoring system to monitor and assess the implementation of the Plan. This GIS based system will attempt to overcome any limitations in spatial analysis, to achieve an improved and better informed decision-making process, and provide data for future Development Plan reviews and the associated SEA process requirements.

Environmental indicator assessment during monitoring can show positive/neutral impacts

or negative impacts on the environment. Where an indicator value highlights a positive/neutral impact on the environment, it is likely that the policies and objectives of the Plan are well defined with regard to the environment. Conversely, where the objectives of the Plan have a negative impact on the environment it may be necessary to review the objectives of the Plan or to take some other form of intervention. For example, if an objective or policy is having a significant adverse impact, a variation may be considered during the lifetime of the Plan.

The indicators used are set out in Table 5.1 below.

A monitoring report evaluating the effects on the environment of implementing the County Development Plan will be prepared within two years of its adoption, as part of the County Manager's statutory report on progress on the achievement of the objectives of the Meath County Development Plan 2013-2019.

Table 5.1 Monitoring

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)
Biodiversity - Flora and Fauna	No loss of important and/or designated habitats	Number of sites.	Meath County Council/National Parks and Wildlife Service/Fisheries Board (depending on available information from relevant statutory authorities)
	No deterioration in the quality of protected areas	Number of sites containing rare or threatened species.	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress. (subject to available resources)
	No loss of protected species	Number of rare or threatened species.	
	No fish kills during the lifetime of the plan	Details of major fish kills	
	All actions contained within the Biodiversity Plan to be achieved during the lifetime of the County Development Plan.	Number of actions achieved.	
	No net loss of green linkages established under the Green Infrastructure Strategy.	Net area of new green infrastructure established through the development management process.	
	No spread of invasive species within the County	Numbers of new cases identified.	Establish baseline, location and extent of invasive species in the county, to commence within two years of adoption as part of the County Manager's Report on progress. (subject to available resources)

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)
Population	Decrease in journey times to work, education and recreation.	Distance and mode of transport to work	Meath County Council - Housing, Planning and Roads sections.
	Applications for new developments in excess of fifteen residential units or over 0.02 Ha to be accompanied by Design Statement.	Number of design statements.	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress. (subject to available resources)
	Rural housing to accord with Rural Housing Design Guidelines	Number of planning permissions granted in the countryside.	
Soil	No incidences of soil contamination	Number/severity of recorded pollution incidences	Meath County Council & EPA
	Limited and controlled development of greenfield sites	Area of land lost through greenfield development as per Development Plan process	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress. (subject to available resources).
Water	Implement fully the recommendations of the three relevant River Basin Districts River Basin Management Plans.	Number of recommendations achieved.	Meath County Council - Planning Department, Water Services Department. Also the Environmental Protection Agency.
	Achieve 'good' quality status of surface waters in line with WFD	Percentage increase in the overall quality of surface waters.	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress.(subject to available resources).
	Comply and implement fully the most recent EPA guidelines on Septic Tank use and siting as well as other on-site treatment facilities.	Number of permissions granted complying with the guidelines.	
	Maintain and upgrade where necessary all Local Authority operated WWT plants to comply with the relevant legislation.	Compliance with discharge parameters.	
	Improvement in bathing water quality	Achieve and maintain Green Flag status on all beaches.	

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)
Air Quality	Improvement in the concentrations of measured parameters such as Particulate Matter, Sulphur Dioxide and nitrogen oxides.	Measurable reductions in concentrations.	EPA
			Review of EPA standards and data to commence within two years of adoption as part of the County Manager's Report on progress. (subject to available resources).
Climate change	Increase in permissions granted for residential development within acceptable distance of public transport hubs.	Percentage of housing developments within specified distance to transport hubs.	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress.(subject to available resources).

6

Mapping

6.1

Introduction

Extensive use of Geographical Information Systems (GIS) and other mapping was utilised in the SEA process and in the preparation of the Environmental Report. This mapping included in the Environmental Report comprises:

- County Meath
- Ecological Designations
- Population
- Major Road Noise Mapping (Lden & Lnight)
- Soils of County Meath
- Geology of County Meath
- Registered Quarries 2011
- Rivers of County Meath
- Water Framework Directive Water Management Units
- GSI Groundwater Vulnerability
- WFD Groundwater Status
- Licensed IPPC Facilities

- Road and Rail
- Water Treatment Plants
- Waste Water Treatment Plants
- County Meath Cultural Heritage
- Landscape Character Areas & Sensitivities

The following mapping is included in this SEA Statement:

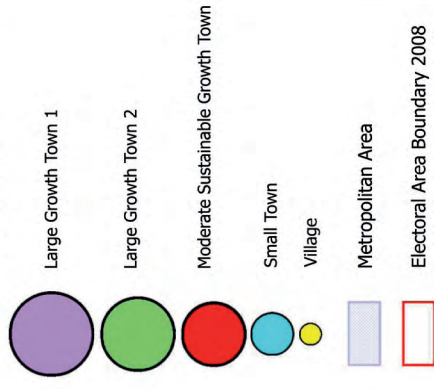
- County Meath
- Ecological Designations
- Population
- Rivers of County Meath
- GSI Groundwater Vulnerability
- WFD Groundwater Status
- County Meath Cultural Heritage
- Landscape Character Areas & Sensitivities

Meath County Development Plan 2013-2019 Strategic Environmental Assessment

Map 4.1 County Meath



Study Area



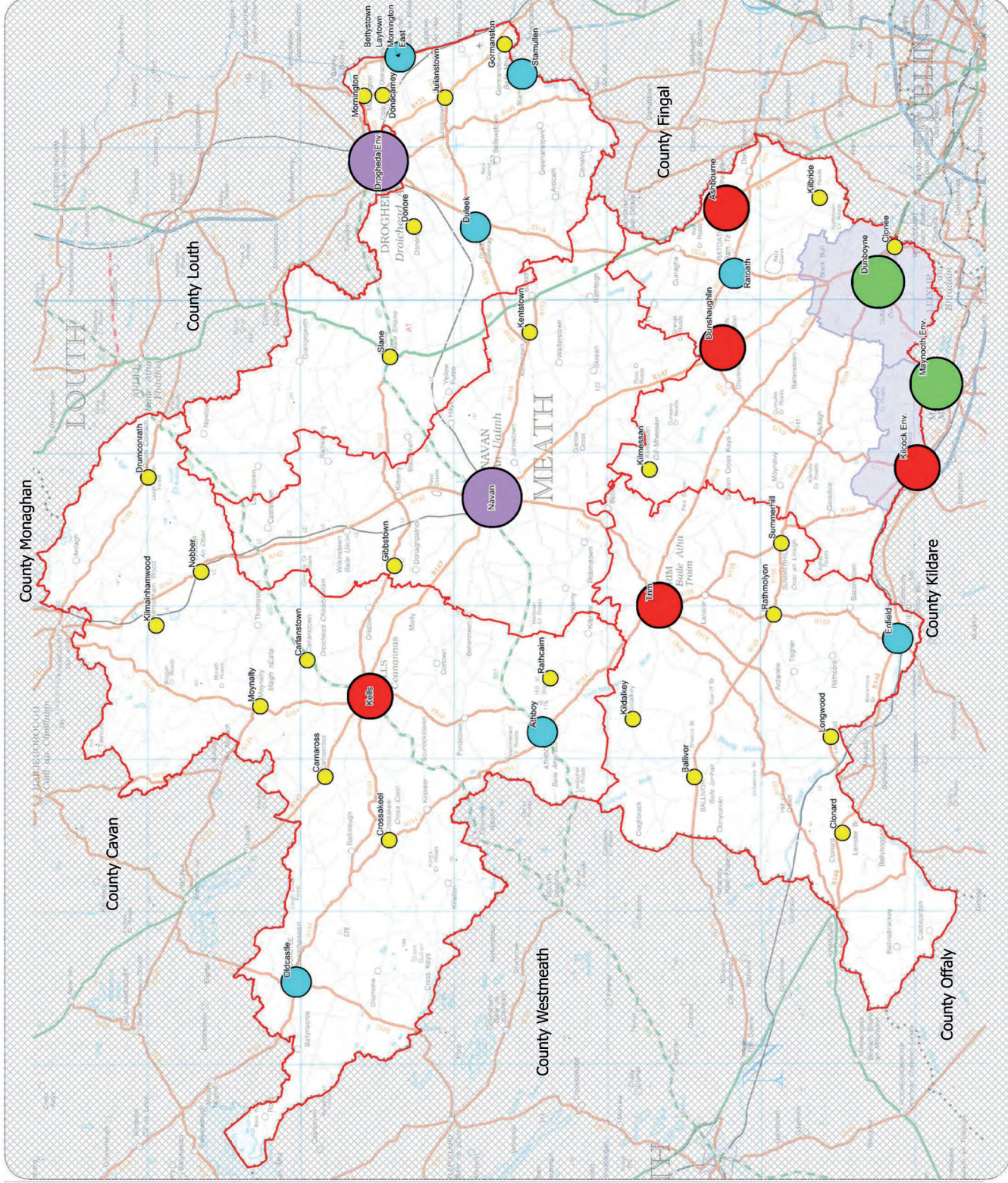
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NOT TO SCALE

Contact:
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Meath County Development Plan 2013-2019 Strategic Environmental Assessment

Map 4.2 Ecological Designations



Source: National Parks
& Wildlife Service

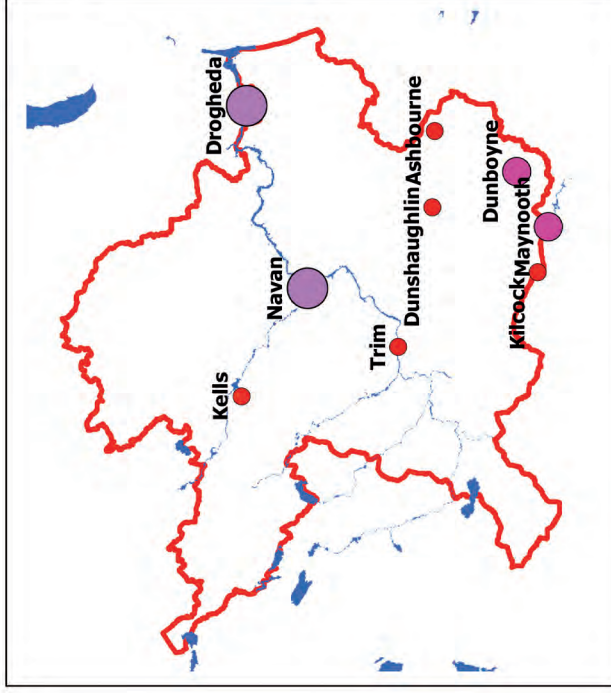
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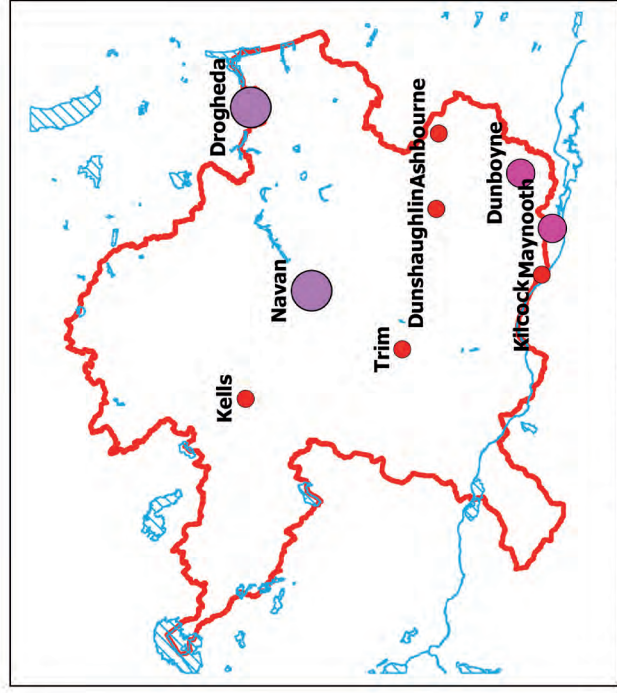
Contact:
Planning Department,
Abbey Mall,
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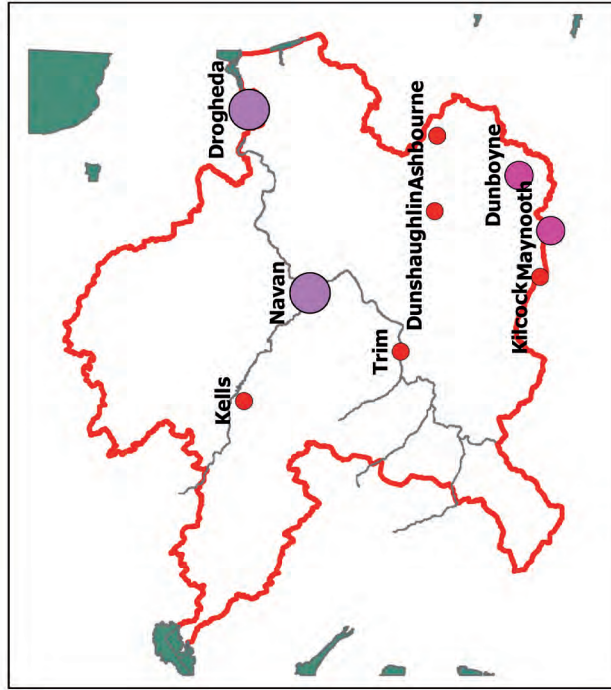
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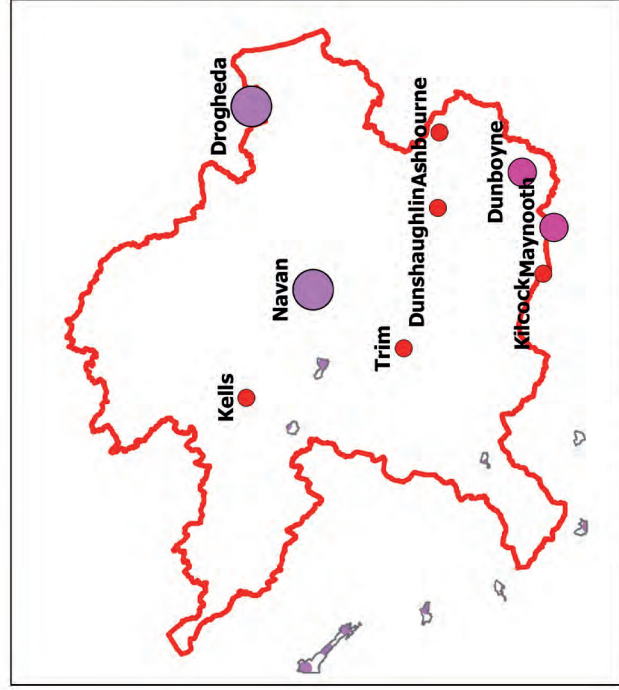
Special Areas of Conservation



Proposed Natural Heritage Areas



Special Protection Areas



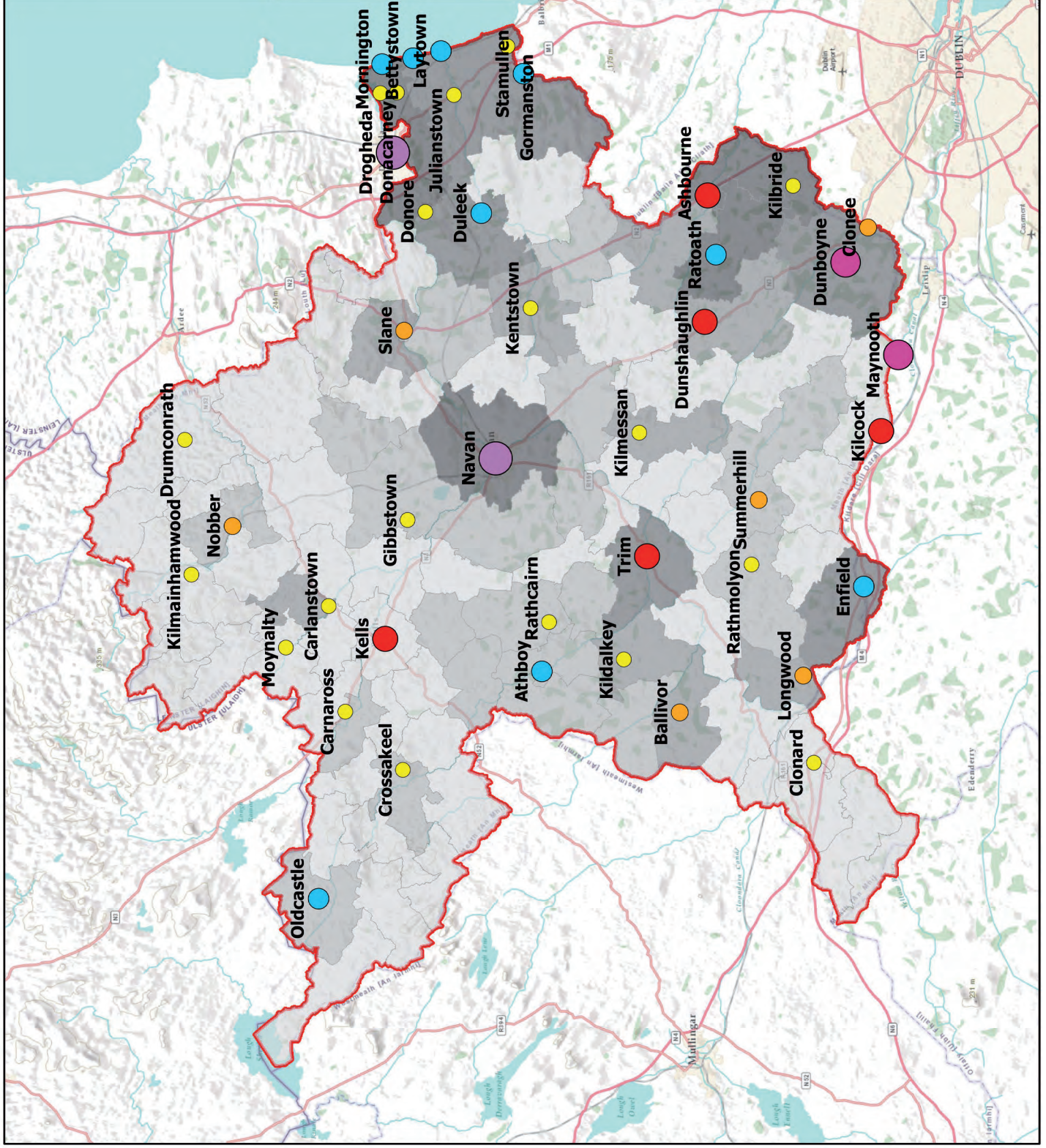
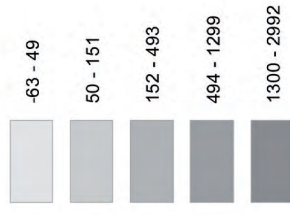
Natural Heritage Areas

Meath County Development Plan 2013-2019 Strategic Environmental Assessment

Map 4.3 Population



Actual Population Change
2006 -2011



Source: Central Statistics Office

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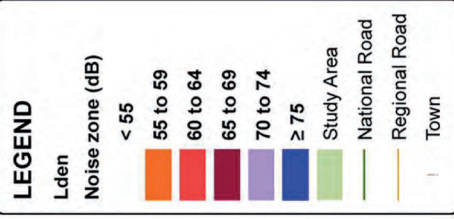


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2013-2019
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**Map 4.4a
Major Roads Noise Mapping
Lden**



Source:



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DRAFT

0 5 10 20 Kilometers
CS: Irish National Grid
Reference Ellipsoid - Airy Modified, Vertical Datum - Mean Head, Projection - Transverse Mercator
Source: Meath Co. Co.; National Roads Authority
Date: May 2012

Project **Strategic Noise Mapping Phase 2 (2012)**

Title **Lden (dB) - County Meath**

**Meath County Development Plan
2013-2019
Strategic Environmental Assessment**

**Map 4.4b
Major Roads Noise Mapping
Lnight**



Source:



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20 Kilometers
0 5 10 15 20
CS: Irish National Grid
Reference Ellipsoid - Airy Modified, Vertical Datum - Mean Head, Projection - Transverse Mercator
Source: Meath Co. Co.; National Roads Authority
Date: May 2012

Project	Strategic Noise Mapping Phase 2 (2012)
Title	Lnight (dB) - County Meath

Meath County Development Plan 2013-2019 Strategic Environmental Assessment

Map 4.5 Soils of County Meath

comhairle chontae na mí
meath county council

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Soil Type	
	Acid Deep Poorly Drained Mineral
	Acid Deep Well Drained Mineral
	Acid Poorly Drained Mineral Soils, Peaty Topsoil
	Acid Shallow Poorly Drained Mineral
	Acid Shallow Well Drained Mineral
	Acid Shallow, lithologic or podzolic type soils
	Basic Deep Poorly Drained Mineral
	Basic Deep Well Drained Mineral
	Basic Poorly Drained Mineral Soils, Peaty Topsoil
	Basic Shallow Poorly Drained Mineral
	Basic Shallow Well Drained Mineral
	Basic Shallow, lithologic or podzolic soils
	Beach sand and gravels
	Clayway/cutover peat
	Fen peat
	Lacustrine Type Soils
	Mede/Built land
	Marine/Estuarine sediments
	Marl Type Soils
	Mineral Alluvium
	Water (inc lakes, reservoirs and larger rivers)
	Wind-blown sands undifferentiated

Source: GSI

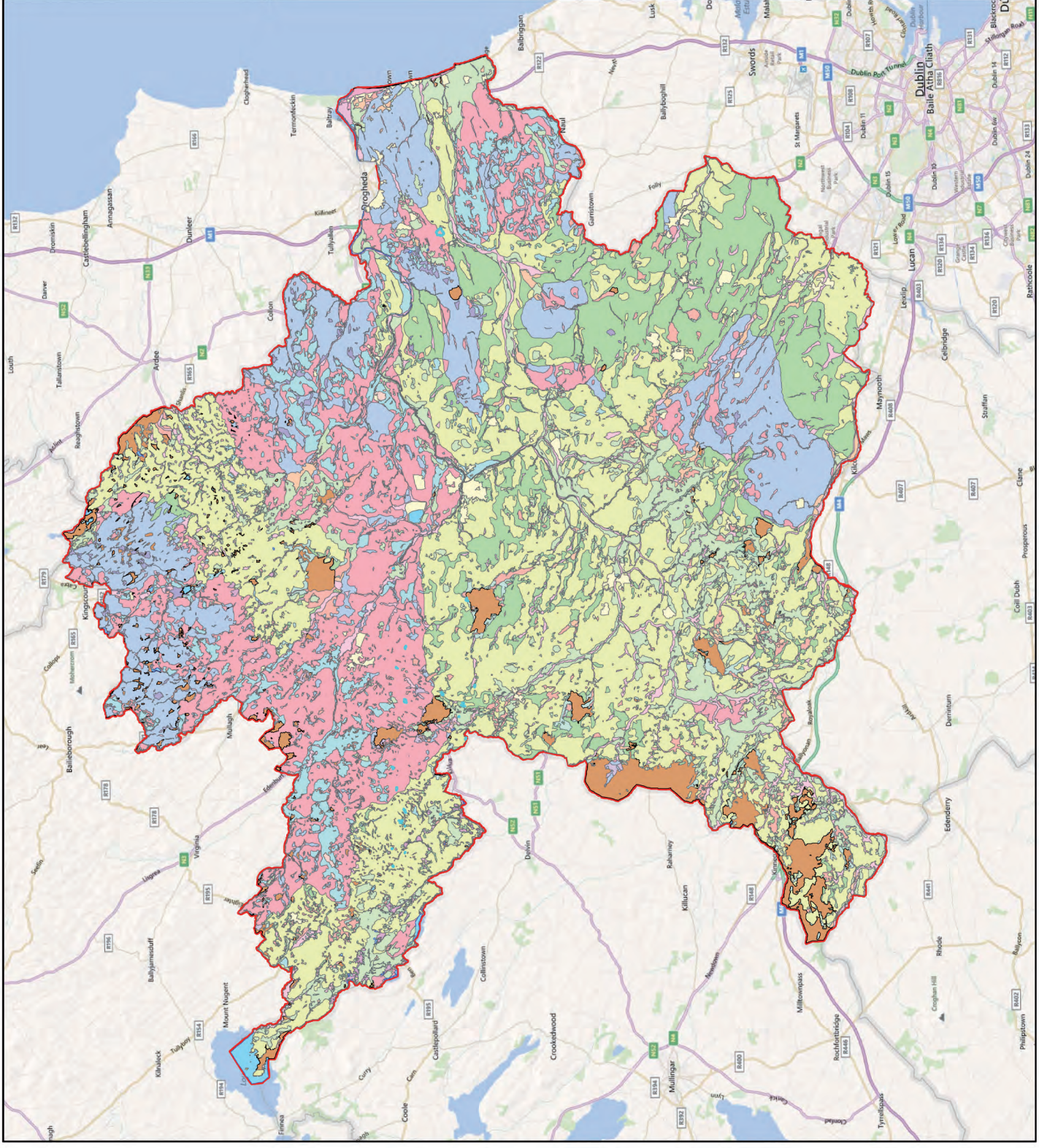
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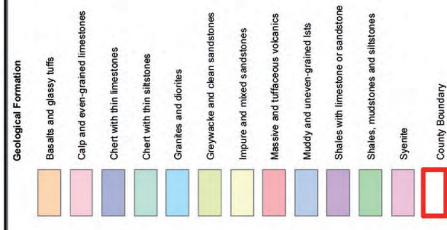


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Map 4.6 Geology of County Meath

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Source: GSI

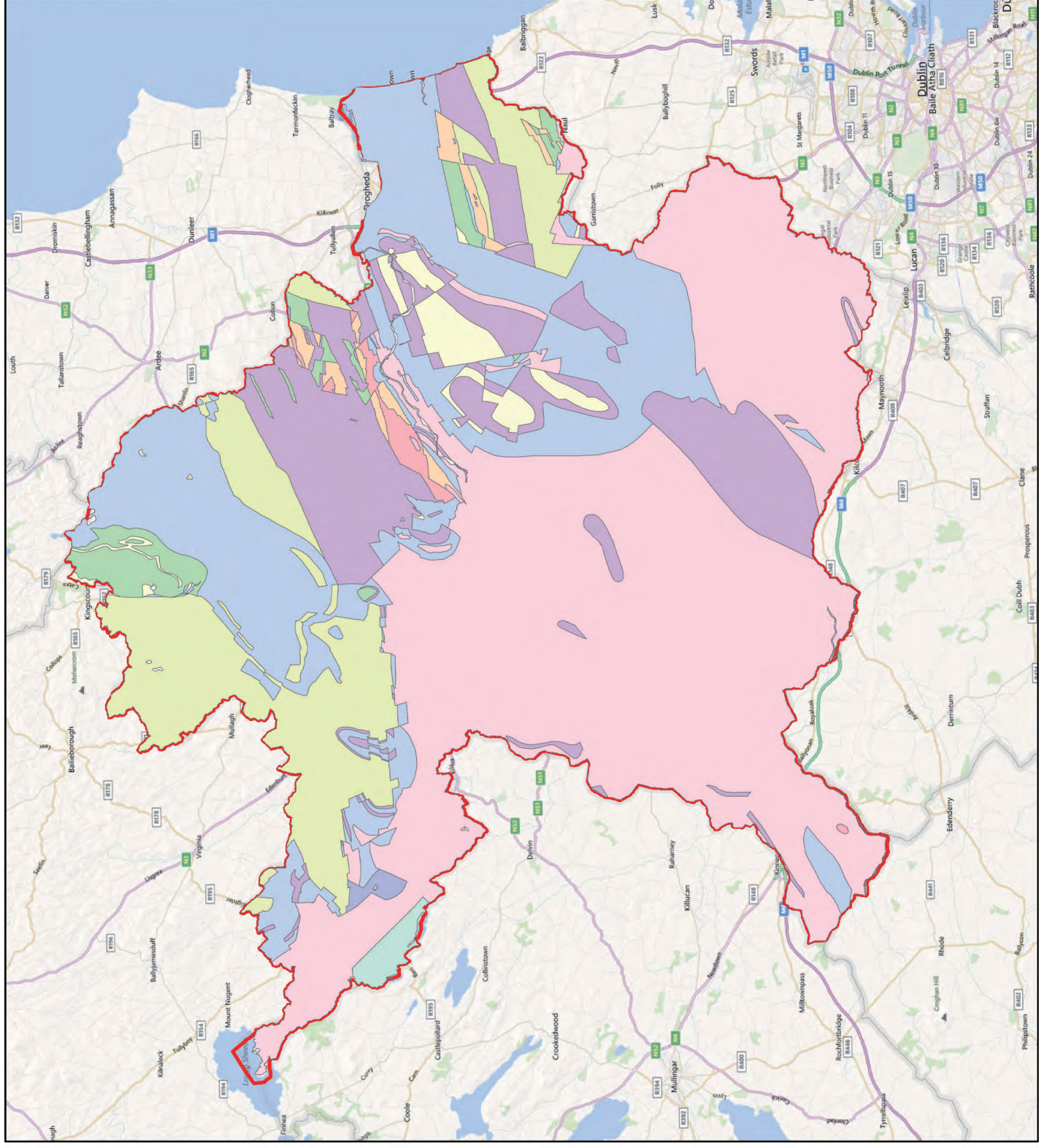
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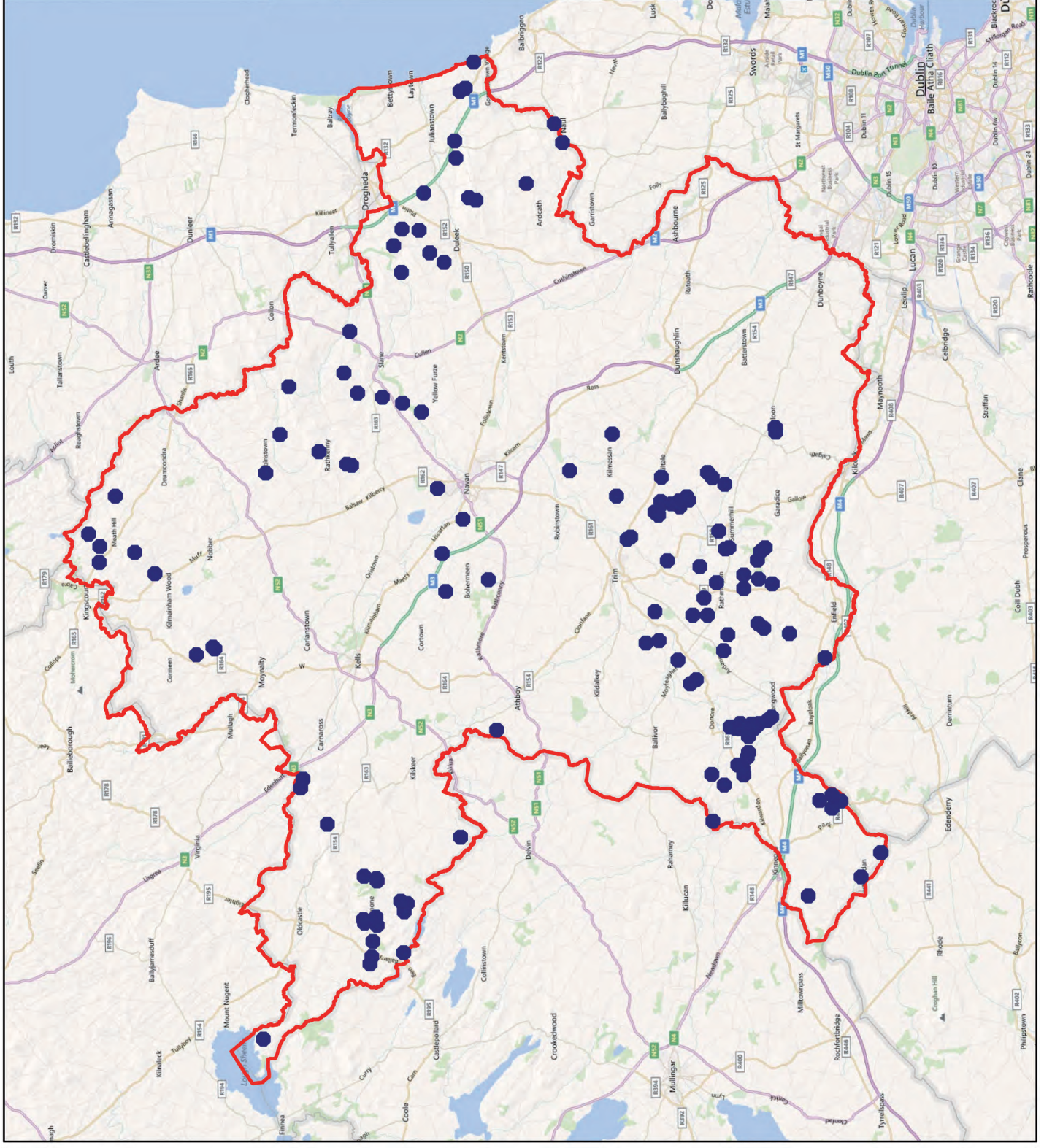


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Map 4.7 Registered Quarries 2011



Registered Quarry



Source: Meath County Council list of Quarries registered under Section 261 of the Planning and Development Act 2000-2011

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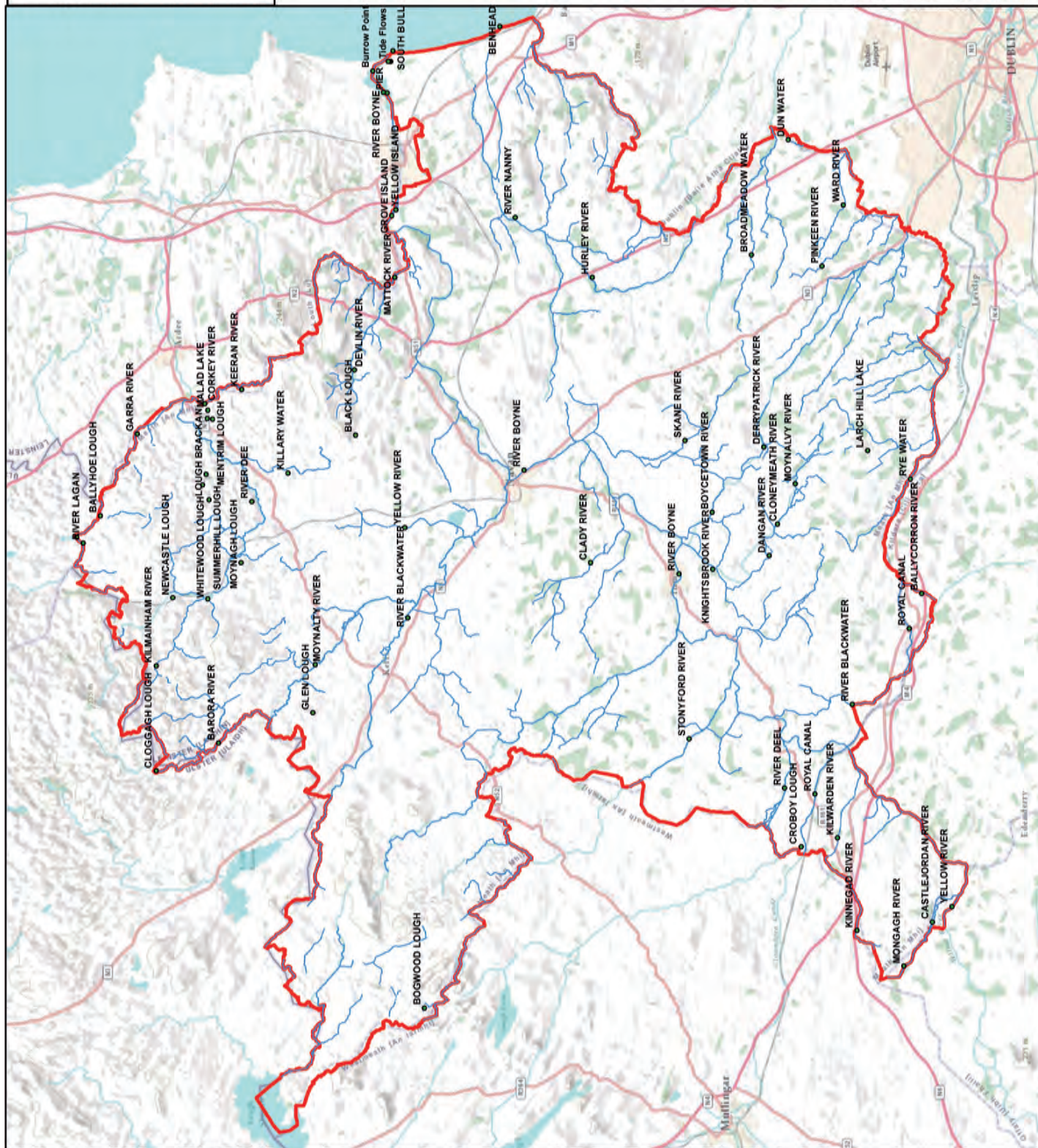
Rivers of County Meath



comhairle chontae na míneadh county council



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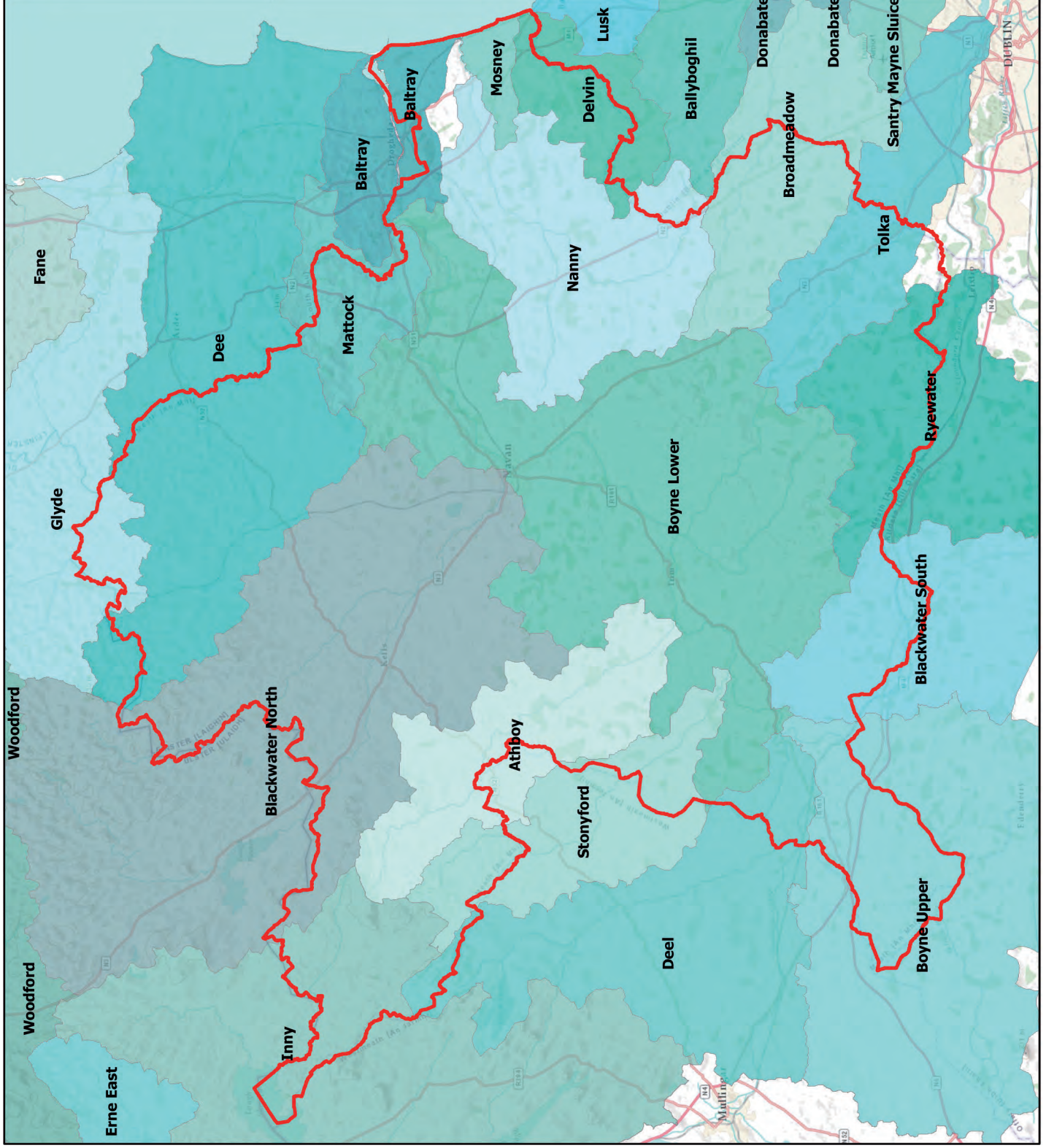
**Map 4.9
Water Framework Directive
Water Management Units**



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Source: EPA

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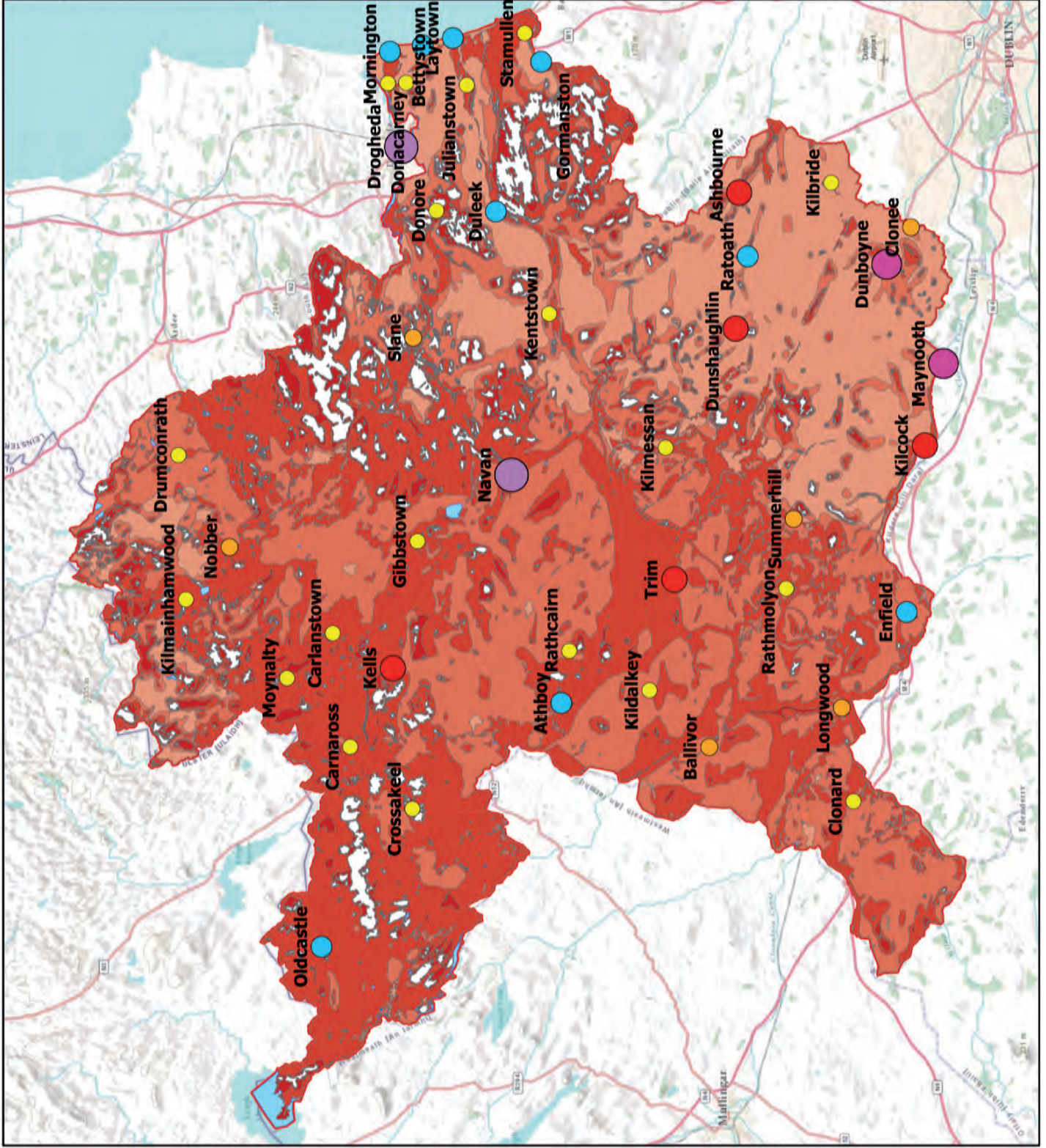
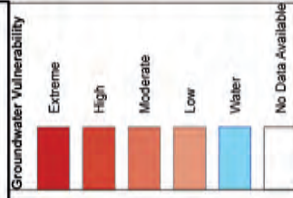
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GSI Groundwater Vulnerability



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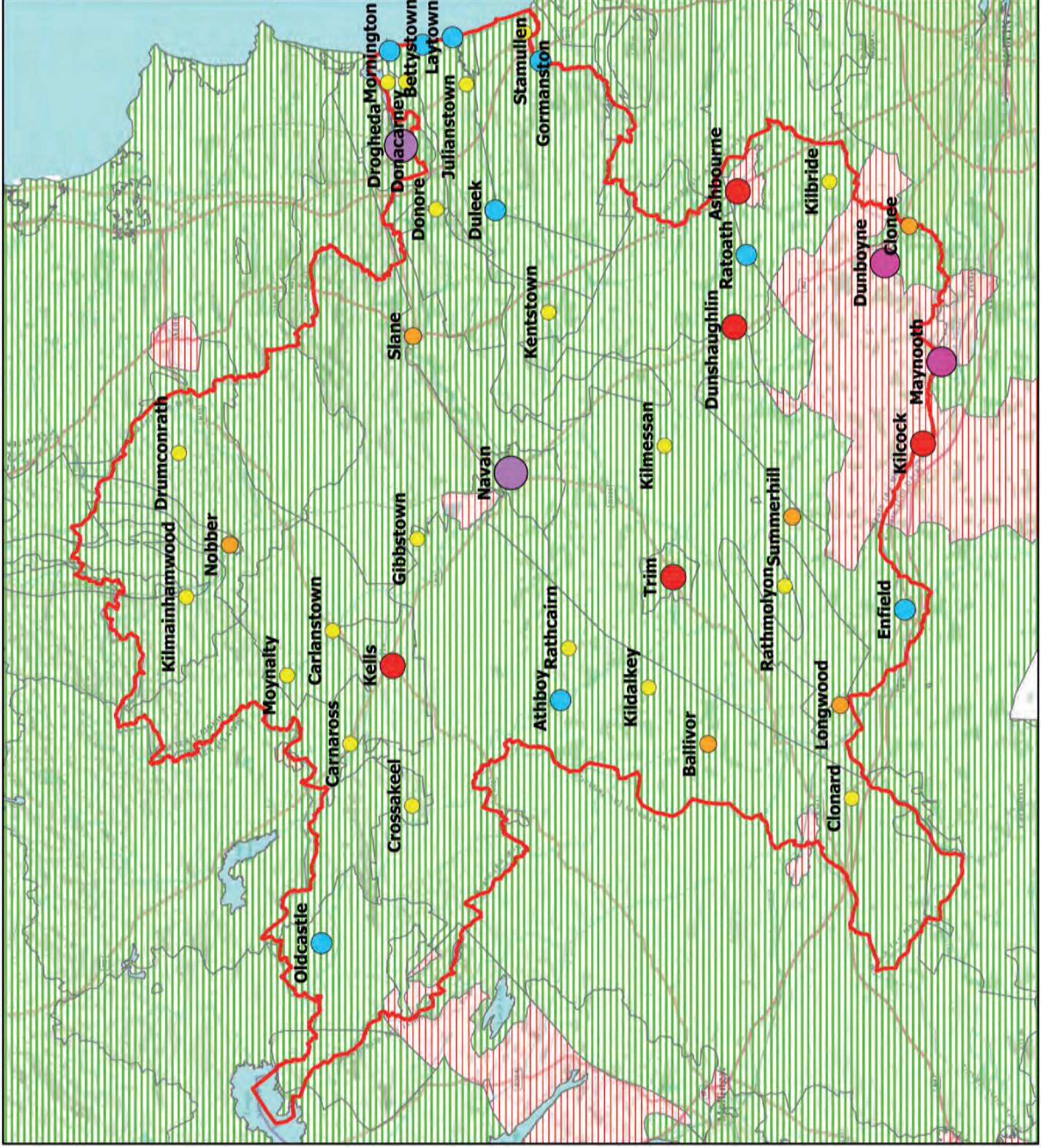
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WFD Groundwater Status



Groundwater Status



Source: EPA

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Map 4.13 Road and Rail



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Existing Rail line

Motorway

National Primary Road

Regional Road

Tertiary Road

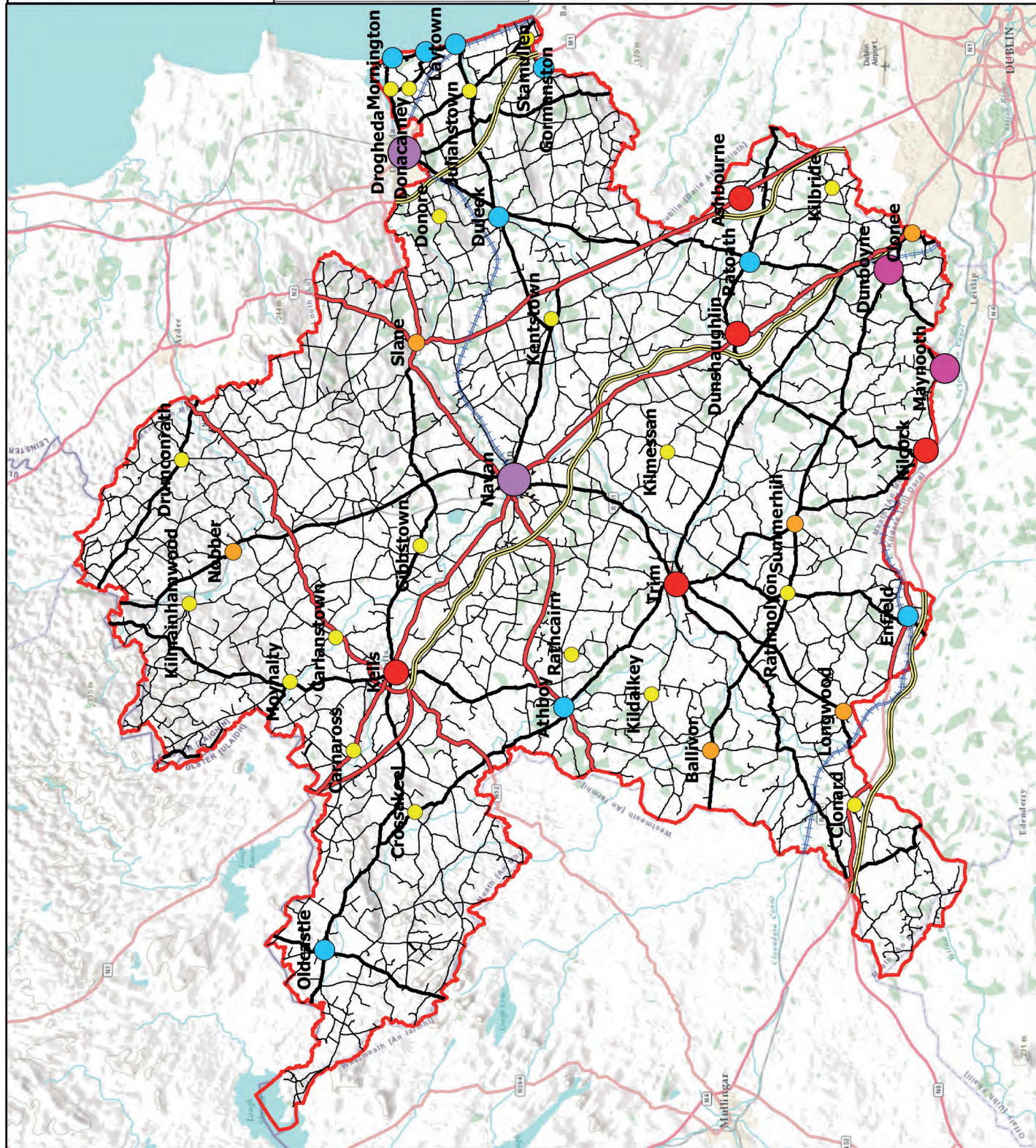
Local Road

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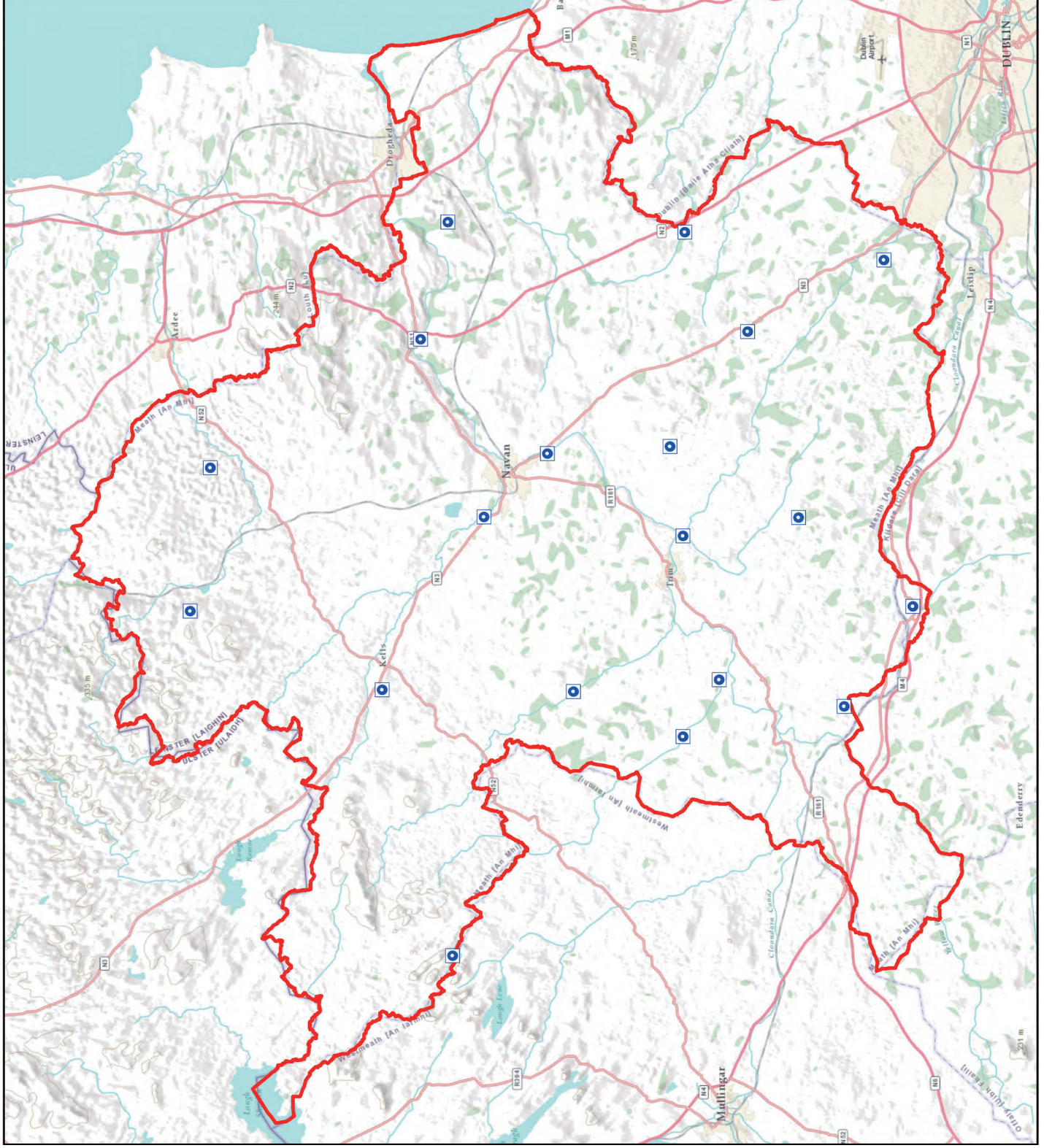
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Map 4.14 Water Treatment Plants

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Water Treatment Plant



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Map 4.15 Waste Water Treatment Plants

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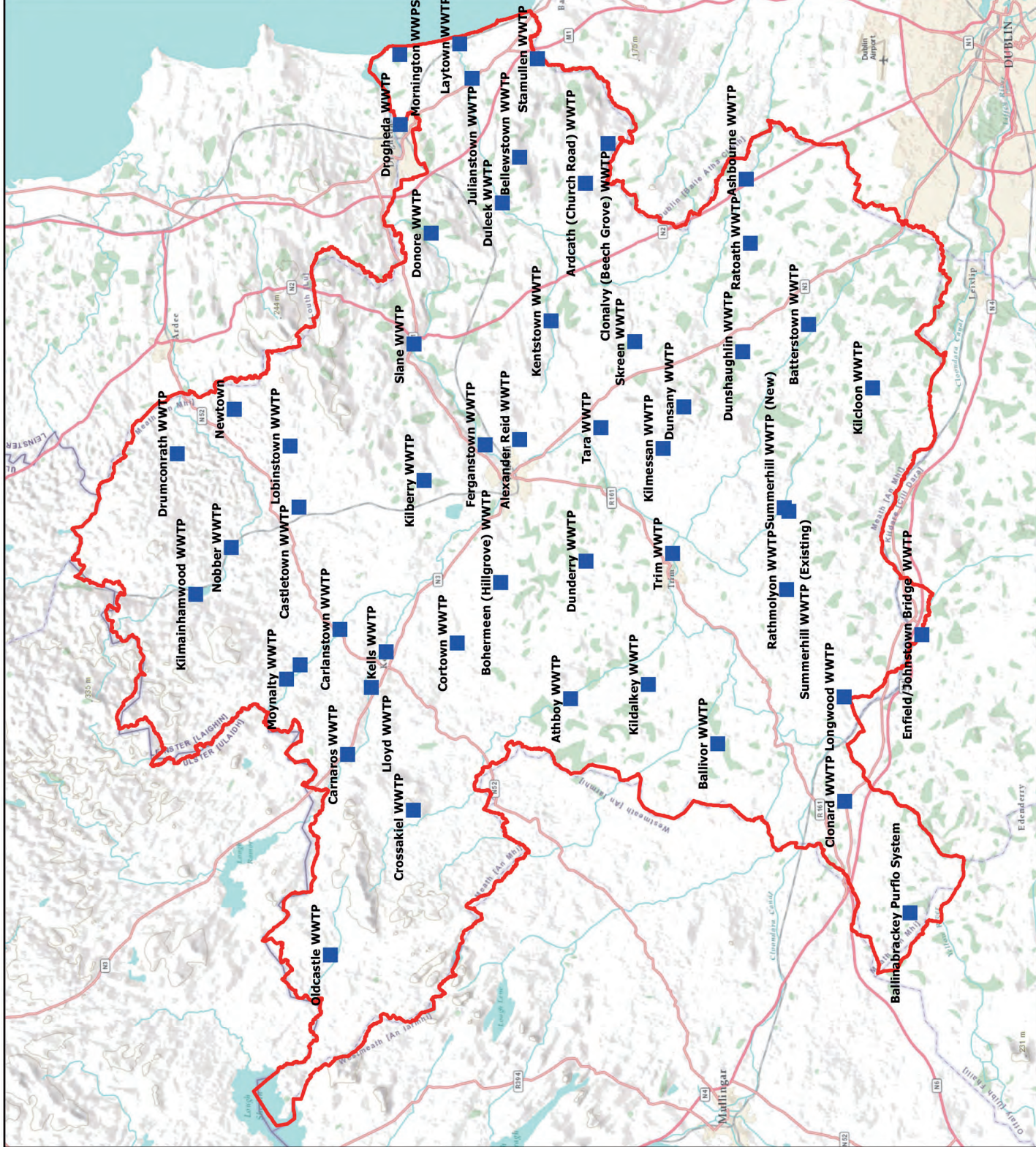
Waste Water Treatment Plants

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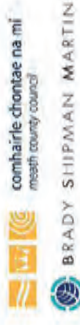
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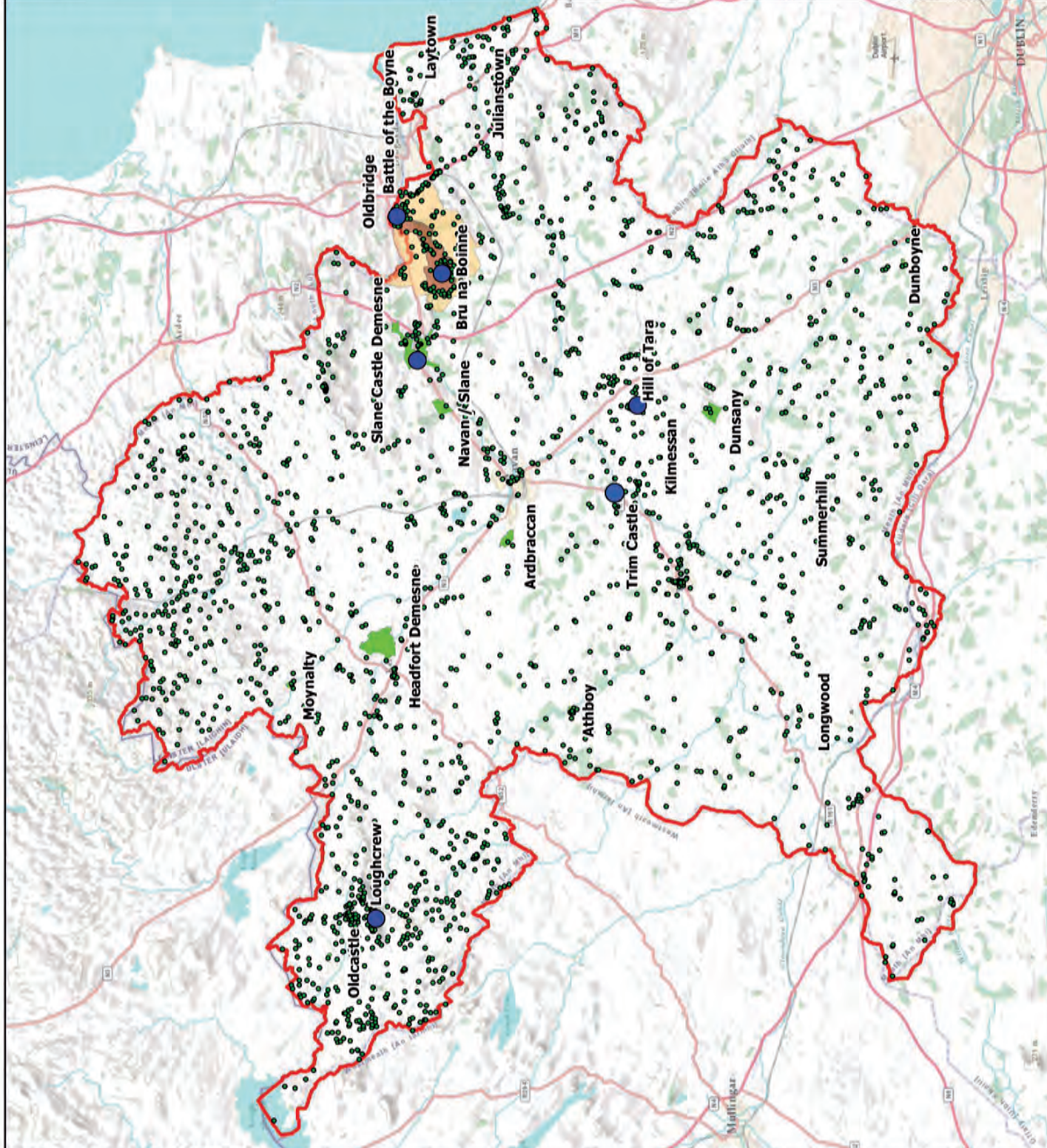


Meath County Development Plan 2013-2019 Strategic Environmental Assessment

County Meath Cultural Heritage



- National Monuments
- Notable Feature
- Bru na Boinne Core Area
- Bru na Boinne Buffer zone
- Architectural Conservation Area



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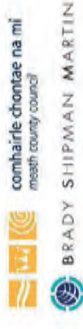


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Landscape Character Areas & Sensitivities



Landscape Sensitivity Areas

High Sensitivity

Low Sensitivity

Moderate Sensitivity



Source: Meath Landscape Character Assessment 2007

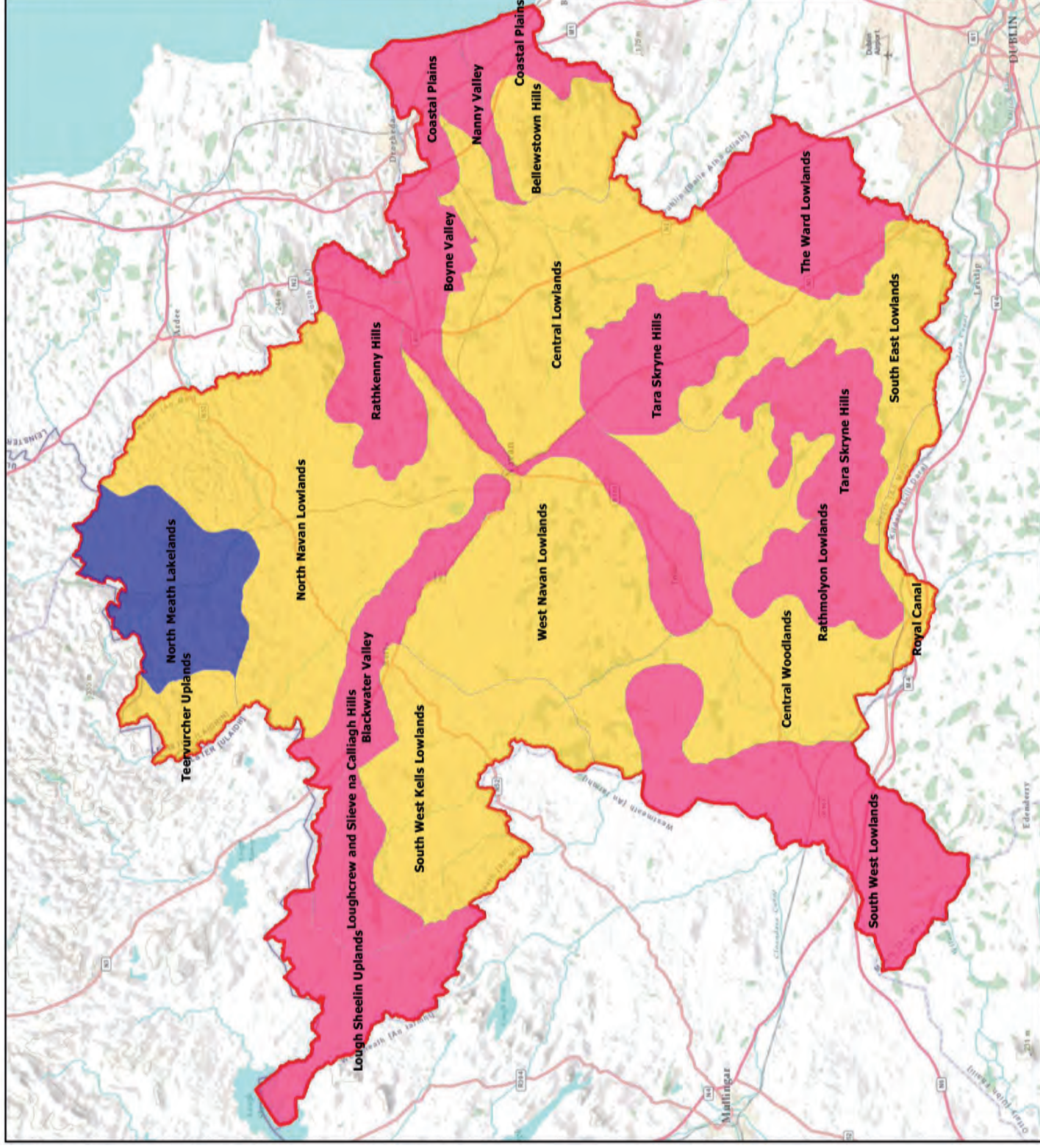
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¹ From Meath Strategic Flood Risk Assessment (SFRA) 2011

Note: River lengths shown are the length of the watercourse within County Meath

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GLOSSARY	
Appropriate Assessment:	An assessment of the effects of a plan or project on the Natura 2000 network. The Natura 2000 network comprises Special Protection Areas under the Birds Directive, Special Areas of Conservation under the Habitats Directive and Ramsar sites designated under the Ramsar Convention (collectively referred to as European sites).
Baseline environment:	A description of the present state of the environment of the P/P area.
Birds Directive:	Council Directive of 2nd April 1979 on the conservation of wild birds (79/409/EEC).
Cumulative effects:	Effects on the environment that result from incremental changes caused by the strategic action together with other past, present, and reasonably foreseeable future actions. These effects can result from individually minor but collectively significant actions taking place over time or space.
Data:	Includes environmental data, proxy data, any other relevant statistical data.
Designated authority (Designated environmental authority):	An organisation that must be consulted in accordance with the SEA Regulations. For Ireland these are the Environmental Protection Agency (EPA), the Department of the Environment, Community and Local Government (DoECLG) and the Department of Agriculture, Marine and Food.
Environmental Assessment:	The preparation of an environmental report, the carrying out of consultations, the taking into account of the environmental report and the results of the consultations in decision-making and the provision of information on the decision (in accordance with Articles 4 to 9 of the SEA Directive).
Environmental characteristics:	Environmental resources, issues and trends in the area affected by the P/P.
Environmental indicator:	An environmental indicator is a measure of an environmental variable over time, used to measure achievement of environmental objectives and targets.
Environmental objective:	Environmental objectives are broad, overarching principles which should specify a desired direction of environmental change.
Environmental receptors:	Include biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage (including architectural and archaeological) and landscape as listed in the SEA Directive. This list is not exhaustive, and can include other receptors which may arise for a particular P/P.
Environmental Report (ER):	A document required by the SEA Directive as part of an environmental assessment which identifies, describes and evaluates the likely significant effects on the environment of implementing a plan or programme.
Environmental targets:	A target usually underpins an objective often having a time deadline that should be met and should be accompanied by limits or thresholds.
Evolution of the baseline:	A description of the future state of the baseline in the absence of a plan or programme assuming 'business as usual' or 'do nothing' scenarios, depending on which is more reasonable for the P/P being proposed.
Habitats Directive:	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

Hierarchy of Plans:	Both higher and lower level P/P relevant to the P/P being assessed.
Indirect effect:	Any aspect of a P/P that may have an impact (positive or negative) on the environment, but that is not a direct result of the proposed P/P. May also be referred to as a secondary effect.
Interrelationships:	Associations or linkages, related to environmental impact of the proposed P/P usually on environmental receptors.
Issues Paper:	Paper produced as part of the consultation process, usually for Land Use Plans, to facilitate consultation with stakeholders on key issues.
Key environmental issues:	Those significant environmental issues, which are of particular relevance and significance within a P/P area and/or the zone of influence of that P/P. These issues should be identified during SEA Scoping process.
Key environmental receptors:	Aspects of the environment likely to be significantly impacted by the proposed P/P.
Material Assets:	Critical infrastructure essential for the functioning of society such as: electricity generation and distribution, water supply, wastewater treatment transportation etc.
Member States:	Those countries that belong to the European Union.
Mitigation measures:	Measures to avoid/prevent, minimise/reduce, or as fully as possible, offset/compensate for any significant adverse effects on the environment, as a result of implementing a P/P.
Monitoring:	<p>A continuing assessment of environmental conditions at, and surrounding, the plan or programme.</p> <p>This determines if effects occur as predicted or if operations remain within acceptable limits, and if mitigation measures are as effective as predicted.</p> <p>The primary purpose of monitoring is to identify significant environmental effects which arise during the implementation stage against those predicted during the plan preparation stage.</p>
Monitoring Programme:	A detailed description of the monitoring arrangements to be put in place to carry out the monitoring of the impact of the proposed P/P on the environment including; frequency of monitoring, who has responsibility for monitoring, and responses if monitoring identifies significant negative impacts.
Non-technical summary:	A summary of the findings of the ER, summarized under the headings listed in Annex 1 of the SEA Directive that can be readily understood by decision-makers and by the general public. It should accurately reflect findings of ER.
Plan or Programme:	<p>Including those co-financed by the European Community, as well as any modifications to them:</p> <ul style="list-style-type: none"> – which are subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and – which are required by legislative, regulatory or administrative provisions. In accordance with the SEA Directive, P/P that require SEA are those that fulfil the conditions listed in Article 2(a) and Article 3 of the SEA Directive.

Post-mitigation residual impacts:	Environmental effects that remain after mitigation measures have been employed.
Proxy data:	Is a measure of activity resulting from a P/P which provides information on environmental impact without the need for a direct measure of an environmental receptor. for example, an increase in the number of vehicles (activity resulting from a P/P) can provide information on the impact on air quality and greenhouse gases without having to measure the concentration of these parameters in the receiving environmental receptor.
Public:	One or more natural or legal persons and, in accordance with national legislation or practice, their associations, organisations or groups.
Reasonable alternatives:	Alternatives should take into account the objectives and geographical scope of the P/P. There can be different ways of fulfilling the P/P objectives, or of dealing with environmental problems. The alternatives should be realistic, capable of implementation and should fall within the legal and geographical competence of the authority concerned.
Scoping:	The process of deciding the content and level of detail of an SEA, including the key environmental issues, likely significant environmental effects and alternatives which need to be considered, the assessment methods to be employed, and the structure and contents of the Environmental Report.
Screening:	The determination of whether implementation of a P/P would be likely to have significant environmental effects on the environment. The process of deciding whether a P/P requires SEA.
SEA Directive:	Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes on the environment'.
SEA Statement:	A statement summarising: <ul style="list-style-type: none"> - how environmental considerations have been integrated into the P/P - how the ER, the opinions of the public and designated authorities, and the results of transboundary consultations have been taken into account - the reasons for choosing the P/P as adopted in the light of other reasonable alternatives.
Secondary effect:	Effects that are not a direct result of the P/P, same as indirect effect.
Short-term effects:	These are typical of those effects that may occur during construction stage of a development, for example, the increased traffic going to and from a site during construction, or, the noise associated with construction activities.
Significant effects:	Effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.
Statutory authority:	The authority by which or on whose behalf the plan or programme is prepared.
Statutory Instrument (S.I.):	Any order, regulation, rule, scheme or bye-law made in exercise of a power conferred by statute.
Synergistic effect:	Effects that, when totalled, result in a greater or lesser effect than the sum of the individual effects.

Non Technical Summary

1.0

Introduction and Background

The Planning and Development Act 2000 (as amended) requires that a Strategic Environmental Assessment, (pursuant to the SEA Directive) and an Appropriate Assessment (pursuant to the EU Habitats Directive) be carried out as part of the Development Plan process.

The Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) run in parallel with, and inform the preparation of, the new County Development Plan. Both of these processes have significantly influenced the adopted plan.

The purpose of the Environmental Report (ER) is to identify, describe and evaluate the likely significant effects on the environment

of implementing the proposed Meath County Development Plan 2013-2019 and should be read in conjunction with the Plan. The aim of the Environmental Report is to identify:

- Existing environmental issues in County Meath;
- The likely significant effects on the environment resulting from implementation of the Meath County Development Plan 2013-2019;
- How the impact(s) on the environment can be prevented or reduced; and
- How to monitor environmental impacts over the lifetime of the Development Plan.

The vision statement for County Meath as set out in the Development Plan is that:

Meath will be a county that encompasses sustainability throughout its vibrant communities, dynamic economy and unique cultural and natural heritage.

This vision statement for the County is backed up by a set of Core Principles which aim to provide a foundation for the remainder of the Development Plan policies and objectives.

The Core Principles of the Meath County Development Plan 2013-2019 are:

- | | |
|-------------------------|--|
| Core Principle 1 | To develop Meath's critical role in the Dublin and Mid East Region and its role as part of the Dublin City National Economic Gateway maximising on its proximity to Dublin Airport. |
| Core Principle 2 | To facilitate the development of sustainable and socially inclusive communities which generate pride, a sense of place, and a healthy lifestyle; are safe, well connected, well served, environmentally sensitive, thriving and well designed. |
| Core Principle 3 | To promote sustainable economic development to support the population of County Meath. |
| Core Principle 4 | To support the sustainable heritage of the County by safeguarding the cultural, natural and built heritage and natural resources, including biodiversity, of the County. |
| Core Principle 5 | To encourage mixed use settlement forms and sustainable centres, in which employment, housing and community services are located in close proximity to each other and to strategic public transport corridors. |

Core Principle 6	To support the creation of a compact urban form in all settlements in Meath.
Core Principle 7	To protect and support rural areas through careful management of physical and environmental resources and appropriate, sustainable development.
Core Principle 8	To support agriculture and agricultural related development in Meath and strengthen the county as a hub for the vibrant agricultural and food sectors.
Core Principle 8	To consolidate population growth and employment in areas best served by public transport and a range of transport modes.
Core Principle 10	To promote and support the integration of land use and transport and a modal shift to greater use of sustainable modes of transport, including public transport, walking and cycling.
Core Principle 11	To integrate climate change considerations into the policies and objectives of Meath County Council and its key stakeholders.
Core Principle 12	To ensure that future development patterns in Meath accord with the sustainable management of water resources.

Environmental aspects have been considered throughout the plan-making process and have been incorporated into the Adopted Plan with the aim of improving the environment

of the county. The Environmental Report is the primary element in the SEA process and is published alongside the Meath County Development Plan 2013- 2019.

2.0

Methodology

Baseline data has been collected, based on the various broad environmental topics described in the SEA Directive i.e. biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage and landscape. The baseline data was collated from currently available, relevant data sources.

Public and statutory consultation was undertaken at various stages through the plan-making process. The consultation process commenced in March 2011 with the publication of the Strategic Issues Paper and included the following formal stages:

- Public Consultation Pre-draft Stage: 2nd March to 29th April 2011.
- Strategic Environmental Assessment Scoping Consultation: February 2012.
- Elected Members Consultation Pre-draft 'Work-in-Progress' Stage: April 2012.
- Public Consultation / Display of Draft Plan and Environmental Report: 25th May to 3rd August 2012.

- Public Consultation / Display of proposed Amendments to the Draft Plan and Screening of Effects of the Amendments on the Environment: 12th October to 8th November 2012.

Submissions were received from or on behalf of the general public; businesses; community, cultural, sporting and tourist groups; third-level institutions; elected members; local, town and county councils; utility providers; An Taisce; Department of Arts, Heritage and the Gaeltacht; Department of Environment, Community and Local Government; Dublin Regional Authority; Environmental Protection Agency; Fáilte Ireland; Inland Fisheries Ireland; National Roads Authority; National Transport Authority; The Heritage Council and The Office of Public Works.

A wide range of issues were raised, principally focused on:

- Strategic Planning, including Core Strategy;
- Population, Settlement and Housing;
- Economic Development and Employment, including Retail and Tourism;

- Urban and Architectural Design;
 - Physical Infrastructure, including Energy, Water Supply, Surface Water and Wastewater Treatment;
 - Transportation, including Public Transport, Roads and Traffic, Parking, Cycling and Walking;
 - Rural Development, including Rural Housing, Rural Enterprise and Amenity Use;
 - Community, Recreation and Open Space;
 - Environment, including Climate Change, SEA and AA and Flooding;
 - Heritage and Conservation, including Natural, Built and Archaeological Heritage;
 - Listed Views and Prospects.
- The submissions were considered, as appropriate, in the plan-making process for the Draft Development Plan and were subject to SEA and AA for effects on the environment.
- Table NTS-2.1 outlines the key stages in the development of the assessment in accordance with the Directive and the associated national legislation.

Table NTS-2.2: Key Stages of SEA

Stage	Description
Screening	<p>The screening process is the first stage of the Strategic Environmental Assessment. Screening assesses the need to undertake a Strategic Environmental Assessment.</p> <p>Under the Planning and Development Act 2000 (as amended) full Strategic Environmental Assessment is mandatory for the Meath County Development Plan 2013-2019.</p>
Scoping	<p>The Scoping of the Meath County Development Plan 2013-2019 was carried out in accordance with Article 5 (4) of the SEA Directive (2001/42/EC).</p> <p>The principal purpose of the Scoping stage is to decide upon the range of issues and level of detail to be included in the Environmental Report. An overview of the relevant environmental issues requiring further analysis are given and consideration in the Environmental Report and ultimately in the Development Plan itself.</p> <p>By highlighting some of the significant issues at an early stage, the scoping process ensures that the issues are firmly to the forefront when considering each of the policies and objectives of the Plan and reduces the possibility of relevant issues not being addressed.</p>
Consultation with the Environmental Authorities	Submissions were received from the Department of Arts, Heritage and the Gaeltacht the Environmental Protection Agency and Louth County Council.
Scoping Report	Submissions received from Environmental Authorities were reviewed and incorporated into the process where warranted.
Preparation of Environmental Report (ER) and Meath County Development Plan (MCDP)	<ul style="list-style-type: none"> • A multi disciplinary team was established to create policy consistent documents and to examine the effects on the environment of implementing the objectives and policies. • Objectives created in Development Plan assessed in ER and Development Scenarios for the County examined. • Feedback from on-going Plan preparation process & ER preparation Favoured scenario chosen. • Mitigation measures discussed and chosen. • Monitoring incorporated into existing methods.
Monitoring the County Development Plan	Monitoring significant environmental effects over the lifetime of the Meath County Development Plan 2013-2019.

3.0

Review of Relevant Policies Plans and Programmes

The County Development Plan is set within a hierarchy of other plans, and the policies and objectives of the plan must accord with the National Spatial Strategy (2002) and Regional Planning Guidelines for the Greater Dublin Area (2010-2022).

The SEA also fully considers relevant other plans, programmes, legislation and guidelines, across the environmental receptors and specific sectors.

4.0

Environmental Baseline of County Meath

County Meath is located on the east coast of Ireland within the Greater Dublin Area and covers an area of 230,000 hectares. It is the second largest county in Leinster with Navan as its county town. Other main settlements within the county include Ashbourne, Dunshaughlin, Kells and Trim. The 2011 Census showed that the county had a recorded population of 184,135 in 2011, an increase of 13% from 2006.

Navan, the principal town, is one of the largest towns in the Greater Dublin Area and is classified as a Large Growth Town 1 in the Regional Planning Guidelines (RPGs) for the Greater Dublin Area 2010-2022.

The county hosts a wealth of historical and archaeological sites of national and international importance. The archaeological complex of Brú na Bóinne, which has been designated as a UNESCO World Heritage Site and includes the burial sites of Newgrange, Knowth and Dowth, is located in the east of the county. The county also possesses a diverse range of landscapes, including 10 kilometres of coastline, the drumlin hills in North Meath, rich pastures, tracts of peatland and raised bog in the southwest and the central upland area.

Table NTS-4.1 below describes the principal environmental pressures affecting the County.

Table NTS-4.1 Summary of Environmental Issues / Pressures in County Meath

Topic	Environmental Issues/Pressures
Biodiversity, Fauna and Flora	<p>The variety of habitats distributed throughout Meath are focused around the Boyne and Blackwater rivers as well as along the short coastline which supports a wide range of rare or threatened flora and fauna species.</p> <p>Within the County there are a number of areas designated for protection under the Natura 2000 network. These include 8 candidate Special Areas of Conservation (cSAC) and 4 Special Protection Areas (SPA). In addition there are 3 Natural Heritage Areas (NHA) and 28 proposed Natural Heritage Areas (pNHA). Furthermore, a range of other non-designated habitats exist within the County and play a significant role in the natural environment, these include inland waters, wetlands and raised bog.</p> <p>Certain developments and activities associated with agricultural activities, afforestation, urban developments, windfarms, quarries, tourism, peat extraction, commercial fishing, ports and airports and a wide range of infrastructural works (including road works, water abstraction, wastewater disposal) that are located within, or close to, ecologically sensitive sites can give rise to significant environmental pressures.</p> <p>Within Meath the protection of coastal areas, wetlands and the avoidance of the spread of invasive species are major issues.</p>

Topic	Environmental Issues/Pressures
Population and Human Health	<p>Significant increases in population as experienced in County Meath over the past decade, in addition to their activities and settlement patterns, have placed increased pressure on biodiversity, water quality, landscape, cultural heritage and air.</p> <p>In particular, increased pressure on water quality arising from pollution can have a significant impact on human health. Individual and cumulative changes in the quality of the natural and built environment at local, regional and national level have the potential to impact to varying degrees on human health and wellbeing.</p> <p>Unsustainable commuting patterns are a particular concern in County Meath.</p>
Soil & Geology	<p>With urban expansion, agricultural land surrounding cities and towns as well as green areas within them are subjected to increasing pressures.</p> <p>Human activity can lead to soil degradation including loss of organic matter, decline in soil fertility, acidification, loss of soil stability, increasing soil erosion, soil compaction, contamination, loss of biodiversity and loss of soil to buildings and infrastructure.</p> <p>Adverse environmental impacts can occur from extractive industries, from both existing quarries and new quarry extensions if not appropriately managed. There are 73 registered quarries in County Meath.</p>
Water	<p>The principal threat to water is pollution which can adversely impact on all parts of the water cycle from groundwater to rivers, lakes estuaries and coastal waters. Urban and rural development including wastewater and surface water disposal, landfills, quarries, contaminated lands, illegal dumping, agricultural activity, water recreational activities and afforestation can have significant impacts on water quality.</p> <p>Estimates of nutrient input into waters within the Eastern River Basin indicate that municipal and industrial discharges produce approximately 60% of the yearly phosphorus load with the remainder coming from diffuse sources such as agriculture. There have been growing concerns over the capacity of wastewater treatment works within smaller towns to cope with their expanding populations. Many treatment plants serving populations of less than 500 people provide inadequate treatment before discharge to surface waters. However it is the cumulative effect of discharges from these treatment plants which is of most concern.</p> <p>Flood risk is a concern within the County with approx 4% of all properties recorded in the An Post Geo-directory being located in areas with a high to moderate probability of flooding from rivers.</p>
Air and Climate	<p>Air quality within the Plan area is generally good. Increased greenhouse gas emissions have been linked with climate change resulting in increases in the intensity and frequency of flooding. Of particular concern is the high dependency on the use of the private car within the County.</p>
Material Assets - Transportation	<p>The residents of County Meath rely heavily on the use of private cars for transport. Travel patterns show that a high proportion of residents commute long distances by car to school and work, with the latter mostly to Dublin.</p>

Topic	Environmental Issues/Pressures
- Waste Management	In 2009, over 75% of occupied households in County Meath were serviced by a kerbside separated collection system for dry recyclables. However significant additional progress is required in terms of providing a 3-bin collection service to cater for the separate collection of organics.
- Water Supply	Significant water capacity issues exist within the water treatment plants which supply the County. Stalleen Water Treatment Works is nearing capacity. The current water supply situation places a constraint on additional large-scale development in the environs of Drogheda, Dunboyne, Clonee and other areas within the County.
- Wastewater	There is currently a challenge to provide sufficient wastewater treatment infrastructure in the County to serve the existing and future population.
Energy	County Meath is overly reliant on external and non renewable energy sources.
Cultural Heritage	Meath is known as the Heritage Capital of Ireland. It contains many sites of international heritage significance, including the World Heritage Site of Brú na Bóinne and the Hill of Tara.
Landscape	<p>County Meath has a rich and varied landscape with historic features dating back to prehistory and many well-known tourist attractions related to its heritage.</p> <p>The Landscape Character Assessment for Meath has identified that the unprecedented population growth experienced in the County as a threat to its landscapes and historic settlement structure.</p> <p>Modern unsympathetic development is also a threat to the landscape quality. In many areas of the County hedgerows have been removed and replaced with post and wire fencing resulting in an open and more diminished landscape condition.</p>
Interrelationship	Impacts and interactions will vary in extent and nature. In particular, issues regarding water quality, climate change and flooding cross a number of environmental areas. Population increase and changes in human activities and settlement patterns can also impact on a wide range of environmental areas.

5.0

Strategic Environmental Objectives, Targets and Indicators

Strategic Environmental Objectives (SEOs) assist in the prediction, description and monitoring of impacts on the environment as a result of the Development Plan. The Objectives are based on the overall strategy of the Planning

Authority to safeguard the environmental integrity of the Development Plan area and to develop in a sustainable manner. The Strategic Environmental Objectives are set out in Table NTS-5.1 opposite.

Table NTS-5.1 Strategic Environmental Objectives (SEOs)

Environmental Parameter	No.	Objective
Biodiversity	B1	Conserve the diversity of habitats and protected species avoiding irreversible losses.
	B2	Promote measures to protect biodiversity by creating and improving habitats, where possible.
	B3	Provide opportunities for sustainable public access to wildlife and wild places at appropriate locations.
	B4	Avoid damage by development to designated wildlife sites and protected species.
Population	P1	Improve people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns.
Human Health	H1	Minimise noise, vibration and emissions from traffic, industrial processes and extractive industry.
Soil	S1	Maintain the quality of soils.
	S2	Maximise the sustainable re-use of brownfield lands, and maximise the use of the existing built environment rather than developing greenfield lands.
	S3	Minimise the consumption of non-renewable sand, gravel and rock deposits.
	S4	Minimise the amount of waste to landfill.
Water	W1	Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems.
	W2	Promote sustainable water use based on a long-term protection of available water resources.
	W3	Reduce progressively discharges of polluting substances to waters.
	W4	Mitigate the effects of floods and droughts including vulnerability to climate change (i.e. extreme weather, sea level rise, coastal erosion).
Air	A1	Reduce all forms of air pollution.
	A2	Minimise emissions of greenhouse gases to contribute to a reduction and avoidance of human-induced global climate change.
	A3	Reduce waste of energy, and maximise use of renewable energy sources.
	A4	Assess, plan and manage adaptation to climate change impacts.
	A5	Reduce the need to travel.
Material Assets	MA1	Maximise use of the existing built environment.
	MA2	Avoid flood risk and/or coastal erosion in selecting sites for development.
	MA3	Maintain water abstraction, run-off and recharge within carrying capacity (including future capacity).
	MA4	Maintain the quality of and access to assets such as aquifers, aggregates, ports, motorways, and all physical and social infrastructures.

Environmental Parameter	No.	Objective
Cultural Heritage	CH1	Promote the protection and conservation of the cultural heritage, including architectural and archaeological heritage.
Landscape	L1	Conserve and enhance valued natural and historic landscapes, their character and features within them.

6.0

Alternative Plan Scenarios

The SEA Directive requires the consideration of SEA Alternatives. Chapter 6 of the Environmental Report sets out and examines the 3 alternative plan scenarios derived from the framework for population growth as set out by the Regional Planning Guidelines for the Greater Dublin Area 2010-2022. The 3 alternative scenarios considered were:

- Alternative Plan Scenario 1:
Dispersed Growth around existing Settlements
- Alternative Plan Scenario 2:
Structured Development Strategy
- Alternative Plan Scenario 3:
Centred Development Strategy

Each of the alternatives proposed were assessed against the relevant Strategic Environmental Objectives (SEOs) Alternative Plan Scenario 2, '**Structured Development Strategy**' was considered to be the preferred scenario, and as such formed the basis of the preparation of the Meath County Development Plan 2013-2019. This scenario represents a pragmatic recognition of established patterns of development in the county. The strategy seeks to modify these patterns to have regard to the significant environmental sensitivities that exist throughout the County with a view to stabilising both environmental conditions and the populations of those communities who continue to sustain these environments.

7.0

Strategic Environmental Assessment of the Plan

The SEA aims to highlight the potential conflicts, if they are present, between the stated policies and objectives contained in the Plan with the Strategic Environmental Objectives. Furthermore, the assessment examines the potential impact arising from the implementation of the Plan's policies and objectives on sensitive environmental receptors.

The process of SEA and Development Plan formulation is an iterative one and environmental considerations have informed all stages of plan preparation carried out in order for the potential for significant adverse effects arising from implementation of the plan to be minimised. Where the environmental assessment identifies significant adverse

effects, consideration is given in the first instance to preventing such impacts. Where prevention is not possible, the plan seeks to lessen or offset those effects through mitigation measures.

Table NTS-7.1 below summarises the interaction of the plan with the environmental receptors and identifies the likely effects on the environment of the plans implementation.

The iterative process of SEA identified the policies and objectives that have the potential to impact, either positively or negatively, on the environmental receptors as reviewed in the Environmental Report. The relevant policies and objectives as summarised below in Table NTS-7.2.

Table NTS-7.1
SEA Assessment Summary

Dev Plan Chapter	Chapter Subsection	Human Beings	Soil and Geology	Biodiversity	Water Quality			Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Material Assets				
					Surface Water	Groundwater	Flooding						Energy	Wastewater Treatment	Water Supplies	Transport	Waste Management
Core Strategy																	
Social Strategy																	
Settlement Strategy and Housing																	
Economic Development	Economic Development Strategy																
	Rural Areas				?	?	?										
	Retail				?	?	?										
	Tourism				?	?	?										
Social Strategy																	
Transportation	Transport Plans																
	Public Transport																
	Walking and Cycling																
	Road																
Water, Drainage & Environmental Services	Water Services																
	Water Quality																
	Flood Risk Management																
	Waste Management																
	Sustainable Urban Drainage																
	Air																
	Noise																
Energy and Communications	Energy																
	Communications																
Cultural and Natural Assets	Cultural Heritage																
	Natural Heritage																
	Landscape																
Rural Development	Strategic Objectives																
	Rural Settlement Strategy																
	Agriculture																
	Forestry																
	Extractive Industry																
	Gaeltacht Areas																
	Vernacular																
Development Management																	
Implementation and Monitoring																	

Key

Potential Positive Impact	Neutral Impact	Potential Negative Impact	? Neutral/Uncertain Impact	Uncertain Impact
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Table NTS-7.2 Policies and Objectives: interaction with Environmental Receptors

Environmental Report Section	Environmental Receptor	Development Plan Chapter	Relevant Policies and Objectives
7.2.2	Soil and Geology	Settlement Strategy & Housing	SS OBJ 3, SS OBJ 5, HS POL 10
		Economic Development	ED POL 5
		Cultural and Natural Heritage and Landscape	NH POL12
		Rural Development	RUR DEV SO 3, RUR DEV SO 7, RD POL 22, RD POL 23
7.2.3	Biodiversity - Flora and Fauna	Core Strategy	Core Principle 4, Core Principle 7
		Settlement Strategy & Housing	SS OBJ 2, SS OBJ 5
		Economic Development	ED POL 9, ED POL 10, ED POL 11
		Social Strategy	SOC POL 38
		Water, Drainage and Environmental Services	WS SO 7, WS SO 8, WS SO 10, WS SO 11, WS SO 17, WS OBJ 12, WS OBJ 13, WS OBJ 14, WS OBJ 15
		Energy & Communications	EC OBJ 1, EC POL 3, EC POL 23
		Rural Development	RUR DEV SO 1, RUR DEV SO 9, RUR DEV SP 2
7.2.4	Water Quality	Settlement Strategy & Housing	SS OBJ 2
		Economic Development	ED POL 9, ED POL 10, ED POL 11
		Water, Drainage and Environmental Services	WS POL 2, WS POL 4, WS POL 12, WS POL 14, WS POL 17, WS POL 22, WS SOBJ 9, WS POL 19, WS POL 20, WS POL 22, WS POL 25, WS POL 26, WS POL 27
		Energy & Communications	EC POL 15
		Rural Development	RUR DEV SO 2, RD POL 12, RD POL 16, RD POL 23, RD POL 45, RD POL 46, RD POL 47, RD POL 48, RD POL 50, RD POL 51, RD POL 52, RD POL 53

Environmental Report Section	Environmental Receptor	Development Plan Chapter	Relevant Policies and Objectives
7.2.5	Material Assets-Transport	Core Strategy	CS OBJ 13, CS OBJ 14, CS OBJ 15
		Settlement Strategy & Housing	SS OBJ 1
		Economic Development	ED POL 1, ED POL 2, ED POL 6, ED POL 7, ED POL 18, ED POL 22, ED POL 23, ED POL 24, ED POL 25
		Social Strategy	SOC POL 2, SOC POL 17, SOC POL 22, SOC POL 27
		Transportation Strategy	TRAN SP 2, TRAN SP 4, TRAN SP 8, TRAN POL 7, TRAN POL 8, TRAN POL 10, TRAN POL 11, TRAN POL 12, TRAN POL 13, TRAN POL 15, TRAN POL 16, TRAN POL 18, TRAN POL 23, TRAN POL 25, TRAN POL 26, TRAN POL 28, TRAN POL 29
		Rural Development	RD POL 25, RD POL 36, RD POL 37, RD POL 38, RD POL 39, RD POL 40, RD POL 43
7.2.6	Material Assets-Water Services	Settlement Strategy & Housing	SS OBJ 2
		Economic Development	ED POL 1, ED POL 2
		Water, Drainage and Environmental Services	WS SO 4, WS SO 6, WS OBJ 3, WS OBJ 4, WS OBJ 6
		Cultural and Natural Heritage and Landscape	CSA SP 2, NH POL 2, GI POL 2
		Rural Development	RUR DEV SO 2, RD POL 6, RD POL 45, RD POL 46, RD POL 47, RD POL 48, RD POL 51, RD POL 52, RD POL 53
7.2.7	Noise	Water, Drainage and Environmental Services	PC POL 1, PC OBJ 1
7.2.8	Air Quality	Transportation Strategy	TRAN SP 2, TRAN SP 3, TRAN SP 4
		Energy & Communications	EC POL 2, EC POL 3, EC POL 10
		Cultural and Natural Heritage and Landscape	NH POL 1, NH POL 8, NH POL 17
		Rural Development	RD POL 15, RD POL 16, RD POL 18

Environmental Report Section	Environmental Receptor	Development Plan Chapter	Relevant Policies and Objectives
7.2.9	Climate Change	Core Strategy	Core Principle 6, Core Principle 10, Core Principle 11, CS OBJ 7, CS OBJ 9
		Settlement Strategy & Housing	HS POL 4
		Economic Development	ED POL 15, ED POL 18
		Social Strategy	SOC POL 2, SOC POL 17, SOC POL 37, SOC POL 41
		Transportation Strategy	TRAN SP 2, TRAN POL 7, TRAN POL 14
		Water, Drainage and Environmental Services	WS POL 29, WS POL 30, WS OBJ 11, WS OBJ 16, WM POL 1, WM POL 2, WM POL 5
		Energy & Communications	EC OBJ 2, EC OBJ 3, EC POL 1, EC POL 2, EC POL 3, EC POL 4, EC POL 5, EC POL 6, EC POL 9, EC POL 20, EC POL 21, EC POL 22
		Cultural and Natural Heritage and Landscape	GI POL 2, GI OBJ 1, NH POL 16
		Rural Development	RD POL 15, RD POL 16, RD POL 18
7.2.10	Cultural Heritage	Economic Development	ED POL 29, ED POL 42
		Social Strategy	SOC POL 45, SOC POL 50
		Cultural and Natural Heritage and Landscape	CH POL 1, CH POL 2, CH POL 3, CH POL 4, CH OBJ 1, CH OBJ 2, CH OBJ 3, CH OBJ 4, CH OBJ 5
		Archaeological Heritage	CH POL 7, CH POL 8, CH OBJ 7, CH OBJ 10
		Architectural Heritage	CH POL 10, CH POL 11, CH POL 16, H POL 18, CH OBJ 13, CH OBJ 16, CH OBJ 19, CH OBJ 20, CH OBJ 21
		Vernacular Heritage	CH POL 20, CH OBJ 22
		Rural Development	RUR DEV SP 2, RD POL 15, RD POL 27, RD POL 28, RD POL 30, RD POL 32, RD POL 35

Environmental Report Section	Environmental Receptor	Development Plan Chapter	Relevant Policies and Objectives
7.2.11	Landscape & Visual	Settlement Strategy & Housing	HS POL 2, SS OBJ 5
		Social Strategy	SOC POL 39, SOC POL 40, SOC POL 41, SOC POL 42
		Transportation Strategy	TRAN POL 27, TRAN POL 30
		Energy & Communications	EC POL 13, EC POL 18, EC POL 19, EC POL 38
		Cultural and Natural Heritage and Landscape	CSA SP 2, CSA SP 3, CH OBJ 1, CH OBJ 2, CH OBJ 3, CH POL 7, CH POL 18, CH POL 19, CH OBJ 22, CH OBJ 23, NH POL 22, LC POL 1, LC SP 1, LC POL 2
			RUR DEV SO 6, RD POL 3, RD POL 9, RD POL 16, RD POL 19, RD POL 20, RD POL 41

8.0 Mitigation Measures

As environmental considerations have informed all stages of the preparation of the Development Plan, the policies and objectives of the Plan have been framed to ensure that potential adverse impacts are avoided, eliminated or lessened to an acceptable level. As a result of this informed iterative process, it is the finding of the assessment of the Development Plan as presented in Chapter 7 of this SEA Report, that the full implementation of the Plan, will have a neutral to positive impact on the environment as a whole.

Given this finding, the requirement for specific mitigation measures is largely unnecessary;

and therefore this section of the Environmental Report will instead focus on and discuss how the specific environmental receptors will be protected. This was done in the first instance throughout the drafting of objectives and policies contained within the Plan, and also by amending, adding and replacing objectives and policies to ensure mitigation at implementation stage through best practice in the development management process and implementation of the Plan. In addition, certain individual applications for developments within the County may be subject to individual Environmental Impact Assessments and Appropriate Assessments.

9.0 Development Plan Monitoring

The County Manager is required to prepare a progress report on the implementation of the Plan. As the environment is a significant consideration, this progress report will include the key findings of an environmental monitoring programme that will report on the environmental effects of implementing the County Development Plan.

Monitoring will be based on a series of Environmental Indicators that will measure

changes in the environment, especially changes which are critical in terms of environmental quality, for example, water quality or air pollution. The monitoring report will be prepared within two years of the adoption of the Plan.

A list of the Environmental Indicators is provided in Table NTS-9.1.

Table NTS-9.1 Monitoring

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)
Biodiversity - Flora and Fauna	No loss of important and/or designated habitats	Number of sites.	Meath County Council/National Parks and Wildlife Service/ Fisheries Board (depending on available information from relevant statutory authorities)
	No deterioration in the quality of protected areas	Number of sites containing rare or threatened species.	Initial monitoring to commence within two years of adoption as part of the Progress Report (subject to available resources).
	No loss of protected species	Number of rare or threatened species.	
	No fish kills during the lifetime of the plan	Details of major fish kills	
	All actions contained within the Biodiversity Plan to be achieved during the lifetime of the County Development Plan.	Number of actions achieved.	
	No net loss of green linkages established under the Green Infrastructure Strategy.	Net area of new green infrastructure established through the development management process.	
	No spread of invasive species within the County	Numbers of new cases identified.	Establish baseline, location and extent of invasive species in the county, to commence within two years of adoption as part of the Progress Report (subject to available resources).
Population	Decrease in journey times to work, education and recreation.	Distance and mode of transport to work	Meath County Council - Housing, Planning and Roads sections.
	Applications for new developments in excess of fifteen residential units or over 0.02 Ha to be accompanied by Design Statement.	Number of design statements.	Initial monitoring to commence within two years of adoption as part of the Progress Report (subject to available resources).
	Rural housing to accord with Rural Housing Design Guidelines	Number of planning permissions granted in the countryside.	

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)
Soil	No incidences of soil contamination	Number/severity of recorded pollution incidences	Meath County Council & EPA
	Limited and controlled development of greenfield sites	Area of land lost through greenfield development as per Development Plan process	Initial monitoring to commence within two years of adoption as part of the Progress Report (subject to available resources).
Water	Implement fully the recommendations of the three relevant River Basin Districts River Basin Management Plans.	Number of recommendations achieved.	Meath County Council - Planning Department, Water Services Department. Also the Environmental Protection Agency.
	Achieve 'good' quality status of surface waters in line with WFD	Percentage increase in the overall quality of surface waters.	Initial monitoring to commence within two years of adoption as part of the Progress Report (subject to available resources).
	Comply and implement fully the most recent EPA guidelines on Septic Tank use and siting as well as other on-site treatment facilities.	Number of permissions granted complying with the guidelines.	
	Maintain and upgrade where necessary all Local Authority operated WWT plants to comply with the relevant legislation.	Compliance with discharge parameters.	
	Improvement in bathing water quality	Achieve and maintain Green Flag status on all beaches.	
Air Quality	Improvement in the concentrations of measured parameters such as Particulate Matter, Sulphur Dioxide and nitrogen oxides.	Measurable reductions in concentrations.	EPA
			Review of EPA standards and data to commence within two years of adoption as part of the Progress Report (subject to available resources).

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)
Climate change	Increase in permissions granted for residential development within acceptable distance of public transport hubs.	Percentage of housing developments within specified distance to transport hubs.	Initial monitoring to commence within two years of adoption as part of the Progress Report (subject to available resources).

1

Introduction and Background

Pursuant to Section 11 (1) of the Planning and Development Act 2000 (as amended) Meath County Council in March 2011 gave notice that it intended to review the existing 2007-2013 County Development Plan and to prepare the Meath County Development Plan 2013-2019.

Pursuant to Article 13B of the Planning and Development (SEA) Regulations 2004 and 2011 and Articles 6(3) and (4) of the Habitats Directive, Meath County Council also proposed to carry out a Strategic Environmental

Assessment (SEA) and Appropriate Assessment (AA) as part of the Development Plan Review.

Consequently, this SEA Environmental Report has been prepared in tandem with the Meath County Development Plan 2013-2019. In addition the Habitats Directive Assessment has been carried out in parallel with the Development Plan Review and SEA and is presented as a separate document.

1.1

Introduction and Terms of Reference

Meath County Council was required under the Planning and Development Act 2000 (as amended) to review the 2007-2013 County Development Plan and prepare the Meath County Development Plan 2013-2019. This was a two year process which formally commenced on the 2nd March 2011 and led to the adoption of the Meath County Development Plan which came into effect on the 22nd of January 2013.



The EU Directive on Strategic Environmental Assessment or SEA (Directive 2001/42/EC) came into force in July 2001. The SEA Directive was subsequently transposed into Irish law through S.I. No. 435 of 2004 European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 and S.I. No. 436 of 2004 Planning and Development (Strategic Environmental Assessment) Regulations 2004 as amended by S.I. No. 200 of 2011 European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 and S.I. No. 201 of 2011 Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011, respectively.

Under this legislation member States of the EU are obliged to assess the likely significant environmental effects of plans and programmes prior to their adoption thus providing for the assessment of strategic environmental considerations at an early stage of the decision making process.

The following document is an Environmental Report prepared as part of the Strategic Environmental Assessment (SEA) of the Meath County Development Plan 2013-2019. The purpose of this Environmental Report is to identify, describe and evaluate the likely significant effects on the environment of implementing the proposed Meath County Development Plan 2013-2019 and should be read in conjunction with the Plan. The aim of the Environmental Report is to identify:

- Existing environmental issues in County Meath;
- The likely significant effects on the environment resulting from implementation of the Meath County Development Plan 2013-2019;
- How the impact(s) on the environment can be prevented or reduced; and
- How to monitor environmental impacts over the lifetime of the Development Plan.

This Environmental Report forms an integral part of the SEA process which is carried out in parallel with the review of the Development Plan and the preparation of the Appropriate Assessment of the Plan. The SEA review process also includes a Scoping Report, a Non Technical Summary and an SEA Statement. The Scoping Report was prepared in order to determine the baseline environmental parameter data and issues to be considered in the Environmental Report – this is discussed in more detail in Chapter 2.

The purpose of this Environmental Report is to document the process that has been

followed in carrying out the SEA. The SEA process has guided the preparation of objectives and development scenarios for the Development Plan with an ultimate goal of achieving sustainable development in the County, and the avoidance of negative impacts on the environment. This Environmental Report provides an explanation of the process of conducting the SEA, identifies the key environmental effects, highlights mitigation and monitoring measures, and provides an opportunity for interested parties to comment on the environmental issues associated with the new Plan.

1.2

County Meath Plan Area

County Meath is located on the east coast of Ireland within the Greater Dublin Area. Navan is the county town and the main settlements

within the county include Ashbourne, Dunshaughlin, Kells and Trim. The full Plan area is shown in Figure 1.1.

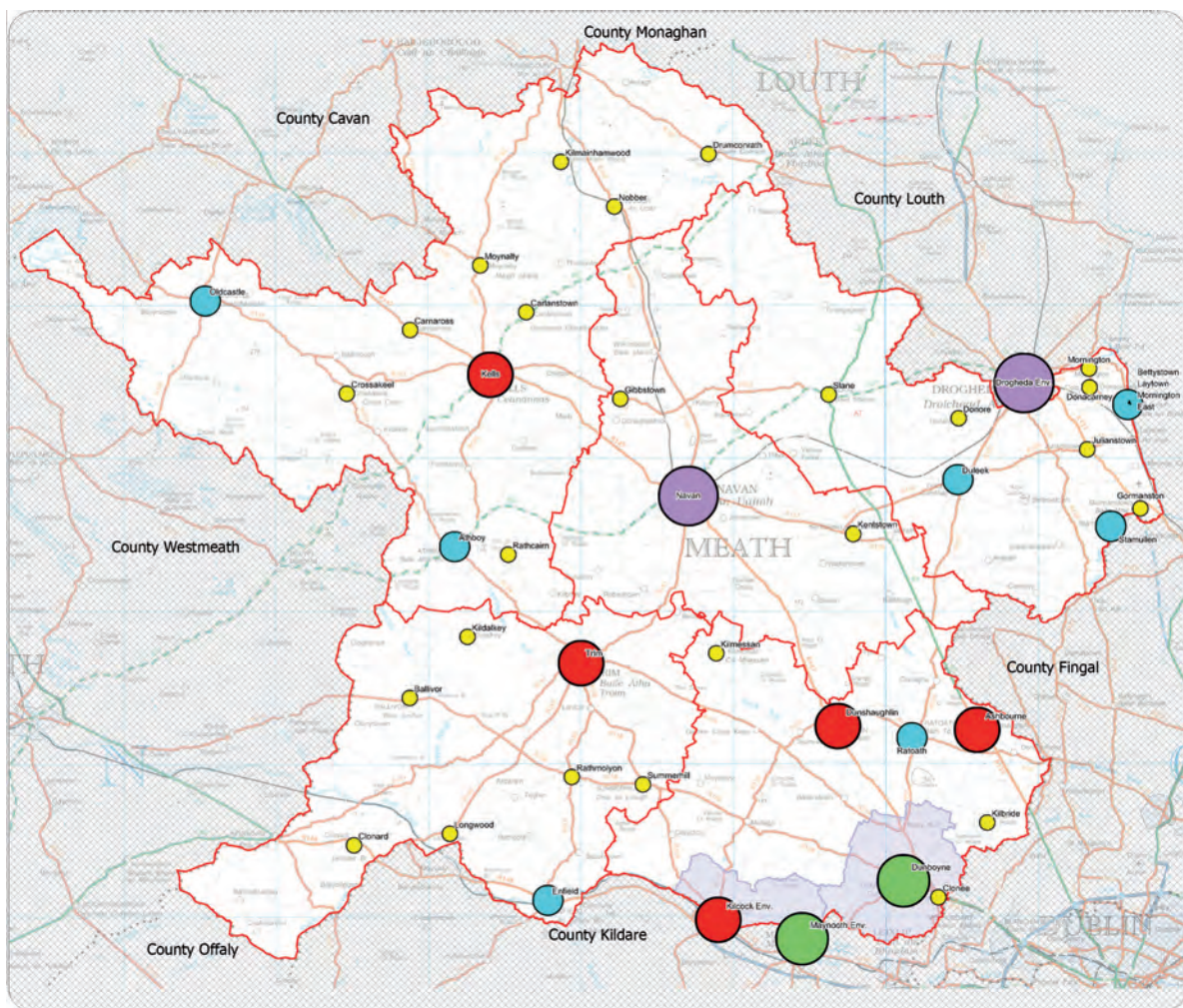


Figure 1.1: Meath County Development Plan 2013-2019 Plan Area

The 2011 Census shows that the Plan area recorded a population of 184,135, which constitutes an increase of 13% over the intercensal period from 2006.

There are over 40 settlements within County Meath. The principal town Navan is one of the largest towns in the region and is classified as a Large Growth Town 1 in the Regional Planning Guidelines (RPGs) for the Greater Dublin Area 2010-2022.

Meath is well provided for in terms of transportation infrastructure with the M1, M2/N2, M3 and M4/M6 Motorways/National Primary Roads all serving the County.

The County hosts a wealth of historical and archaeological sites of national and international importance. The archaeological complex of *Brú na Bóinne*, which has been designated as a *UNESCO World Heritage Site* and includes the burial sites of Newgrange, Knowth and Dowth, is located in the east of the County.

Meath contains a range of designated sites, known as Natura 2000 sites, that are protected by law under the Habitats and Birds Directives for the priority species and habitats they contain. An Appropriate Assessment of the proposed Development Plan has been carried out to ensure that the policies and objectives set out in the Plan do not result in any adverse impacts on these Natura 2000 sites.

1.3

Meath County Development Plan 2013-2019

The Meath County Development Plan 2013-2019 has been prepared by Meath County Council under the provisions of the Planning and Development Act 2000 (as amended). Once adopted, the Plan will be the guiding statutory document for the proper planning and sustainable development of the Plan area for a period of six years from the date of its adoption and will supersede the Meath County Development Plan 2007-2013.

Development Plans must be framed in the context of a hierarchy of Plans and Programmes from the International down to the Local level. All Development Plans must be consistent, as far as is practicable, with National Plans, Policies or Strategies as the Minister for the Environment, Community and Local

Government determines relate to proper planning and sustainable development. The Minister for the Environment, Community and Local Government can issue guidelines to Planning Authorities regarding their planning functions and authorities must have regard to these. In addition, as a planning authority within the Greater Dublin Area, Meath County Council must ensure that the Meath County Development Plan is consistent with the Transport Strategy prepared by the National Transport Authority and with the Regional Planning Guidelines for the Greater Dublin Area. Finally, Development Plans must have regard to the Development Plans of adjoining authorities.

The vision statement for County Meath as set out in the Development Plan is that:

Meath will be a county that encompasses sustainability throughout its vibrant communities, dynamic economy and unique cultural and natural heritage.

This vision statement for the County is backed up by a set of Core Principles which aim to provide a foundation for the remainder of the

Development Plan policies and objectives.

The Core Principles are:

Core Principle 1 To develop Meath's critical role in the Dublin and Mid East Region and its role as part of the Dublin City National Economic Gateway maximising on its proximity to Dublin Airport.

Core Principle 2 To facilitate the development of sustainable and socially inclusive communities which generate pride, a sense of place, and a healthy lifestyle; are safe, well connected, well served, environmentally sensitive, thriving and well designed.

- Core Principle 3** To promote sustainable economic development to support the population of County Meath.
- Core Principle 4** To support the sustainable heritage of the County by safeguarding the cultural, natural and built heritage and natural resources, including biodiversity, of the County.
- Core Principle 5** To encourage mixed use settlement forms and sustainable centres, in which employment, housing and community services are located in close proximity to each other and to strategic public transport corridors.
- Core Principle 6** To support the creation of a compact urban form in all settlements in Meath.
- Core Principle 7** To protect and support rural areas through careful management of physical and environmental resources and appropriate, sustainable development.
- Core Principle 8** To support agriculture and agricultural related development in Meath and strengthen the county as a hub for the vibrant agricultural and food sectors.
- Core Principle 9** To consolidate population growth and employment in areas best served by public transport and a range of transport modes.
- Core Principle 10** To promote and support the integration of land use and transport and a modal shift to greater use of sustainable modes of transport, including public transport, walking and cycling.
- Core Principle 11** To integrate climate change considerations into the policies and objectives of Meath County Council and its key stakeholders.
- Core Principle 12** To ensure that future development patterns in Meath accord with the sustainable management of water resources.

The County Meath Development Plan will therefore be the guiding document for development within the Plan area over the next 6 years.

The Regional Planning Guidelines (RPG) for the Greater Dublin Area 2010-2022 has estimated that the population of County Meath will grow from its 2006 population of 162,831 to 195,898 by 2016 and 210,260 by 2022. The 2011 Census recorded the population to be 184,135. This continued population increase in

line with the RPGs will present challenges to the Local Authority in terms of the provision of residential accommodation, adequate services and infrastructure and how this can be balanced with the protection of the local environment. The role of the SEA is therefore to allow for environmental considerations to be factored in at an early stage of the plans development, thereby ensuring that the protection of environmental resources is accounted for at each step in the process.

1.4

SEA Definition and Role

Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant effects of implementing a plan or programme. It is undertaken during the preparation period of the plan or programme,

and before a decision is made to formally adopt it. The SEA process thereby assists in and improves the quality of the plan making process by:

- Facilitating the identification and appraisal of alternative plan strategies;
- Raising awareness of the environmental impacts of the plan's implementation; and
- Encouraging the inclusion of measurable targets and indicators to aid monitoring.

The objective of SEA is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development throughout the member states of the EU.

1.5

Legislative and Guidelines Context

In 2001 the European Community passed the Strategic Environmental Assessment (SEA) Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment. This legislation established the

necessity for SEA to be carried out on plans and programmes, including those of land use planning.

Article 1 of the SEA Directive states:

The objective of this directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment.

The EU Directive on Strategic Environmental Assessment or SEA (Directive 2001/42/EC) came into force in July 2001. The SEA Directive was subsequently transposed into Irish law through S.I. No. 435 of 2004 European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 and S.I. No. 436 of 2004 Planning and Development (Strategic Environmental Assessment) Regulations 2004 as amended by S.I. No. 200 of 2011 European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 and S.I. No. 201 of 2011 Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011, respectively.

In terms of guidance, the EPA published "Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland – Synthesis Report" in 2003. Further to this in 2004, the Department of the Environment, Heritage and Local Government published "Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment –Guidelines for Local Authorities and Planning Authorities". During the scoping exercise the EPA drew further attention to their "SEA Pack" (January 2012), which comprises a combination of guidance, checklists and reference material for use in the SEA and Plan making process. All of these documents, together with the aforementioned legislation, guided the SEA review process.

1.6

SEA Process

The process of carrying out the Strategic Environmental Assessment of the Meath County Development Plan 2013-2019 is documented throughout this Environmental Report. The methodology employed is discussed in detail in Chapter 2. The structure

of this Environmental Report (hence referred to as the Report) is the result of the Strategic Environmental Assessment and is in accordance with Article 1 of the Directive which provides a broad basis for the content of the environmental report. This Report therefore

identifies, describes and evaluates the likely significant effects on the environment of implementing the Plan's objectives and policies. This Report also identifies the reasonable alternatives and in broad terms assesses the alternative 'philosophies' guiding the preparation of the Development Plan. Annex 1 of the EU Directive (Directive 2001/42/EC) details the information to be included in the Report and in broad terms this Environmental Report provides the following:

- An outline of the content and main objectives of the Meath County Development Plan and the relationship between this and other relevant plans or programmes;
- The environmental characteristics of the area affected by the Plan;
- Any existing environmental problems which are relevant to the Plan including, in particular, those relating to any areas of particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC (Directive for the Conservation of Wild Birds) and 92/43/EEC (Conservation of Natural Habitats and of Wild Fauna and Flora);
- The environmental protection objectives, established at International, Community or Member State level that are relevant to the Plan and the manner that those objectives and any environmental considerations have been taken into account during its preparation;
- The likely significant effects on the environment, including aspects such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage and landscape;
- The measures envisaged to prevent, reduce, and as fully as possible, offset any significant adverse effects on the environment of implementing the Plan;
- An outline of the alternatives considered, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;
- A description of the measures envisaged concerning monitoring in accordance with Article 10 of the Directive;
- A Non Technical Summary of the information provided under the above headings.

1.7

Integration of the County Development Plan, SEA and Habitats Directive Assessment

The legislation and guidelines governing the SEA process state that the processes of preparing the Development Plan, the SEA and Appropriate Assessment (AA) should be integrated and prepared in an iterative manner. The Environmental Report outlines the how the SEA process was carried out in tandem with the preparation of the Meath County Development Plan 2013–2019 and its accompanying Appropriate Assessment. The SEA process ensured that the Plan was informed by environmental considerations from

the outset. The SEA Team were fully involved in the analysis of development options and were in a position to make suggestions throughout the process of preparation of the Plan so as to ensure that environmental considerations and environmental effects were considered in the formulation of strategic goals and development objectives.

Table 1.1 overleaf summarises the integrated nature of the Development Plan Review and SEA process.

1.8

Implications of SEA for the Plan

This Environmental Report identifies the likely significant effects on the environment of implementing the Meath County Development Plan 2013-2019 and should be read in conjunction with the Meath County Development Plan 2013-2019 and the Habitats

Directive Assessment. The findings of the Environmental Report and Habitats Directive Assessment were taken into account prior to adoption of the Meath County Development Plan 2013-2019.

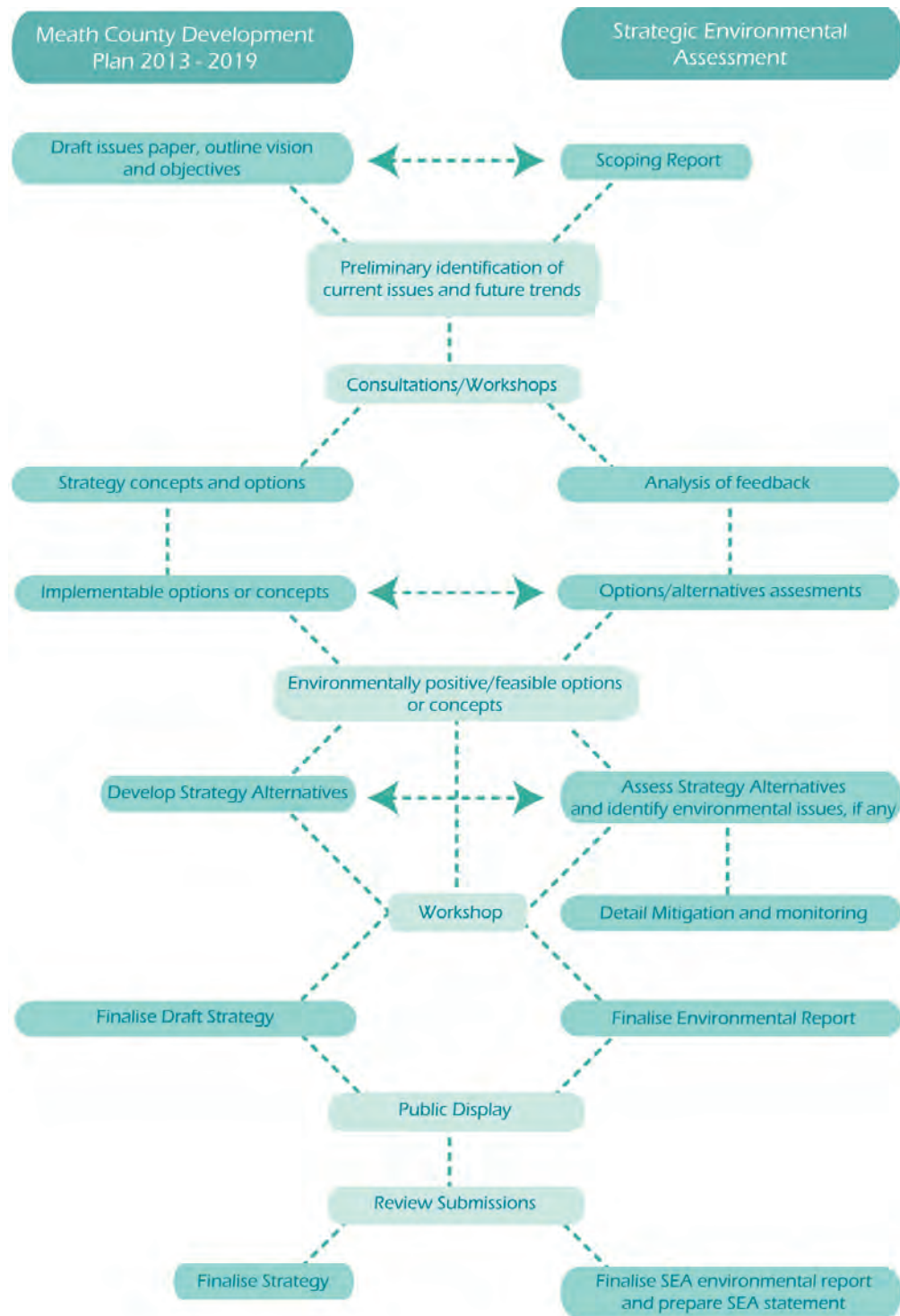


Table 1.1: Integrated Development Plan and SEA Process

2

Methodology

2.1

Introduction

Two amending SEA Regulations were signed into Irish law on 3rd May 2011, amending the original SEA Regulations: firstly the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011, (S.I. No. 200 of 2011), amending the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004), and secondly the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011, (S.I. No. 201 of 2011), amending the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004).

The methodology used to carry out the Strategic Environmental Assessment (SEA) of the Meath Development Plan 2013-2019 reflects the requirements of the SEA Directive (2001/42/EC) and SEA Regulations (S.I. 435 & 436 of 2004 as amended by S.I. 200 & 201 of 2011) and other SEA guidance documentation. The requirements of the recent European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) have also been taken into account in implementing

the Plan. These Regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in judgements of the European Courts of Justice.

Guidance documentation utilised in the preparation of this SEA includes "Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities" published by the Department of the Environment, Heritage and Local Government and "Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland – Synthesis Report", and the "SEA Pack" published by the EPA in 2003 and 2012 respectively.

Table 2.1 outlines the key stages in the development of the assessment in accordance with the Directive and the aforementioned regulations.

Table 2.1: Key Stages of SEA

Stage	Description
Screening	<p>The screening process is the first stage of the Strategic Environmental Assessment. Screening assesses the need to undertake a Strategic Environmental Assessment.</p> <p>Under the Planning and Development Act 2000 (as amended) full Strategic Environmental Assessment is mandatory for the Meath County Development Plan 2013-2019.</p>

Stage	Description
Scoping	<p>The Scoping of the Meath County Development Plan 2013-2019 was carried out in accordance with Article 5 (4) of the SEA Directive (2001/42/EC).</p> <p>The principal purpose of the Scoping stage is to decide upon the range of issues and level of detail to be included in the Environmental Report. An overview of the relevant environmental issues requiring further analysis are given and consideration in the Environmental Report and ultimately in the Development Plan itself.</p> <p>By highlighting some of the significant issues at an early stage, the scoping process ensures that the issues are firmly to the forefront when considering each of the policies and objectives of the Plan and reduces the possibility of relevant issues not being addressed.</p>
Consultation with the Environmental Authorities	Submissions were received from the Department of Arts, Heritage and the Gaeltacht the Environmental Protection Agency and Louth County Council.
Scoping Report	Submissions received from Environmental Authorities were reviewed and incorporated into the process where warranted.
Preparation of ER & Meath County Development Plan (MCDP)	<ul style="list-style-type: none"> • A multi disciplinary team was established to create policy consistent documents and to examine the effects on the environment of implementing the objectives and policies. • Objectives created in Development Plan assessed in ER and Development Scenarios for the County examined. • Feedback from on-going Plan preparation process & ER preparation Favoured scenario chosen. • Mitigation measures discussed and chosen. • Monitoring incorporated into existing methods.
Monitoring the County Development Plan	Monitoring significant environmental effects over the lifetime of the Meath County Development Plan 2013-2019

2.2 Screening

Screening assesses the need to undertake a Strategic Environmental Assessment. Under the Planning and Development Act 2000

(as amended) full Strategic Environmental Assessment is mandatory for the Meath County Development Plan 2013-2019.

2.3 Scoping

The Scoping of the Meath County Development Plan 2013-2019 was carried out in accordance with Article 5 (4) of the SEA Directive (2001/42/EC).

The principal purpose of the Scoping stage is to decide upon the range of issues

and level of detail to be included in the Environmental Report. An overview of the relevant environmental issues requiring further analysis is provided for consideration in the Environmental Report and ultimately in the Development Plan itself. By highlighting some of the significant issues at an early

stage, it ensures that such issues are firmly to the forefront when considering each of the policies and objectives of the Plan and reduces the possibility of relevant issues not being addressed.

Scoping involved formal consultation with the statutory consultees providing such bodies with an opportunity to comment on the highlighted issues and the proposed methodology. Under the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 the list of statutory consultees for County Meath comprise:

- The Environmental Protection Agency.
- The Minister for Environment, Community and Local Government.
- The Minister for Agriculture, Food and the Marine.
- The Minister for Communications, Energy and Natural Resources.
- The Minister for Arts, Heritage and the Gaeltacht.
- Any adjoining planning authority whose area is contiguous to the area of a planning authority which prepared a draft plan, – in this case counties include Fingal, Kildare, Offaly, Westmeath, Monaghan, Cavan and Louth.

In compliance with the SEA (Amendment) Regulations 2011 Meath County Council gave notice to the aforementioned Environmental Authorities of its intention to review the existing Development Plan and to prepare a new Development Plan for the county. A Scoping Report was prepared in order to facilitate consultation with statutory consultees and consultees were requested to review the content of the report and to comment on aspects they believe may require particular emphasis in the Development Plan and associated SEA Environmental Report and Appropriate Assessment documentation.

The Scoping Report was issued to the consultees in February 2012 and formal responses were received from:

- Department of Arts, Heritage and the Gaeltacht
- Environmental Protection Agency (EPA)
- Louth County Council

The primary issues raised in the responses related to:

- Sources of potential information of assistance in the preparation of the SEA and AA;
- In relation to protection of Archaeological Heritage: Regard to International and European Conventions; National Policies Plans and Programmes; and Relevant Policies and Plans at County Level;
- Provision of adequate and appropriate wastewater treatment infrastructure;
- Provision of adequate and appropriate drinking water to service target population;
- Flooding;
- Protection of biodiversity, in particular Natura 2000 Sites and NHAs / pNHAs;
- Identification of environmental sensitivities/ vulnerabilities adjacent to the county;
- Incorporation of SUDs (sustainable urban drainage) technologies and Green Infrastructure into the Plan;
- Highlight and address any potential data gaps;
- Protection of rural landscape;
- Consideration of Local Biodiversity Areas;
- Green Infrastructure connections to surrounding counties;
- Transboundary issues;
- Technical and procedural advice on making of Plan, SEA and AA.

The submissions to the scoping report were taken into consideration in the Plan making process for the Draft Development Plan and in the preparation of this Environmental Report.

2.4

Public Consultation

Public Consultation regarding the Meath County Development Plan 2013-2019, which included the SEA and Appropriate Assessment (AA), commenced in March 2011 with the publication of the 'Strategic Issues Paper' outlining the review of the Meath County Development Plan 2007 and the preparation of the Meath County Development Plan 2013-2019. The 'Strategic Issues Paper' was displayed on the Local Authority Website and a number of public consultation workshops on the new Development Plan were held around the County. Submissions from the public were invited between 2nd March and 29th April 2011 and sixty-seven submissions were received from, or on behalf of, the general public; businesses, statutory consultees (including An Taisce, Dublin Regional Authority, National Roads Authority, The Heritage Council), community, cultural, sporting and tourists groups, utility providers, etc. The submissions raised a wide range of issues principally focused on:

- Strategic Planning, including Core Strategy;
- Population, Settlement and Housing;
- Economic Development and Employment, including Retail and Tourism;
- Urban and Architectural Design;
- Physical Infrastructure, including Energy, Water Supply, Surface Water and Wastewater Treatment;
- Transportation, including Public Transport, Roads and Traffic, Parking, Cycling and Walking;
- Rural Development, including Rural Housing, Rural Enterprise and Amenity Use;
- Community, Recreation and Open Space;
- Environment, including Climate Change, SEA and AA and Flooding;
- Heritage and Conservation, including Natural, Built and Archaeological Heritage;
- Miscellaneous Aspects.

As noted under Section 2.3 above formal scoping consultations took place in February 2012, with submissions received from Department of Arts, Heritage and the Gaeltacht; the Environmental Protection Agency (EPA) and from Louth County Council.

The Draft Meath County Development Plan 2013-2019, together with accompanying Environmental Report (Strategic Environmental Assessment (SEA)) and Natura Impact Statement (Appropriate Assessment (AA)), was placed on public display from Friday 25th May 2012 to Friday 3rd August 2012.

One hundred and thirty-nine written submissions or observations were received with respect to the Draft Development Plan and/or Environmental Report and/or Appropriate Assessment. These included submissions from, or on behalf of, the general public; businesses; community, cultural, sporting and tourist groups; third-level institutions; elected members; local, town and county councils; utility providers; An Taisce; Department of Arts, Heritage and the Gaeltacht; Department of Environment, Community and Local Government; Dublin Regional Authority; Environmental Protection Agency; Failte Ireland; Inland Fisheries Ireland; National Roads Authority; National Transport Authority; The Heritage Council and The Office of Public Works.

Following the consultation period the Manager prepared a report (Manager's Report) on the observations/submissions received during the display period, together with a series of recommendations (Manager's Recommendations) on proposed amendments to the Draft Plan and submitted it to the Elected Members for consideration.

Seven submissions raised issues in relation to the Strategic Environmental Assessment. Many submissions noted that the SEA report adequately covered the necessary themes around the Draft Plan, and the EPA welcomed and acknowledged "the inclusion of many of the issues highlighted in their scoping

submission". A summary of the 7 SEA-related submissions and an outline of the responses are set out in Table 2.2.

The Manager's Report, together with a SEA/AA screening of each proposed amendment, was considered by the Elected Members of Meath

County Council at a Special Planning meeting on the 24th of September 2012. A copy of the Manager's Report, together with the SEA screening of each proposed amendment in

Appendix 1: Manager's Report to Draft Meath County Development Plan 2013-2019: 14th September 2012.

Table 2.2 Overview of Submissions relating to SEA / Environmental Report made during Public Display of Draft Plan Stage (25th March to 3rd August 2012)

Sub No.	Submission from	Main Issues Raised together with Outline of Response
2006	Dublin and Mid-East Regional Authorities	<p>It may be useful to highlight how the SEA process affected the policies during the plan making process e.g. by identifying those which were new additions, or where wording of policies were amended/revisted to take account of SEA impacts or how SEA have informed plan policies.</p> <p>From the outset of the preparation of the Draft Meath County Development Plan the SEA team worked iteratively with the Development Plan team to ensure that environmental considerations were a central factor during the formulation of the policies and objectives of the Plan.</p> <p>This iterative process involved providing guidance to the Development Plan team in addition to ongoing assessment and amendment of policies and objectives at the pre draft stage and throughout. Thus the draft SEA Report and Development Plan are interwoven with considerable inputs provided by the SEA team into the preparation of the draft Development Plan.</p> <p>Further to this and as per EPA guidance, the SEA Report has been drafted in a manner to produce a document which is clear and concise.</p> <p>It is considered impractical and confusing to show where the SEA team proposed wording amendments to particular policies/ objectives and therefore this is not included in the Environmental Report.</p>
2024	Mary McCloskey	<p>Noise mapping is incorrect.</p> <p>Noise map will be reviewed and corrected as appropriate.</p>
2025	Louth County Council	Request that the extent of buffer zones around Natura 2000 sites be stated in the SEA report and Development Plan.
2050	Environmental Protection Agency	<p>1. Requirement to prepare SEA Statement.</p> <p>This will be prepared in accordance with Article 9 of the SEA Directive.</p>

Sub No.	Submission from	Main Issues Raised together with Outline of Response
2050	Environmental Protection Agency (Contd.)	<p>2. Suggests inclusion of cumulative sensitivity map for county.</p> <p>GIS mapping was prepared during the SEA process in order to facilitate an understanding of the existing environmental characteristics of the Plan area. It is considered that the mapping in its current form adequately highlights areas of sensitivity within the County which have potential for significant environmental effects.</p> <p>3. Consider incorporating the requirements if the Regional Planning Guidelines and implementing a Core Strategy approach for each alternative.</p> <p>Due care and consideration of the issue of alternative development scenarios was discussed in detail with the Plan preparation team. The alternatives put forward were in accordance with Article 5 of the SEA Directive “reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme.” In addition the significant environmental effects of the alternatives selected were assessed and documented.</p> <p>The alternatives put forward for assessment were based on the full implementation of the core strategy; the alternatives documented and discussed in the SEA Environmental Report were considered viable approaches to achieving the aims of the core strategy through various development scenarios. As a result it is not considered necessary to embellish the section further.</p> <p>4. Section 2.9 (Environmental Assessment of the Development Plan) should summarise how environmental vulnerabilities/ sensitivities identified in the previous Plan and SEA process have changed to date.</p> <p>This is not required as the state of the existing environment as documented in the Environmental Report is based on the most up to date information available, most of which supersedes the data used to compile the previous environmental report.</p> <p>5. Consideration to be given in Section 2.12 Technical Difficulties Encountered / data gaps identified, as appropriate.</p> <p>Data gaps are identified in Section 4.2 of the Environmental Report.</p> <p>6. Provide reference in Section 3.3.7 Energy to SEI’s Offshore Renewable Energy Development Plan.</p> <p>Agreed.</p> <p>7. Section 3.4.2 Regional Planning Guidelines for the greater Dublin Area (2010-2022) should include a section on the role of the Regional Planning Authorities and should also refer to the requirements of implementing a Core Strategy approach to the development of land use plans.</p> <p>Agreed.</p> <p>8. Section 3.4.8 to include reference to Eastern CFRAMS.</p> <p>Agreed.</p>

Sub No.	Submission from	Main Issues Raised together with Outline of Response
2050	Environmental Protection Agency (Contd.)	<p>9. Make reference to EU's Common Implementation Strategy for the Water Framework Objective (2000/60/EC) – Guidance Document 20, in particular Section 3.5 Key Issues for Article 4.7. Agreed.</p> <p>10. Add 'at appropriate locations' to Strategic Environmental Objectives (SEO) B3.</p> <p>Agreed.</p> <p>11. Clarification of consideration of proposed deep water port at Gormanston in Table 7.1 SEA Assessment Summary.</p> <p>No Policy or Objective for specific deep water port at Gormanston in Draft Development Plan. ED POL 9 relates to a potential new deep water port in East Meath – and as such no specific site or detail is available. ED POL 10 and 11 will ensure that any such port and related landside development will be subject to full environmental assessment.</p> <p>12. Quantum of residential zoning.</p> <p>Issue for plans that are subsidiary to County Development Plan.</p> <p>13. De-zoning / re-zoning lands in settlements at significant risk of flooding (Flood Zones A & B).</p> <p>Already largely covered by WS POL 28 – also text to be added to strengthen position of Development Plan and lower level plans which deal with specific zonings.</p> <p>14. Development Plan Monitoring.</p> <p>Implementation and Monitoring objective to be inserted in Development Plan.</p> <p>15. Insert target / indicator for monitoring spread of invasive species within county.</p> <p>Agreed.</p>
2090	Department of Arts Heritage and the Gaeltacht	SEA Issues as raised related to AA and Draft Development Plan.
2113	Irish Wind Energy Association (IWEA)	<p>Recommend relaxation allowing the consideration of wind energy infrastructure in Natura 2000 Sites.</p> <p>This is sufficiently dealt with under Section 11.15.2 of the Draft Development Plan and relaxing is not supported by SEA.</p> <p>IWEA website has been updated and corrected – SEA Report to reflect this.</p> <p>New information from IWEA will be reviewed.</p>
2115	Inland Fisheries Ireland	<p>Notes that Section 4.9.5 of SEA Report infers current impact if wastewater discharges as based on 2005 census data. This should be updated to 2011 census.</p> <p>Section 4.9.5 of SEA Report will be updated.</p>

Following the Special Planning Meeting of the 24th September 2012, the proposed amendments to the Draft Plan were placed on public display from Friday 12th October to Thursday 8th November 2012 during which time a total of 26 further written submissions were received.

Submissions were received from, or on behalf of, the general public; businesses; community and cultural groups; elected members; An Taisce; Department of Arts, Heritage and the Gaeltacht; Department of Education and Skills: Forward Planning Section; Dublin Airport Authority; Environmental Protection Agency; Fáilte Ireland; Inland Fisheries Ireland; Louth County Council; National Roads Authority and National Transport Authority. Again a wide range of issues were raised, relating to most areas of the Draft Development Plan, however some issues related to aspects other than the specific amendments and as such these were not considered further. Issues of relevance related in particular to Core Strategy (Chapter 2); Economic Strategy (Chapter 4), Cultural and

Natural Assets (Chapter 9) and Protected Views and Prospects (Appendix 12).

One submission from the Irish Wind Energy Association “welcomed the statement that Chapter 4 of the SEA Environmental Report will be reviewed to incorporate any relevant findings from the SEAI Wind Atlas into the baseline information for the County”.

The submissions to proposed amendments resulted in 12 Manager’s Recommendations for minor changes to the Draft Development Plan. The SEA assessment found that while many recommendations for proposed changes helpfully clarified the position of the Development Plan, none gave rise to SEA issues. The recommendations were accepted by the Council at the Special Planning Meeting on the 17th December 2012. The complete review, together and SEA response, is included in Appendix 2: Manager’s Report Proposed Amendments to Draft Meath County Development Plan 2013-2019: 3rd December 2012.

2.5

Environmental Baseline Data

The baseline data, assists in assessing the current state of the environment, facilitating the identification, evaluation and subsequent monitoring of the effects of the plan. Thus, this information creates a platform whereby existing problems relevant to the Plan area can be quantified (where possible) or qualified thereby ensuring that the implementation of the Plan does not exacerbate these problems.

Baseline data has been collected based on the various broad environmental topics described in the SEA Directive i.e. biodiversity, population, human health, fauna, flora, soil,

water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage and landscape. The Directive requires that information be focused upon relevant aspects of the environmental characteristics of the area likely to be significantly affected by the plan and the likely change, both positive and negative terms where applicable. The baseline data was collated from currently available, relevant data sources the SEA Directive does not require major new research to be carried out. Where deficiencies or gaps in the information available are identified this is noted.

2.6

Environmental Report

The type of information to be provided in the Environmental Report is set out in Annex I of the SEA Directive - reproduced in Schedule 2B of the Planning and Development Regulations 2001 (as inserted by Article 12 of the Planning

and Development (Strategic Environmental Assessment) Regulations 2004).

This Report contains the sections as outline in Table 2.3 below.

Table 2.3: SEA Report Structure

Section	Description
Non-Technical Summary	A brief summary of the Environmental Report, its main points and conclusions.
Introduction	Provides a description of the type of plan involved and a summary of its key aims and objectives. The purpose of the SEA process, SEA requirements, its benefits and how the Development Plan and Environmental Reports have progressed are outlined.
SEA Methodology	Highlights the steps taken in preparation of the SEA, the methods used and technical difficulties encountered.
Relationship of the Plan with Other Relevant Plans and Programmes	The relationship of the Development Plan to other relevant plans and programmes is highlighted.
Baseline	A description of the current environment of the County is provided, highlighting any existing environmental problems in the Plan area and outlining evolution of the environment in the absence of the new Plan. This exercise results in a comprehensive baseline against which the likely effects of implementing the new Development Plan can be examined.
Strategic Environmental Objectives	A number of environmental protection objectives which have been established at international, EU or national Level and are relevant to the plan are listed. Following this, a description of how the objectives and any environmental considerations have been taken into account in the preparation of the Plan.
Alternatives	An assessment of proposed development alternatives in the County are considered at this stage. Scenarios are tested against the environmental objectives and the most appropriate strategy is selected.
Assessment	The proposed Development Plan policies and objectives are examined in terms of their potential effects on the various Environmental parameters.
Mitigation Measures	Where potentially significant adverse effects are discovered, measures to prevent, reduce or offset these effects are proposed and integrated into the County Development Plan.
Monitoring	Proposals for monitoring the significant effects of the County Development Plan on the environment are put forward. A number of indicators of change and achievable targets are proposed and monitoring arrangements detailed.

2.7**Consideration of Alternatives**

The SEA Directive (at Article 5) recommends that alternative development scenarios for the plan are included for assessment. Alternatives need to be 'realistic and capable of implementation' and should represent a range of different approaches within the statutory and operational requirements of the particular plan.

In the case of the Meath County Development Plan, 3 scenarios were considered.

Firstly, the broad planning philosophies for the Plan area as a whole were discussed and assessed, and then an investigation of the development scenarios for the three

broad categories of settlement within the Plan area, was carried out. The planning scenarios put forward are considered viable, realistic and implementable for the purposes of the assessment. These are discussed in

detail in Chapter 6, are assessed against the Strategic Environmental Objectives and are discussed in terms of potential outcomes and consequences.

2.8

Environmental Assessment of the Development Plan

The assessment described within this Environmental Report aims to highlight the potential conflicts, if they are present, between the stated policies and objectives contained in the Plan with the Strategic Environmental Objectives. Furthermore, the assessment examines the potential impact arising from the Plan's implementation of its policies and objectives on sensitive environmental receptors.

Key to assessing the policies and objectives of the Plan is setting a specific set of environmental objectives for each of the environmental topics. The objectives are provided in Chapter 5 and include all aspects of the environment, such as Human Beings, Flora and Fauna, Soil, Water, Air and Climate Change, Noise, Material Assets, Cultural Heritage including Architectural and Archaeological Heritage and Landscape.

It is worth reiterating that the process of SEA and Development Plan formulation is an iterative process and as such environmental considerations have informed all stages of plan preparation in order for potential for significant adverse effects arising from plan implementation to be minimised. Nonetheless, it is possible that some individual plan objectives will potentially lead to adverse effects of varying severity. Where the environmental assessment identifies significant adverse effects, consideration is given in the first instance to preventing such impacts; where this is not possible for stated reasons, to lessening or offsetting those effects.

In accordance with SEA guidelines the assessment identifies 'impact' under three headings. Firstly the quality of impact is addressed using the following terms:

Potential Positive impact:	A change which improves the quality of the environment.
Potential Neutral impact:	A change which does not affect the quality of the environment.
Potential Negative impact:	A change which reduces or lessens the quality of the environment.
Uncertain impact:	The nature of any impact can not be ascertained at this stage.

Secondly, where a potential impact is noted, either positive or negative, the significance of impact is addressed. Significance is assessed in terms of the type/scale of development

envisaged by the plan and the sensitivity/ importance of the receiving environment. This is presented using the following terms:

Profound:	An impact which obliterates sensitive characteristics.
Moderate:	An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends.
Imperceptible:	An impact capable of measurement but without noticeable consequences.
Slight:	An impact which causes noticeable changes in the character of the environment without affecting its sensitivities.

Thirdly the potential duration of identifiable impacts is discussed. The following terms are used:

Short:	Impact lasting one to seven years.
Medium:	Impact lasting seven to fifteen years.
Long term:	Impact lasting fifteen to sixty years.
Permanent:	Impact lasting over sixty years.
Temporary:	Impact lasting for one year or less.

The initial stage aims to ascertain the quality, if any, of the potential impact. Each of the Plan's policies and objectives have been screened for their impact and where a neutral impact is noted no further discussion is provided within this report. This format allows for the ER to focus on the negative and positive impacts and proceed to a discussion on their significance and duration. Thus it is a more robust, more focused approach to understanding the potential impact associated with the Plan's implementation.

Finally, where it has been determined that a policies/objectives may potentially result in a negative impact on an environmental receptor appropriate level mitigation measures are proposed.

Preparation of the Development Plan has followed an iterative process to date, involving the environmental and forward-planning team of Meath County Council, the public, Meath County Council councillors, statutory consultees and the SEA and AA team. This iterative process included an assessment of various motions as put forward in the Development Plan.

2.9

Mitigation

Section (g) of Schedule 2B of the SEA Regulations require information on the mitigation measures that will be put in place to minimise/eliminate any significant adverse impacts due to the implementation of the Meath County Development Plan 2013-2019. Chapter 8 of this document highlights the mitigation measures that will be put in place to counter identified significant adverse impacts due to the implementation of the Plan.

As stated previously, the formulation of the Plan and the preparation of the SEA is an

iterative process and therefore, many of the potential negative aspects of the Plan have been removed. Thus the objectives and policies contained within the Plan are considered robust and environmentally sustainable. However some unavoidable residual issues may remain and therefore mitigation measures are required. Chapter 8 details the mitigation measures necessary to prevent, to reduce and, as fully as possible, to offset any significant adverse impacts on the environment of implementing the Plan.

2.10

Monitoring

Article 10 of the SEA Directive sets out the requirement that monitoring is to be carried out of the significant environmental effects of the implementation of the Meath County Development Plan 2013-2019 in order to identify at an early stage any unforeseen adverse effects and to be able to undertake appropriate remedial action.

Chapter 9 of this Environmental Report outlines the monitoring requirements for the Meath County Development Plan 2013-2019. Methods of monitoring and indicators of change in the environment have been proposed with set targets to be reviewed over the duration of the County Development Plan.

2.11 Technical Difficulties Encountered

Technical difficulties and information gaps encountered during the preparation of the Environmental Report are outlined in at section 4.2.

2.12 Report Preparation

This report has been prepared by Brady Shipman Martin, Planning and Environmental Consultants and Scott Cawley Ecologists on behalf of Meath County Council. The Strategic Environmental Assessment and Appropriate Assessment team members are:

Brady Shipman Martin:

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3

Review of Relevant Policies Plans and Programmes

3.1

Introduction

The Meath County Development Plan 2013-2019 is framed within a hierarchy of spatial plans which range from the international down to site specific level. These plans are formed by International, National and Regional level policy guidelines. This hierarchy of plans, programmes, policies, strategies, etc. sets the legislative and policy framework by which the Meath County Development plan must be formulated. The International and National strategies and policies play a central role in establishing higher level agendas such as climate change, while the county level plan objectives are more specific and localised in their orientation. The Meath County Development Plan is required to conform to and translate the objectives of these higher levels plans to a county level basis.

The SEA Directive requires that the SEA process should include a review and discussion of other plans or programmes, which are associated to and concern the assessment of the Development Plan. This could include plans or programmes in the same geographical

area or in the same sector at different levels. Paragraph (e) of Schedule 2B of the Planning and Development (SEA) Regulations 2004 states that the SEA Report must contain: 'the environmental protection objectives, established at International, European Union or National level, which are relevant to the plan, and the way those objectives and any environmental considerations have been taken into account during its preparation'.

This chapter summarises the International, National, Regional and local legislation and policy documents, strategies and guidelines that are relevant to this SEA process and the Meath County Development Plan 2013-2019. The purpose of this review is to take into consideration the contextual legislative and policy framework to which the Development Plan must comply. The key issue relevant to this section of the SEA is to ascertain whether the plan has taken due consideration of the objectives set out in the legislative and policy framework.

3.2

Relevant International Legislation and Policy

Ireland has signed up to a range of International Agreements governing environmental protection. These Agreements place legal obligations on the State in relation to the conservation and management of our environment and heritage and set environmental targets with which the country must comply. This section discusses the key European legislation, policy, conventions and treaties.

3.2.1 Sustainable Development and Climate Change

3.2.1.1 Agenda 21

Agenda 21 is an action plan of the United Nations (UN) relating to sustainable

development and was an outcome of the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, in 1992. It is a comprehensive blueprint of action to be taken globally, nationally, and locally by organizations of the UN, governments, and major groups in every area in which humans directly affect the environment. Local Agenda 21 is a process which facilitates sustainable development at community level. It is an approach, based on participation which respects the social, cultural, economic and environmental needs of the present and future citizens of a community in all its diversity and which relates that community and its future to the regional, national and international community of which it is a part. The key role of

Environmental Impact Assessment is stressed in respect of activities that may have significant affect on the environment.

3.2.1.2 The Sixth Environment Action Programme (EAP) of the European Community 2002-2012

The 6th EAP sets out the framework for environmental policy-making in the European Union for the period 2002-2012 and outlines actions that need to be taken to achieve them. The 6th EAP identifies four priority areas:

- Climate change.
- Nature and biodiversity.
- Environment and health.
- Natural resources and waste.

The 6th EAP promotes full integration of environmental protection requirements into all Community policies and actions and provides the environmental component of the Community's strategy for sustainable development. The link is made between environment and European objectives for growth, competitiveness and employment.

The 6th EAP calls for the development of seven Thematic Strategies in the field of soil and the marine environment (in the priority area of biodiversity), air, pesticides and urban environment (in the priority area of environment, health and quality of life) and natural resources and waste recycling (in the priority area of natural resources and waste). The Thematic Strategies constitute the framework for action at EU level in each of the concerned priorities.

Furthermore, the 6th EAP establishes strategic approaches to meet the environmental goals and sets objectives and priority actions on international issues. The strategic approaches include among others: the development of Community legislation and its effective implementation and enforcement, the integration of environment protection requirements in other Community policies and the promotion of sustainable production and consumption patterns, improving collaboration with enterprises and informing individual consumers, enterprises and public purchasers about the environmental impact of processes and products.

3.2.1.3 The EU Sustainable Development Strategy (SDS)

The overall aim of the EU Sustainable Development Strategy is to identify and develop actions to enable the EU to achieve a continuous long-term improvement of quality of life through the creation of sustainable communities able to manage and use resources efficiently, able to tap the ecological and social innovation potential of the economy and in the end able to ensure prosperity, environmental protection and social cohesion.

The strategy sets overall objectives and concrete actions for seven key priority challenges for the coming period until 2010, many of which are predominantly environmental:

- Climate change and clean energy.
- Sustainable transport.
- Sustainable consumption & production.
- Conservation and management of natural resources.
- Public Health.
- Social inclusion, demography and migration.
- Global poverty and sustainable development challenges.

In July 2009 the Commission adopted the 2009 Review of EU SDS. It underlines that in recent years the EU has mainstreamed sustainable development into a broad range of its policies. The European Council in December 2009 confirmed that "Sustainable development remains a fundamental objective of the European Union under the Lisbon Treaty. As emphasised in the Presidency's report on the 2009 review of the Union's Sustainable Development Strategy, the strategy will continue to provide a long-term vision and constitute the overarching policy framework for all Union policies and strategies. A number of unsustainable trends require urgent action. Significant additional efforts are needed to curb and adapt to climate change, to decrease high energy consumption in the transport sector and to reverse the current loss of biodiversity and natural resources. The shift to a safe and sustainable low-carbon and low-input economy will require a stronger focus in the future.

3.2.1.4 *Kyoto Protocol*

The Kyoto Protocol is an agreement to the United Nations Framework Convention on Climate Change (UNFCCC or FCCC), aimed at fighting global warming. The UNFCCC is an international environmental treaty with the goal of achieving the “stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”

The Protocol was initially adopted on 11 December 1997 in Kyoto, Japan, and entered into force on 16 February 2005. To date 191 states have signed and ratified the protocol. Under the Protocol, 37 Annex 1 countries have committed to a reduction of four greenhouse gases (GHG) (carbon dioxide, methane, nitrous oxide, sulphur hexafluoride) and two groups of gases (hydrofluorocarbons and perfluorocarbons) produced by them, and all member countries give general commitments. At negotiations, Annex I countries collectively agreed to reduce their greenhouse gas emissions by 5.2% on average for the period 2008-2012. This reduction is relative to their annual emissions in a base year, usually 1990. Following the Conference of Parties to the Climate Change Convention (COP) meeting in Copenhagen, 2009, the EU revised its commitment to reducing greenhouse gases by increasing the target to 20% reduction on 1990 levels by 2020.

3.2.2 Air Quality

3.2.2.1 *The Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive*

The Ambient Air Quality and Cleaner Air for Europe Directive (2008/50/EC) was published in May 2008, replacing the 1996 Air Quality Framework Directive and the first, second and third daughter directives that accompanied it and laid down limits for specific pollutants.

The EU objective in relation to air quality is ‘to achieve levels of air quality that do not result in unacceptable impacts on, and risks to, human health and the environment’.

The following elements make up the main aspects of implementation of the Air Quality Directives:

- Zones and agglomerations are declared by the Member States, covering the complete territory. The zones represent basic areas for which assessment and management provisions are prescribed.
- Assessment of ambient air quality through monitoring, modelling, and objective estimation provides information on the compliance with the environmental standards and informs further air pollution abatement effort. The assessment covers the minimum assessment requirements set in the directive as well as the additional assessment performed by the Member State such as source apportionment, in particular in agglomerations and areas with high pollution.
- Management of air pollution: in order to reduce adverse effects of air pollution on health and environment, measures need to be taken. A number of measures are taken at the Community level, such as fuel quality and product standards (for example EURO standards for new vehicles). In certain areas it is necessary for Member States to take further measures to comply with the legislation. These air pollution reduction measures are compiled in air quality plans or programmes which describe how the measures are bringing concentrations below respective limit or target values by the attainment date.
- Public information: Requirements contain minimum amount of information that needs to be provided to the public as regards to assessment of concentrations. It also requires the public availability of abatement plans and programmes. Specific actions are needed when information and alert thresholds are exceeded, which inform the public on the health hazards and the recommended personal behaviour to minimize exposure.
- Reporting of assessment results and the information on the plans and programmes is required to enable the Commission to assess compliance with the provisions of the directives, as well as to provide the Commission, the Member States, other stakeholders such as the European

Environment Agency as well as the public with harmonized information on assessment and management of air quality.

3.2.2.2 National Emissions Ceiling Directive (2001/81/EC) (NEC Directive)

The implementation of the directive requires that Member States develop national programmes in 2002 and, where needed, revise those plans in 2006 that aim at meeting fixed ceilings of national emissions by 2010 and thereafter. Further Member States have to report their emission inventories to the EEA and the European Commission in order to monitor progress and verify compliance.

The Thematic Strategy on Air Pollution in 2005 identified a number of key measures to be taken to help meet the 2020 interim objectives for human health and the environment. The revision of the NEC Directive was identified as one of the key measures.

3.2.3 Energy

3.2.3.1 Directive 2009/28/EC on the Promotion of the use of Energy from Renewable Sources

In 2007, the European Union agreed new climate and energy targets- 20-20-20 by 2020 – 20% reduction in greenhouse gas emissions by 2020; 20% energy efficiency by 2020 and 20% of the EU's energy consumption to be from renewable sources by 2020. Directive 2009/28/EC on the promotion of the use of energy from renewable sources establishes the basis for the achievement of the EU's 20% renewable energy target by 2020. Under the terms of the Directive, each Member State is set an individually binding renewable energy target, which will contribute to the achievement of the overall EU goal. Each Member State is required to adopt a national renewable energy action plan. These plans set out Member States' national targets for the share of energy from renewable sources consumed in transport, electricity and heating and cooling in 2020, taking into account the effects of other policy measures relating to energy efficiency on final consumption of energy.

3.2.4 Water Protection and Management

3.2.4.1 Water Framework Directive (2000/60/EC) as amended

The Water Framework Directive (WFD) was adopted in 2000 in an effort to establish a framework for the protection of waterbodies within the EU including:

- inland surface waters;
- groundwater;
- transitional waters; and
- coastal waters.

The key aims of the WFD are:

- expanding the scope of water protection to all waters, surface waters and groundwater.
- achieving "good status" for all waters by a set deadline.
- water management based on river basins.
- "combined approach" of emission limit values and quality standards.
- getting the prices right.
- getting the citizen involved more closely.
- streamlining legislation.

Its ultimate objective is to achieve "good ecological and chemical status" for all Community waters by 2015.

3.2.4.2 Floods Directive (2007/60/EC)

Directive 2007/60/EC on the assessment and management of flood risks entered into force on 26 November 2007. The Directive aims to establish a common framework for assessing and reducing the risk that floods within the European Union pose to human health, the environment, property and economic activity. This Directive requires Member States to assess if all water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk. This includes the preparation and implementation of flood risk management plans for each river basin district. This Directive also reinforces the rights of the public to access this information and to have a say in the planning process.

3.2.4.3 The Drinking Water Directive (DWD), (98/83/EC) 1998

This Directive is intended to protect human health by laying down healthiness and purity requirements which must be met by drinking water within the Community.

- Sets quality standards for drinking water quality at the tap (microbiological, chemical and organoleptic parameters) and the general obligation that drinking water must be wholesome and clean.
- Obliges Member States to regular monitoring of drinking water quality and to provide to consumers adequate and up-to-date information on their drinking water quality.
- Member States may exempt water supplies serving less than 50 persons or providing less than 10 m³ of drinking water per day as an average and water in food-processing undertakings where the quality of water cannot affect the wholesomeness of the foodstuff in its finished form.

3.2.4.4 EC Freshwater Fish Directive, (78/659/EEC) 1978

The aim of the EU Freshwater Fish Directive (78/659/EEC) is to protect fish life from pollution discharge into waters and lays out water sampling and monitoring procedures and definitions. The Directive was ratified by Ireland by S.I. No. 293 of 1988, and aims to protect those fresh waterbodies identified by Member States as waters suitable for sustaining fish populations. The Directive will be repealed in 2013 by the EU Water Framework Directive.

3.2.4.4 The new Groundwater Directive, (2006/118/EC) 2006

This directive establishes a regime which sets underground water quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater. The directive establishes quality criteria that takes account local characteristics and allows for further improvements to be made based on monitoring data and new scientific knowledge. The directive thus represents a proportionate and scientifically sound response to the requirements of the Water Framework Directive (WFD) as it relates to assessments on chemical status of groundwater and the identification and reversal of significant and sustained upward

trends in pollutant concentrations. Member States will have to establish the standards at the most appropriate level and take into account local or regional conditions.

The groundwater directive complements the Water Framework Directive. It requires:

- groundwater quality standards to be established by the end of 2008;
- pollution trend studies to be carried out by using existing data and data which is mandatory by the Water Framework Directive (referred to as “baseline level” data obtained in 2007-2008);
- pollution trends to be reversed so that environmental objectives are achieved by 2015 by using the measures set out in the WFD;
- measures to prevent or limit inputs of pollutants into groundwater to be operational so that WFD environmental objectives can be achieved by 2015;
- reviews of technical provisions of the directive to be carried out in 2013 and every six years thereafter;
- compliance with good chemical status criteria (based on EU standards of nitrates and pesticides and on threshold values established by Member States).

3.2.4.6 EC Bathing Water Quality Directive, (2006/7/EC) 2006

This Directive strengthens the rules guaranteeing bathing water quality. It supplements Directive 2000/60/EC on water protection and management.

Each year, the Member States are required to identify the bathing waters in their territory and define the length of the bathing season.

They shall establish monitoring at the location most used by bathers or where the risk of pollution is greatest. Monitoring shall take place by means of sampling:

- four samples, including one before the start of the bathing season.
- three samples only if the season does not exceed eight weeks or if the region is subject to special geographical constraints.

Member States shall communicate the

results of their monitoring to the European Commission with a description of the water quality management measures. Monitoring may be suspended exceptionally once the Commission has been informed.

3.2.4.7 Shellfish Directive, (2006/113/EC), 2006

The Directive concerns the quality of shellfish waters, i.e. the waters suitable for the development of shellfish (bivalve and gasteropod molluscs).

It applies to those coastal and brackish waters which need protection or improvement in order to allow shellfish to develop and to contribute to the high quality of shellfish products intended for human consumption.

The Directive establishes parameters applicable to designated shellfish waters, indicative values, mandatory values, reference methods of analysis and the minimum frequency for taking samples and measures.

The parameters applicable to shellfish waters are set for pH, temperature, coloration, suspended solids, salinity, dissolved oxygen and the presence or concentration of certain substances (hydrocarbons, metals, organohalogenated substances).

Responsibility for the Shellfish Waters Directive in Ireland transferred from the Department of Agriculture, Fisheries and Food to the Department of the Environment, Community and Local Government on 5 November 2008.

3.2.4.8 EC Nitrates Directive (91/676/EEC), 1991

The Nitrates Directive (1991) aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices.

The Nitrates Directive forms integral part of the Water Framework Directive and is one of the key instruments in the protection of waters against agricultural pressures.

A code of practice is required to be drawn up, covering relevant protection measures such as appropriate periods for fertilizer spreading

and storage vessel construction. The Directive is transposed into Irish Law by the European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2006 (S.I. No. 378 of 2006).

Further important pieces of International and National legislation which provide the main statutory provisions that the council must comply with in protecting the environment include:

- Water Services Act 2007.
- Waste Water Discharge Authorisation Regulations 2007 and all authorisations issued under these Regulations.
- European Communities (Drinking Water No. 2) Regulations, 2007.
- European Communities Environmental Objectives (Surface Water) Regulations, 2009.
- European Communities Environmental Objectives (Groundwater) Regulations, 2010.
- Water Framework Directive, implemented in Ireland by the Water Policy Regulations, 2003.
- Water Pollution Act, 1977-2007.
- Protection of the Environment Act, 2003.
- EC Environmental Objectives (Surface Waters) Regulations, 2009.
- EC Bathing Water Quality Regulations, 2008.
- EC Quality of Shellfish Waters (Amendment) Regulations, 2009.
- EC Environmental Objectives (Freshwater Pearl Mussel) Regulations, 2009.
- EC Good Agricultural Practice for Protection of Waters Regulations, 2009.
- EC Environmental Liability Regulations, 2008.

3.2.5 Waste Management

3.2.5.1 Directive on Waste (2008/98/EC), 2008

This Directive establishes a legal framework for the treatment of waste within the Community. It aims at protecting the environment and human health through the prevention of the harmful effects of waste generation and waste management.

It applies to all waste apart from the following:

- gaseous effluents;

- radioactive elements;
- decommissioned explosives;
- faecal matter;
- waste waters;
- animal by-products;
- carcasses of animals that have died other than by being slaughtered;
- elements resulting from mineral resources.

In order to better protect the environment, the Directive requires Member States to take measures for the treatment of their waste in line with the following hierarchy which is listed in order of priority:

- prevention;
- preparing for reuse;
- recycling;
- other recovery, notably energy recovery;
- disposal.

Member States can implement legislative measures with a view to reinforcing this waste treatment hierarchy. However, they should ensure that waste management does not endanger human health and is not harmful to the environment.

3.2.5.2 Urban Waste Water Treatment Directive (91/271/EEC), 1991

The aim of the Urban Waste Water Directive is to protect inland surface waters from the adverse effects of discharges of urban wastewater and discharge of certain biodegradable industrial waste water (particularly from the agro-food industry). Its purpose is to ensure that aquatic water quality is not negatively affected by uncontrolled urban wastewater discharges, such as from sewage treatment plants. It mandates that appropriate collection and treatment systems are put in place by a series of deadlines which relate to the size of an urban area. Target dates are set for the provision of specified levels of collection and treatment facilities. In particular it requires provision for all urban agglomerations above 2,000 population equivalent, sewerage systems and secondary, (i.e. biological) wastewater treatments. It also requires secondary treatment to be deployed by a series of specified dates. Where the receiving environment is sensitive, and subject to certain exceptions, additional treatment measures need to be put in place.

The Directive came into effect in June 1993 and is transposed into Irish law mainly by the Urban Waste Water Treatment Regulations 2001 (S.I. No. 254 of 2001).

3.2.5.3 EU Directive on Waste, (2006/12/EC), 2006

This Directive requires EU States to publish waste management plans. It requires a system of permits and registrations to be put in place to authorise all waste management infrastructure, as well as setting down the basic requirements that need to be satisfied for these statutory authorisations to be issued.

3.2.5.4 EU Landfill of Waste Directive (1999/31/EC), 1999

The Directive is intended to prevent or reduce the adverse effects of the landfill of waste on the environment.

It defines the different categories of waste (municipal waste, hazardous waste, non-hazardous waste and inert waste) and applies to all landfills, defined as waste disposal sites for the deposit of waste onto or into land.

The Landfill Directive mandates a series of targets to cause a substantial reduction of the land filling of biodegradable municipal waste by EU countries.

3.2.6 Natural and Cultural Heritage

3.2.6.1 European Convention on the Protection of the Archaeological Heritage, 1992 (The Valletta Convention)

This Convention was ratified by Ireland in 1997 and as such the Planning Authority is legally bound by it. The aim of the Convention is to 'protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study'. It requires that appropriate consideration be given to archaeological issues at all stages of the planning and development process.

3.2.6.2 Convention for the Protection of the Architectural Heritage of Europe, 1985 (Granada Convention)

Ratified by Ireland in 1997, the 1985 Convention for the Protection of the

Architectural Heritage of Europe is intended to reinforce and promote policies for the conservation and enhancement of Europe's heritage. The Convention is dual purpose, involving the promotion of architectural heritage policies while fostering European-wide co-operation measures. Covering monuments, groups of buildings and sites of importance, the Convention requires a national inventory of architectural heritage to be developed. Legal protection measures must be established, with a system of formal authorisation required for works affecting protected sites and structures. Architectural heritage conservation considerations are required to feature in the Convention signatories' town and Regional planning processes.

3.2.6.3 World Heritage Convention

The World Heritage Convention was adopted by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) General Conference at its 17th session in Paris on 16 November 1972. The Convention came into force in 1975. In August 1974, Australia became one of the first countries to ratify the Convention.

The World Heritage Convention aims to promote cooperation among nations to protect heritage around the world that is of such outstanding universal value that its conservation is important for current and future generations.

3.2.6.4 EU Biodiversity Strategy to 2020

In May 2011 the European Commission adopted a new strategy to halt the loss of biodiversity and ecosystem services in the EU by 2020. There are six main targets, and 20 actions to help Europe reach its goal. The six targets cover:

- Full implementation of EU nature legislation to protect biodiversity.
- Better protection for ecosystems, and more use of green infrastructure.
- More sustainable agriculture and forestry.
- Better management of fish stocks.
- Tighter controls on invasive alien species.
- A bigger EU contribution to averting global biodiversity loss.

The strategy is in line with two commitments made by EU leaders in March 2010. The first is the 2020 headline target: "Halting the loss of

biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss"; the second is the 2050 vision: "By 2050, European Union biodiversity and the ecosystem services it provides – its natural capital – are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided."

3.2.6.5 EU Directive on the Conservation of Wild Birds, (2009/147/EC) 1979

This Directive ensures far-reaching protection for all of Europe's wild birds, identifying 194 species and sub-species among them as particularly threatened and in need of special conservation measures. There are a number of components to this scheme:

Member States are required to designate Special Protection Areas (SPAs) for 194 particularly threatened species and all migratory bird species. SPAs are scientifically identified areas critical for the survival of the targeted species, such as wetlands. They are part of the Natura 2000 ecological network set up under the Habitats Directive 92/43/EEC.

A second component bans activities that directly threaten birds, such as the deliberate killing or capture of birds, the destruction of their nests and taking of their eggs, and associated activities such as trading in live or dead birds (with a few exceptions).

A third component establishes rules that limit the number of bird species that can be hunted (82 species and sub-species) and the periods during which they can be hunted. It also defines hunting methods which are permitted (e.g. non-selective hunting is banned).

3.2.6.6 EU Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, (92/43/EEC), 1992

In conjunction with the Birds Directive, the Habitats Directive forms the backbone of EU nature protection legislation.

Known as the Habitats Directive (92/43/EEC) this legislation was transposed into Irish law by the European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94 of 1997). The main goal of the Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain, protect or restore natural habitats, animal and plant species to a favourable conservation status, introducing robust protection for those habitats and species of European importance. For Ireland, these habitats include raised bogs, active blanket bogs, turloughs, sand dunes, machair (flat sandy plains on the north and west coasts), heaths, lakes, rivers, woodlands, estuaries and sea inlets. The Directive provides for a network of protected sites known as The Natura 2000 network, which limits the extent and nature of development which may have a detrimental effect on the flora or fauna identified therein. Special Areas of Conservation (SACs) are part of the Natura 2000 Network and as such Ireland is required to propose relevant areas for designation as SACs to ensure the natural habitats and species habitats are maintained and restored if necessary to a favourable conservation status. Animals and plant species that are in need of strict protection are listed in Annexes to the Directive. The Habitats Directive is considered the most important EU initiative to support National and International biodiversity.

3.2.6.7 European Communities (Birds and Natural Habitats) Regulations 2011

These regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats)(Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in the CJEU judgements.

Articles 6(1) and (2) of the Regulations require Member States to take appropriate conservation measures to maintain and restore habitats and species, for which a site has been designated, to a favourable conservation status. Furthermore the Regulations require Member States to avoid damaging activities that could significantly disturb these species or deteriorate the habitats of the protected species or habitat types. Under these regulations any plan or project likely to have a significant effect on

a Natura 2000 site, either individually or in combination with other plans or projects, shall undergo an Appropriate Assessment to determine its implications for the site.

The competent authorities can only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site concerned. In exceptional circumstances, a plan or project may still be allowed to go ahead, in spite of a negative assessment, provided there are no alternative solutions and the plan or project is considered to be of overriding public interest. In such cases the Member State must take appropriate compensatory measures to ensure that the overall coherence of the Natura 2000 Network is protected. Article 12 of the Regulations is also important as it affords protection to specific species regardless of their location.

3.2.6.8 The Convention for the Protection of the marine Environment of the North-East Atlantic (the OSPAR Convention)

The OSPAR Convention entered into force on 25 March 1998. OSPAR has first developed, and is implementing, a suite of five thematic strategies to address the main threats that it has identified within its competence (the Biodiversity and Ecosystem Strategy, the Eutrophication Strategy, the Hazardous Substances Strategy, the Offshore Industry Strategy and the Radioactive Substances Strategy), together with a Strategy for the Joint Assessment and Monitoring Programme, which assesses the status of the marine environment and follows up implementation of the strategies and the resulting benefits to the marine environment.

3.2.6.9 UN Convention of Biological Diversity, 1992

The Convention on Biological Diversity (CBD) entered into force on 29 December 1993. It has 3 main objectives:

1. The conservation of biological diversity.
2. The sustainable use of the components of biological diversity.
3. The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

It requires each party to develop strategies, plans or programmes for the conservation and sustainable use of biological diversity and that these should be integrated into other national initiatives that may have biodiversity implications. Monitoring programmes and appropriate designations for protected areas must be established, while undesirable alien species which threaten ecosystems should be controlled. In April 2002, the Parties to the Convention committed themselves to achieve, by 2010, a significant reduction of the current rate of biodiversity loss at global, National and Regional levels. However, the agreed 2010 target reduction of biodiversity loss has yet to be achieved.

3.2.7 Environmental Assessment

3.2.7.1 SEA Directive - Assessment of the effects of certain plans and programmes on the Environment, (2001/42/EC) 2001

This Directive requires plan-makers to carry out an assessment of the likely significant environmental effects of implementing a plan or programme before the plan or programme is adopted. There are two statutory instruments which transposed the SEA Directive into Irish Law:

The SEA Directive (2001/42/EEC) came into force in 2004 and was subsequently transposed into Irish law through S.I. No. 435 of 2004 European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 and S.I. No. 436 of 2004 Planning and Development (Strategic Environmental Assessment) Regulations 2004 as amended by S.I. No. 200 of 2011 European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 and S.I. No. 201 of 2011 Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 respectively.

3.2.7.2 Environmental Impact Assessment Directive (85/337/EEC) (97/11/EC), 1985

The EIA Directive (85/337/EEC) came into force in 1985 and applies to a wide range of defined public and private projects, which are defined in Annexes I and II of the Directive. The Directive

has been amended three times, in 1997, 2003 and 2009. Under the Directive Member States are required to carry out Environmental Impact Assessments (EIA) of certain public and private projects, before they are authorised, where it is believed that the projects are likely to have a significant impact on the environment.

The initial Directive of 1985 and its three amendments have been codified by Directive 2011/92/EU of 13 December 2011.

3.2.8 Soil

Different EU policies (e.g. relating to water, waste, chemicals, industrial pollution prevention, nature protection, pesticides, agriculture) contribute to soil protection. But as these policies have other aims and other scopes of action, they are not sufficient to ensure an adequate level of protection for all soil in Europe.

In September 2006, the European Commission published the final Thematic Strategy for Soil Protection (COM(2006)231 final) and a proposal for a Directive establishing a framework for the protection of soil across the EU (COM(2006)232). The objective of the strategy is to protect and ensure the sustainable use of soil, based on the guiding principles of preserving soil functions, preventing further degradation and restoring degraded soils to a level of functionality consistent with current and intended use. Once adopted the European Soil Thematic Strategy will guide and frame Ireland's approach to developing its own soil protection strategy.

3.2.9 Air and Noise

3.2.9.1 Environmental Noise Directive (2002/49/EC) 2002

The END aims to "define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to the exposure to environmental noise". For that purpose several actions are to be progressively implemented. It furthermore aims at providing a basis for developing EU measures to reduce noise emitted by major sources, in particular road and rail vehicles and infrastructure, aircraft, outdoor and industrial equipment and mobile machinery.

The underlying principles of the Directive are similar to those underpinning other overarching environment policies (such as air or waste), i.e.:

- **Monitoring the environmental problem;** by requiring competent authorities in Member States to draw up “strategic noise maps” for major roads, railways, airports and agglomerations, using harmonised noise indicators L_{den} (day-evening-night equivalent level) and L_{night} (night equivalent level). These maps will be used to assess the number of people annoyed and sleep-disturbed respectively throughout Europe
- **Informing and consulting the public** about noise exposure, its effects, and the measures considered to address noise, in line with the principles of the Aarhus Convention
- **Addressing local noise issues** by requiring competent authorities to draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good. The directive does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities.
- **Developing a long-term EU strategy,** which includes objectives to reduce the number of people affected by noise in the longer term, and provides a framework for developing existing Community policy on noise reduction from source. With this respect, the Commission has made a declaration concerning the provisions laid down in article 1.2 with regard to the preparation of legislation relating to sources of noise.

It is important to note, however, that the present Directive does not set binding limit values, nor does it prescribe the measures to be included in the action plans thus leaving those issues at the discretion of the competent authorities.

3.2.9.2 Climate Change Programme (ECCP II)

The Second European Climate Change Programme (ECCP II) explores cost-effective options for reducing greenhouse gas emissions in synergy with the EU’s Lisbon strategy’ for increasing economic growth and job creation.

3.2.9.3 IPPC Directive, (2008/1/EC) 2008

The 2008 EU Directive concerning Integrated Pollution Prevention and Control (IPPC) requires industrial and agricultural activities with a high pollution potential to have a permit. This permit can only be issued if certain environmental conditions are met, so that the companies themselves bear responsibility for preventing and reducing any pollution they may cause.

Integrated pollution prevention and control concerns new or existing industrial and agricultural activities with a high pollution potential, as defined in Annex I to the Directive (energy industries, production and processing of metals, mineral industry, chemical industry, waste management, livestock farming, etc.).

3.2.9.4 EU Reach Initiative, (EC 1907/2006) 2007

REACH is the European Community Regulation on chemicals and their safe use. It deals with the Registration, Evaluation, Authorisation and Restriction of Chemical substances. The law entered into force on 1 June 2007. The REACH Regulation places greater responsibility on industry to manage the risks from chemicals and to provide safety information on the substances. The Regulation also calls for the progressive substitution of the most dangerous chemicals when suitable alternatives have been identified.

3.2.9.5 EU Major Accident (Seveso II) Directive, (96/82/EC) 1996

This Directive aims to prevent major-accident hazards involving dangerous substances. Hazardous sites are identified that may pose a threat and development should be limited in the vicinity of such sites. The control of such hazardous sites for the purposes of reducing the risk, or limiting the consequences, of a major accident is a mandatory objective of a Development Plan.

3.2.9.6 Stockholm Convention

The Stockholm Convention on Persistent Organic Pollutants is a global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of humans and wildlife, and have adverse effects to human health or to the environment.

3.2.10 Landscape

3.2.10.1 *European Landscape Convention 2000*

The 2000 European Landscape Convention, adopted in Florence (and was ratified by Ireland in 2002), requires a commitment to introduce policies on landscape protection and management. It promotes the protection,

management and planning of EU landscapes as a response to European-wide concerns that the quality and diversity of landscapes were deteriorating. The underlying purpose of the Convention is to encourage public authorities to adopt policies and measures at local, Regional, National and International level to protect and manage landscapes throughout Europe.

3.3

National Level Policy, Plans and Programmes

3.3.1 Sustainable Development

3.3.1.1 *Sustainable Development: A Strategy for Ireland, 1997*

This document sets out the national sustainable development strategy for Ireland. Published in 1997 to interpret Agenda 21 to a national scale the principle purpose of the Strategy is to provide a comprehensive analysis and framework which will allow sustainable development to be taken forward more systematically in Ireland. The primary aim of this document is to achieve sustainable development by balancing economic growth with a continued commitment to promoting environmental quality. The Strategy recognises the need for good spatial planning and the inclusion of sustainability goals in urban and built environment policies. The Strategy also recognises the major impact that the pattern and density of urban development has on travel patterns. It promotes activities which require frequent short duration journey patterns to locate in areas of maximum accessibility to public transport so as to reduce growth in transport demand. As a general principle, the minimisation of potential growth in transport demand will be incorporated as a leading consideration in land use planning. The Strategy also aims to ensure a clear demarcation between urban and rural land use, to help prevent urban sprawl and to encourage more sustainable development patterns in settlements.

3.3.1.2 *Making Ireland's Development Sustainable 2002*

This report builds on the governments 1997 Sustainable Development: A Strategy for Ireland which continues to act as the cornerstone of national sustainable development policy.

The report seeks to:

- review and assess Ireland's progress to date in the pursuit of sustainable development,
- provide an enhanced focus for the task of securing greater integration of environmental and economic policy, inter alia through an increased emphasis on resource efficiency (eco-efficiency),
- maximise the benefits in environmental terms from Ireland's "new economy",
- reflect recent developments in social policy, which has moved ahead significantly since 1997,
- take into account developing thinking and action in relation to policy integration and sustainable development at international levels, including within the EU and the OECD, which provide good support and encouragement going forward,
- promote greater participation in, and ownership of, sustainable development on the part of stakeholders, including as part of Local Agenda 21,
- set out future action in relation to environmental protection and sustainable development policy in Ireland.

3.3.1.3 *National Development Plan (NDP) Transforming Ireland A Better Quality of Life for All 2007-2013*

The NDP 2007-2013 provides for an indicative investment of €184 billion in the broad areas of infrastructure, enterprise, human capital and social inclusion, as well as health services, social housing, education, roads, public transport, rural development, industry, and water and waste services. The vast bulk of this investment (some €143 billion) is

being provided by the central exchequer. The objective of this ambitious investment plan is to deliver a better quality of life for all within a strong and vibrant economy that maintains International competitiveness and promotes regional development, social justice and environmental sustainability. The investment priorities are carefully aligned with the specific objectives of the National Spatial Strategy in achieving balanced regional development.

3.3.1.4 National Spatial Strategy 2002-2020

The National Spatial Strategy (NSS) is a coherent national planning framework for Ireland for the next 20 years. The NSS aims to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning. The NSS aims to achieve balanced development throughout the country by setting out a range of measures to be implemented at the national, regional, county and local level.

Its focus is on people, on places and on building communities. The NSS is intended to provide an upper-tier of strategic guidance that feeds into general government policy-making and also into the regional and local development planning framework. In order to further these aims, the NSS sets down a series of policies in relation to: employment, housing, rural development, access to services, and quality of life/environmental quality. The strategy identifies a limited number of Regional Gateways and Hubs. Meath is located within the Dublin and Mid East Region as designated by the NSS. Navan is identified as a Primary Development Centre within the region.

3.3.1.5 Development Plans Guidelines for Planning Authorities (2007)

These guidelines were prepared under Section 28 of the Planning and Development Act 2000 (as amended). All planning authorities must have regard to them when preparing their Development Plans. The guidelines set out a framework within which development plans will achieve high standards in:

- how they set out their aims and objectives;
- how they are produced;
- how they are presented; and
- how they are implemented and monitored.

The guidelines stress that Development Plans should be strategic catalysts for positive change and progress, that they should anticipate future needs on an objective basis and that they should play a central role in protecting the environment and heritage by providing a framework for sustainable development.

3.3.2 Retail

3.3.2.1 Retail Planning Guidelines (RPG) (2005)

The RPGs set out the four tiers of the retail hierarchy which reflect both the primacy of Dublin in the settlement structure of the State and small scale, low residential densities in rural areas at the other end of the settlement pattern. The 2005 Guidelines were prepared as an update to the original 2001 Guidelines and sought to cater for large-scale retail warehouses type development which would require a regional, if not a national, population catchment.

3.3.2.1 Draft Guidelines for Planning Authorities – Retail Planning (November 2011) Guidelines for Planning Authorities – Retail Planning (April 2012)

Meath Local Authorities made a detailed submission to the Draft Retail Planning Guidelines (November 2011). These Guidelines were in draft form at the time the Draft Development Plan was prepared.

The fundamental objectives of the draft 2011 Retail Guidelines are:

- to protect, support and promote the continuing role of city and town centres;
- to facilitate a competitive and healthy environment for the retail industry sector;
- to prepare joint or multi-authority retail strategies;
- to ensure that all development plans incorporate clear policies and proposals for retail development; and
- to promote forms of development which are easily accessible – particularly by public transport – and located in such a manner as to encourage multi-purpose shopping, business and leisure trips.

The key changes set out in the draft guidelines are:

- Revisions to the convenience retail floorspace cap moving to a three tier approach that provides for a differentiation in cap limits between Dublin (4,000 m²), the other four main cities of Cork, Limerick, Galway and Waterford (3,500 m²), and the remainder of the country (3,000 m²);
- The retail warehouse floorspace cap is to be maintained at 6,000 m² and with specific criteria to allow for an exemption from this floorspace cap in the 5 main National Spatial Strategy gateway cities; and
- The petrol filling station shops floorspace cap is to be maintained at 100 m² irrespective of location.
- The scale of retail provision across cities and towns must align with the settlement policies of relevant development plans and local plans.

3.3.3 Housing

3.3.3.1 *Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (Cities, Towns & Villages) (2009)*

The aim of these guidelines is to set out the key planning principles which should be reflected in development plans and local area plans, and which should guide the preparation and assessment of planning applications for residential development in urban areas. The guidelines highlight the importance of energy efficiency in building and development and sets out a series of high level aims for successful and sustainable residential development in urban areas. They include:

- Prioritise walking, cycling and public transport, and minimise the need to use cars;
- Deliver a quality of life which residents and visitors are entitled to expect, in terms of amenity, safety and convenience;
- Provide a good range of community and support facilities, where and when they are needed and that are easily accessible;
- Present an attractive, well-maintained appearance, with a distinct sense of place and a quality public realm that is easily maintained;
- Are easy to access for all and to find one's way around;
- Promote the efficient use of land and of energy, and minimise greenhouse gas emissions;
- Provide a mix of land uses to minimise transport demand;
- Promote social integration and provide accommodation for a diverse range of household types and age groups;
- Enhance and protect the green infrastructure and biodiversity; and
- Enhance and protect the built and natural heritage.

In relation to Development Plans the guidelines highlight that plans should include policies and objectives which underpin the creation of sustainable residential development.

3.3.3.2 *Sustainable Rural Housing – Guidelines for Planning Authorities 2005*

The Rural Housing Guidelines seek to ensure that sustainable housing development patterns are supported in rural areas and that the policies and practices of planning authorities should seek to:

- (1) Ensure that the needs of rural communities are identified in the development plan process and that policies are put in place to ensure that the type and scale of residential and other development in rural areas, at appropriate locations, necessary to sustain rural communities is accommodated.
- (2) Manage pressure for overspill development from urban areas in the rural areas closest to the main cities and towns such as the gateways, hubs, and other large towns.
- (3) Take account of other related dimensions in relation to rural settlement such as environmental and heritage protection and the need to maintain the integrity of economic resources.

The Guidelines suggest that the settlement strategy for each development plan should start by putting forward a development vision for rural areas that:

- Aims to support the sustainable development of these areas in economic,

social and environmental terms in a way that supports the rural economy and rural communities,

- Ensures that development of rural areas takes place in a way that is compatible with the protection of key economic, environmental and natural and cultural heritage assets such as the road network, water quality, important landscapes, key identified areas with wind energy potential, habitats and built heritage, and
- Promotes the development and consolidation of key settlements in rural areas.

3.3.3.3 *Delivering Homes, Sustaining Communities, (2007)*

This 2007 policy statement provides for an integrated approach to housing and planning in Ireland. The policy recognises that continued strong demand for housing presents major challenges in respect of the planning of new housing and associated services. Sustainable neighbourhoods involve the efficient use of land and quality urban design, effectively integrated with the supply of appropriate physical and social infrastructure by providing a quality environment; sustainable neighbourhoods also contribute to the provision of attractive locations to support the NSS objective for a more coherent form of future regional development.

3.3.3.4 *Quality Housing for Sustainable Communities, (2007)*

Design guidelines intended to assist in the implementation of the policies set out in Delivering Homes Sustaining Communities (above). The aim of these Guidelines is to identify principles and criteria that are important in the design of housing and to highlight specific design features, requirements and standards that have been found to be particularly relevant.

3.3.3.5 *Sustainable Urban Housing: Design Standards for New Apartments. Guidelines for Planning Authorities (2007)*

The primary aim of these guidelines is to promote sustainable urban housing, by ensuring that the design and layout of new apartments will provide satisfactory accommodation for a variety of household types and sizes – including

families with children - over the medium to long term.

These guidelines provide recommended minimum standards for:

- floor areas for different types of apartments,
- storage spaces,
- sizes for apartment balconies / patios, and
- room dimensions for certain rooms.

3.3.4 Transport

3.3.4.1 *Transport 21 & Infrastructure and Capital Investment 2012-2016 Medium Term Exchequer Framework*

Launched in 2005, Transport 21 is a 10 year (2006 - 2016), €34.4 billion investment programme in transport infrastructure throughout Ireland. Connecting communities and promoting prosperity is the core aim of this Strategy. The programme seeks to meet the transport needs of the Country's citizens and also underpin competitiveness into the future. Transport 21 recognises that quality, integrated transport is critical for competitiveness, return on investment and regional development. It covers national roads, rail, bus services and Regional airports. It relates to two investment programmes, i.e. a national programme and a separate programme for the Greater Dublin Area. One of its key objectives is to support the NSS by developing connectivity between the Greater Dublin Area and the identified centres which comprise the NSS gateways and hubs.

The Department of Public Expenditure & Reform published a revised capital programme 'Infrastructure and Capital Investment 2012 – 2016 Medium Term Exchequer Framework in November 2011.' The Capital Investment Programme seeks to address the changed fiscal and budgetary situation in the country. It has deferred certain rail projects from the planning and design stages including the Navan Rail project.

3.3.4.2 *Smarter Travel, A Sustainable Transport Future, A New Transport Policy for Ireland 2009-2020*

This document represents the transport policy for Ireland for the period 2009-2020

Key goals of this policy are:

- (i) To reduce overall travel demand,
- (ii) To maximise the efficiency of the transport network,
- (iii) To reduce reliance on fossil fuels,
- (iv) To reduce transport emissions, and
- (v) To improve accessibility to transport.

The policy sets out 49 Key Actions for achieving sustainable transport. They can be grouped into the following four themes:

- Actions to reduce distance travelled by private car and encourage smarter travel.
- Actions aimed at ensuring that alternatives to the car are more widely available.
- Actions aimed at strengthening institutional arrangements to deliver the targets.
- Actions aimed at improving the fuel efficiency of motorised transport.

3.3.4.3 National Cycle Policy Framework 2009-2012

Stemming from the Smarter Travel transport policy, the intention of the document is to promote cycling as a method for commuting within Ireland and ensure that all areas are bicycle friendly. Its aim is to achieve a rate of 10% cycling by the year 2020. It references the role that planning has in supporting and encouraging the use of bicycles and refers to the need for local authorities to have policies, objectives and action plans consistent with the Policy Framework. Several wide ranging objectives to improve the conditions for cycling and to encourage more users of this mode of transport are detailed. A number of these are particularly applicable to planning and include:

- reducing volumes of through-traffic, especially HGVs, in city and town centres and especially in the vicinity of schools and colleges;
- calming traffic / enforcing low traffic speeds in urban areas;
- making junctions safe for cyclists and removing the cyclist-unfriendly multi-lane one-way street systems.

3.3.4.4 Spatial Planning and National Roads Guidelines for Planning Authorities, 2012

These guidelines set out planning policy

considerations relating to development affecting national roads (including motorways, national primary and national secondary roads) outside the 50/60 km/h speed limit zones for cities, towns and villages. The key messages contained within the guidelines are:

- Development plans must include measurable objectives for securing more compact development that reduces overall demand for transport and encourages modal shift towards sustainable travel modes.
- Development plans must include policies which seek to maintain and protect the safety, capacity and efficiency of national roads and associated junctions, avoiding the creation of new accesses and the intensification of existing accesses to national roads where a speed limit greater than 50 kmh applies.
- Planning authorities and the NRA must work together during the early stages of plan preparation to identify any areas where a less restrictive approach may apply.
- Development plans must include clear policies and objectives with regard to planning and reservation of new routes and/or upgrades.
- Planning authorities should consult at a very early stage with transport infrastructure providers (including the NRA) and, in the Greater Dublin area, with the National Transport Authority.

3.3.5 Flooding

3.3.5.1 The Planning System and Flood Risk Management Guidelines (and Technical Appendices) for Planning Authorities (DoEHLG, OPW), 2009

These guidelines require the planning system at national, regional and local levels to:

- Avoid development in areas at risk of flooding, particularly floodplains, unless there are proven wider sustainability grounds that justify appropriate development and where the flood risk can be reduced or managed to an acceptable level without increasing flood risk elsewhere;
- Adopt a sequential approach to flood risk

management when assessing the location for new development based on avoidance, reduction and mitigation of flood risk; and

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

In relation to planning at the County level the guidelines require planning authorities to:

- introduce flood risk assessment as an integral and leading element of their development planning functions at the earliest practicable opportunity.
- Align strategic flood risk assessment (SFRA) with the SEA process.
- Establish flood risk assessment requirements as part of the preparation of the County Development Plan.
- Assess planning applications against the guidance set out in the Guidelines.
- Ensure development is not permitted in areas of flood risk except where there are no suitable alternative sites.

3.3.6 Noise

3.3.6.1 *The Environmental Protection Agency Act 1992 (Noise) Regulations, 1994 (S.I. No. 179 of 1994)*

These Regulations, relating to the 1992 EPA Act, simplify and strengthen the procedures for dealing with noise nuisance, and give Local Authorities power to take action when they consider that it is necessary to do so in order to prevent or limit noise.

3.3.6.2 *Environmental Noise Regulations 2006 SI 140 of 2006*

These regulations set out legislation with respect to the control of unwanted or harmful outdoor sounds created by human activities, including noise emitted by means of transport, road traffic, rail traffic, air traffic, and from sites of industrial activity.

These Regulations provide for the implementation in Ireland of a common approach within the European Community intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise.

3.3.7 Energy

3.3.7.1 *National Renewable Energy Action Plan, (NREAP) 2010*

Submitted under Article 4 of Directive 2009/28/EC this plan sets out Ireland's renewable energy targets to be achieved by 2020. Ireland's overall target is to achieve 16% of energy from renewable sources by 2020. Member states are to achieve their individual target across the heat, transport and electricity sectors and apart from a sub-target of a minimum of 10% in the transport sector that applies to all Member States, there is flexibility for each country to choose how to achieve their individual target across the sectors.

3.3.7.2 *Delivering a Sustainable Energy Future for Ireland - The Energy Policy Framework, 2007–2020 (White Paper)*

This White Paper sets out the Government's Energy Policy Framework 2007-2020 to deliver a sustainable energy future for Ireland. It is set firmly in the global and European context which has put energy security and climate change among the most urgent International challenges. The White Paper sets out the actions to be taken in response to the energy challenges facing Ireland. The objective is to deliver a sustainable energy future, starting now, with a time horizon of 2020 but also looking beyond that.

3.3.7.3 *Wind Energy Development Guidelines - Guidelines for Planning Authorities, 2006*

These Guidelines offer advice to Planning Authorities on planning for wind energy through the development plan process and in determining applications for planning permission. The guidelines are also intended to ensure a consistency of approach throughout the Country in the identification of suitable locations for wind energy development and the treatment of planning applications for wind energy developments. They should also be of assistance to developers and the wider public in considering wind energy development.

3.3.7.4 *Delivering a Sustainable Energy Future for Ireland - The Energy Policy Framework 2007-2020*

This White Paper sets out a framework for

the provision of sustainable energy in Ireland up to the year 2020. It sets out the manner in which Ireland will respond to international energy supply issues in the context of severe limitations on indigenous fuel supplies. It contains a number of strategic goals in relation to the following:

- Ensuring Security of Energy Supply
- Actions to Promote the Sustainability of Energy Supply and Use
- Actions to Enhance the Competitiveness of Energy Supply
- Integrated Approach to Delivery of energy policy objectives

The paper sets out a range of actions associated with each of these strategic goals. In relation to the use of renewables, a highly ambitious 33% contribution to electricity generation by 2020 is proposed.

3.3.7.5 Bioenergy Action plan

The Bioenergy Action Plan, published in 2007, sets out an integrated strategy for collective delivery of the potential benefits of bioenergy resources across the agriculture, enterprise, transport, environment and energy sectors. It will require sustained multi-agency collaboration, at national, regional and local level, working in strategic alliances to ensure that we realise this potential. It is a key component of the Government's objectives under the Energy Policy Framework 2007 - 2020.

3.3.7.6 Offshore Renewable Energy Development Plan (OREDPA) in the Republic of Ireland

The Government, through the Department of Communications, Energy and Natural Resources (DCENR) is providing support on the delivery of offshore renewables at a strategic level through the implementation of the Offshore Renewable Energy Development Plan (OREDPA). The OREDPA sets out Ireland's long term vision for the development of offshore

renewable energy and identifies scenarios for delivering offshore renewable energy by 2030 with a review of progress at 2020.

The aim of the OREDPA is to set out scenarios for the development of up to 4,500 MW from offshore wind energy and 1,500 MW from wave and tidal energy in Irish waters up to 2030 and set out a longer term vision for the growth of the offshore renewable energy sector in Ireland.

3.3.8 Natural & Cultural Heritage

3.3.8.1 Appropriate Assessment of Plans and Projects in Ireland. Guidelines for Planning Authorities (2009)

Formulated to assist with compliance with Article 6 of the Habitats Directive Article 6(3) states that:

Any plan or project not directly connected with or necessary to the management of a Natura 2000 site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.

Appropriate Assessment is a focused and detailed impact assessment of the implications of the plan or project, alone and in combination with other plans and projects, on the integrity of a Natura 2000 site in view of its conservation objectives.

3.3.8.2 Actions for Biodiversity 2011 – 2016, Ireland's 2nd National Biodiversity Plan

The National Biodiversity Plan is intended to play a central part in Ireland's efforts to halt biodiversity loss and was developed as in line with the EU and International Biodiversity strategies and policies. It sets out the strategic objectives of the government in relation to biodiversity:

- OBJECTIVE 1:** To mainstream biodiversity in the decision making process across all sectors.
- OBJECTIVE 2:** To substantially strengthen the knowledge base for conservation, management and sustainable use of biodiversity.
- OBJECTIVE 3:** To increase awareness and appreciation of biodiversity and ecosystems services.
- OBJECTIVE 4:** To conserve and restore biodiversity and ecosystem services in the wider countryside.

- OBJECTIVE 5:** To conserve and restore biodiversity and ecosystem services in the marine environment.
- OBJECTIVE 6:** To expand and improve on the management of protected areas and legally protected species.
- OBJECTIVE 7:** To substantially strengthen the effectiveness of international governance for biodiversity and ecosystem services.

3.3.8.3 *Wildlife (Amendment) Act 2000*

The Wildlife Act is Ireland's primary national legislation for the protection of wildlife. It covers a broad range of issues, from the designation of nature reserves, the protection of species, regulation of hunting and controls in wildlife trading. It is implemented by a series of regulations. The Act provides strict protection for nearly all birds, 22 other animal species, and 86 plant species. These species are protected from injury, or from disturbance / damage to their breeding or resting place wherever these occur. The 2000 Act was amended in 2010.

The main objectives of the Wildlife (Amendment) Act, 2000 are to:

- provide a mechanism to give statutory protection to NHAs;
- provide for statutory protection for important geological and geomorphological sites, including fossil sites by designation as NHAs;
- improve some existing measures, and introduce new ones, to enhance the conservation of wildlife species and their habitats;
- enhance a number of existing controls in respect of hunting, which are designed to serve the interests of wildlife conservation;
- broaden the scope of the Wildlife Acts to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act;
- introduce new provisions to enable regulation of the business of commercial shoot operators;
- ensure or strengthen compliance with international agreements and, in particular, enable Ireland to ratify the Convention on International Trade in Endangered Species (CITES) and the African-Eurasian Migratory Waterbirds Agreement (AEWA).
- increase substantially the level of fines for contravention of the Wildlife Acts and to allow for the imposition of prison sentences;
- provide mechanisms to allow the Minister to act independently of forestry legislation, for example, in relation to the acquisition of land by agreement;
- strengthen the provisions relating to the cutting of hedgerows during the critical bird-nesting period and include a requirement that hedgerows may only be cut during that period by public bodies, including local authorities, for reasons of public health or safety;
- strengthen the protective regime for Special Areas of Conservation (SACs) by removing any doubt that protection will in all cases apply from the time of notification of proposed sites;
- and give specific statutory recognition to the Minister's responsibilities in regard to promoting the conservation of biological diversity, in light of Ireland's commitment to the UN Convention on Biological Diversity.

3.3.8.4 *Architectural Heritage Protection - Guidelines for Planning Authorities (2011)*

The 2004 guidelines were reissued in 2011 following the transfer of architectural heritage protection functions to the Department of Arts, Heritage and the Gaeltacht.

Part IV of the Planning and Development Act 2000 (as amended) sets out the legislative provisions for the protection and conservation of our architectural heritage. The main features of the act in this respect are:

- Local authorities must create and maintain a Record of Protected Structures (RPS) which is to include all structures within the administrative area which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. The RPS must form part of the Development Plan for each county.
- Local authorities must also protect the

character of places and townscapes which are comply with the special interests listed above. This is done through the designation of Architectural Conservation Areas (ACAs) which are also to be contained within Development Plans.

- Development plans must include objectives for the protection of such structures and the preservation of the character of such areas to ensure proper and sustainable planning and development.
- Owners and occupiers of protected structures can be held responsible in ensuring that buildings are not endangered either directly or through neglect.

3.3.8.5 National Heritage Plan, (2002)

The Department of Arts Heritage Gaeltacht and the Islands published the National Heritage Plan in April 2002. The plan sets out a vision for the management of the heritage of Ireland. A key element of the process of formulating the National Heritage Plan is the requirement to prepare Local Heritage Plans at County and City level.

3.3.8.6 National Inventory of Architectural Heritage (NIAH)

The National Inventory of Architectural Heritage (NIAH) is a state initiative under the administration of the Department of Arts, Heritage and the Gaeltacht. The purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS). In 2002 the NIAH published An Introduction to the Architectural Heritage of County Meath.

3.3.9 Quarries

3.3.9.1 Quarries and Ancillary Activities, Guidelines for Planning Authorities (2004)

These Guidelines are intended to:

- offer guidance to planning authorities on planning for the quarrying industry through the development plan and determining

applications for planning permission for quarrying and ancillary activities (Part A).

- be a practical guide to the implementation of Section 261 of the Planning and Development Act 2000 (Part B) (as amended).

A number of new legislative provisions in relation to quarries have recently been commenced. These provisions are contained chiefly in the Planning and Development (Amendment) Act 2010 and the Environment (Miscellaneous Provisions) Act 2011, relevant provisions of which were commenced on 15 November 2011.

3.3.9.2 Section 261A of the Planning and Development Act 2000 (as amended) and related provisions, Guidelines for Planning Authorities, (Jan 2012)

These guidelines were formulated to provide both an overview of the new legislative provisions in relation to quarries that were laid down in the Planning and Development (Amendment) Act 2010 and the Environment (Miscellaneous Provisions) Act 2011 and guidance on their implementation.

These legislative provisions came about as a result of European Court of Justice (ECJ) rulings which required that Irish planning law was amended to remove the facility to apply for retention permission for any development that requires an EIS or AA.

Section 261A of the Planning and Development Act 2000 (as amended) relates to the requirement of Local Authorities to examine the quarries within their functional areas to assess whether development has been carried out (post 1 October 1964) that would have required EIA or AA.

These guidelines highlight the process necessary to regularise quarries following the ECJ ruling.

3.3.10 Water Protection and Management

3.3.10.1 Local Government (Water Pollution) Acts (1977 and 1990)

Statutory responsibility for water management

and protection rests primarily with local authorities. The Local Government (Water Pollution) Acts 1977 and 1990, and associated regulations, including regulations giving effect to EU Directive, constitute the main national legislation in this regard.

The Local Government (Water Pollution) Acts 1977 and 1990 enable local authorities to:

- prosecute for water pollution offences;
- attach appropriate pollution control conditions in the licensing of effluent discharges from industry, etc., made to waters or to sewers;
- issue notices ("section 12 notices") to farmers, etc., specifying measures to be taken within a prescribed period to prevent water pollution;
- issue notices requiring a person to cease the pollution of waters and requiring the mitigation or remedying of any effects of the pollution in the manner and within the period specified in such notices;
- seek court orders, including High Court injunctions, to prevent, terminate, mitigate or remedy pollution/its effects;
- prepare water quality management plans for any waters in or adjoining their functional areas;
- make bye-laws regulating certain agricultural activities where the Local Authority considers this to be necessary so as to prevent or eliminate pollution of waters;
- issue notices requiring farmers to prepare nutrient management plans with the aim of ensuring that nutrients applied to land from chemical fertilisers and organic farm wastes, e.g. slurries, take account of nutrients already available in the soil and are consistent with recommended application rates, crop requirement and the need to avoid water pollution.

3.3.10.2 Water Services Act (2007)

The Act sets down a comprehensive modern legislative code governing functions, standards, obligations and practice in relation to the planning, management, and delivery of water supply and waste water collection and treatment services. To this end it both consolidates and modernises the legislative code governing water services. The Act

focuses on management of water "in the pipe", as distinct from broader water resources issues such as river water quality, etc.

The provisions of the Act dovetail with the EU's Water Framework Directive, which gives legal weight to the polluter pays principle.

The Act sets out the legislative provision in relation to water services licensing, water conservation, water pollution, water metering.

The Act includes provision to:

- Consolidate water services law into a single modern code, for ease of access and application,
- Introduce a licensing system to regulate the operations of group water services schemes,
- Amend the Environmental Protection Act 1992 to assign responsibility for supervision of sanitary authority water supplies to the Agency.
- Strengthen administrative arrangements for planning the delivery of water services at national and local level, and
- Place duties of care on users of water services in relation to water conservation, protection of collection and distribution networks, and prevention of risk to public health and the environment.

3.3.10.3 Water Services (Amendment) Act (2012)

The 2012 Act amends the 2007 Water Services Act in order to comply with a European Court of Justice ruling against Ireland in October 2009. The Court found that Ireland had failed to fulfil its obligations under the Waste Directive (75/442/EEC) regarding domestic waste waters disposed of through septic tanks and other individual waste water treatment systems. The new Part 4A requires each water services authority to establish and maintain a register of domestic waste water treatment systems situated within their functional area.

3.3.10.4 Water Quality (Dangerous Substances) Regulations, (2001)

The Water Quality Regulations give effect to the Dangerous Substances Directive 76/464/EC and the Water Framework Directive 2000/60/EC. They prescribe water quality standards in

respect of 14 dangerous substances in surface waters and aim to ensure that, in relation to a substance present, where the existing condition of a water body does not meet a specific standard there shall be no disimprovement in the condition of the water body.

3.3.10.5 Code of Practice: Wastewater Treatment Systems for Single Houses (P.E. <10), EPA, (2009)

This EPA code of practice provides guidance on the design, operation and maintenance of on-site wastewater treatment systems for single houses (p.e. less than or equal to 10). The code of practice establishes an overall framework of best practice in relation to the development of wastewater treatment and disposal systems, in un-sewered rural areas, for protection of our environment and specifically water quality.

The Code of Practise sets out the following:

- An assessment methodology for the determination of site suitability for an on-site wastewater treatment system and identification of the minimum environmental protection requirements.
- A methodology for the selection of a suitable wastewater treatment system for sites in unsewered rural areas.
- Information on the design and installation of conventional septic tank systems, filter systems and mechanical aeration systems.
- Information on tertiary treatment systems.
- Maintenance requirements for the above systems.

3.3.11 Waste Management

3.3.11.1 Changing Our Ways, (1998)

This 1998 policy statement sets out the national policy on waste management. It sets out a range of targets in relation to waste management to be achieved over a 15 year time period. The policy is based on the waste management hierarchy of prevention, minimisation, reuse/recycling, and the environmentally sustainable disposal of waste which cannot be prevented or recovered.

The targets set out in the policy include:

- a diversion of 50% of overall household waste away from landfill,

- a minimum 65% reduction in biodegradable municipal wastes consigned to landfill, materials recycling of 35% of municipal waste,
- recovery of at least 50% of construction and demolition waste within a five year period, with a progressive increase to at least 85% over fifteen years, and
- rationalisation of municipal waste landfills, with progressive and sustained reductions in numbers, leading to an integrated network of some 20 or so state-of-the-art facilities incorporating energy recovery and high standards of environmental protection.

3.3.11.2 Preventing and Recycling Waste: Delivering Change, (2002)

This Policy Statement is grounded in the 1998 policy statement Changing Our Ways and addresses the factors and practical considerations that are relevant to the achievement of Government policy objectives for the prevention of waste and for the reuse and recycling of the waste which is produced.

The three main aims of the Policy Statement are:

- to highlight the necessary disciplines that must be imposed within waste management systems to secure real progress on waste prevention, re-use and recovery;
- to outline a range of measures that will be undertaken in the interests of minimising waste generation and ensuring a sustained expansion in re-use and recycling performance; and
- to identify issues and possible actions which require further systematic consideration.

3.3.11.3 National Strategy for Biodegradable Waste, (2006)

This National Strategy for Biodegradable Waste is based on the integrated waste management approach first set out by the government's 1998 Changing Our Ways policy document.

The strategy highlights measures to increasingly redirect biodegradable municipal waste from landfill in accordance with the agreed targets in EU Directive 1999/31/EC on the landfill of waste. Council Directive 1999/31/

EC on the landfill of waste (known as the Landfill Directive) requires Member States of the European Union to reduce their dependence on the landfill of municipal waste in favour of more environmentally sound alternatives. Article 5 of the Directive specifically requires each Member State to prepare a National Strategy on Biodegradable Waste which will set out measures aimed at the separate collection, recovery and recycling of biodegradable waste. The Directive also sets out targets in relation to the progressive diversion of biodegradable municipal waste from landfill.

3.3.11.4 Towards a new National Waste Policy, Discussion Document, (2011)

This discussion document was prepared to further refine our national waste management policy and was done so in light of the transposition of the Waste Framework Directive (2008/98/EC) into Irish law in March 2011.

The document sets out the principles that will guide how the country will deal with waste over the coming decades. It is designed to promote discussion and debate and to provide an opportunity for all interested parties to input into the development of a new national waste policy framework.

3.3.12 Air and Climate

3.3.12.1 National Climate Change Strategy (2007-2012)

The National Climate Change Strategy 2007 - 2012 sets out a range of measures, building on those already in place under the first National Climate Change Strategy (2000) to ensure Ireland reaches its target under the Kyoto Protocol. The Strategy provides a framework for action to reduce Ireland's greenhouse gas emissions.

The Framework for Climate Change Bill published in December 2009 provides for a statutory obligation on the Minister to propose to the Government a National Climate Change Strategy on a 5 year cycle and to review the previous Strategy at the end of this time. The Strategy will set an overall reduction target for the 5-year period within the context of the long-term and annual reduction targets set out in the Bill (as subject to review by the Minister). It will also set the policy context for the Carbon Budget and set out requirements in terms of

policy objectives for the various sectors in the economy.

3.3.12.2 Air Pollution Act, (1987)

In accordance with the Air Pollution Act 1987, local authorities are obliged to take whatever measures they consider necessary to prevent or limit air pollution in their area and the owners of certain industrial plants must obtain an air pollution licence from their Local Authority or the Environmental Protection Agency in order to operate certain industries that will be responsible for emissions. The EPA and local authorities have separate licensing arrangements and it is not necessary for a company to apply to both of them.

The local authorities play an integral role in preventing and combating air pollution. This includes:

- Monitoring of emissions or the ambient air in the area
- Assessing compliance with the relevant legislation
- Dealing with complaints with regard to air pollution
- Licensing certain categories of industry
- Enforcing the ban on the marketing, distribution and sale of banned fuel (usually bituminous coal)
- Organising and conducting research into the causes, extent and prevention of air pollution
- Establishing and running educational programmes about pollution and its prevention
- Supporting or assisting anyone engaged in any research, survey or investigation into the nature and extent, the cause and effect and the prevention or limitation of air pollution.

3.3.13 Landscape

3.3.13.1 A National Landscape Strategy for Ireland – Strategy Issues Paper for Public Consultation, (Sept 2011)

The Department of Arts, Heritage and the Gaeltacht has issued A National Landscape Strategy for Ireland – Strategy Issues Paper for Public Consultation, which sets out objectives and principles in the context of a proposed National Landscape Strategy for Ireland. This

strategy is being prepared in compliance with the European Landscape Convention.

This document sets out Ireland's aims and objectives with regard to landscape and positions it in the context of existing strategies, policies and objectives as well as the framework of the European Landscape Convention.

The National Landscape Strategy, when completed, will add to the suite of national plans (including the National Spatial Strategy 2002-2020 and the National Climate Change Strategy 2007-2012) which will be used to map out the future sustainable development of the country.

The main objective of the Strategy will be to set out a framework which seeks the right balance between management, planning and protection of the landscape.

3.3.12.2 Draft Landscape and Landscape Assessment Guidelines, (2000)

These Guidelines attempt to approach landscape appraisal in a systematic manner and recommend Landscape Character Assessment (LCA) as the method for assessment. LCA involves the characterisation of landscape based primarily on landcover (trees, vegetation, water etc) and secondly on the value (i.e. historical, cultural, etc).

LCA is intended to aid the development management process as it gives indicators of development types which would be suited to certain locations using certain design criteria and consequently the character of the landscape remains intact.

3.4

Regional Level Policies and Plans

3.4.1 Implementation of Regional Planning Guidelines Best Practice Guidance (2010)

The 8 Regional Authorities were established by the 1991 Local Government Act and came into existence in 1994. Under this Act, the Regional Authorities have two main functions: to promote the co-ordination of public service provision and to monitor the delivery of EU Structural Fund assistance in the regions. The Regional Authorities have specific responsibility for:

- Reviewing, as appropriate, the Development Plans of the Local Authorities in and, where relevant, adjoining the Region to consider the consistency of plans with one another and with the overall development needs of the Region.
- Preparing Regional Planning Guidelines and Regional Economic and Social Strategies.
- Promoting consultation, cooperation, and joint arrangements and actions among local authorities and other public bodies, including consideration by Public Authorities of the implications for, or the effect of, their decisions, activities or services on the Region.

The members of the Regional Authorities are not directly elected, but nominated from among the elected members of the local authorities in the region. Each local authority has a certain number of seats on a Regional Authority, based loosely on the population of the local authority area. The size of the Regional Authorities varies from 21 members in the Mid-East region to 37 members in the Border region.

This document updates previous best practice advice on Regional Planning Guideline (RPG) implementation, taking into account the new statutory provisions of the Planning and Development (Amendment) Act 2010.

It is now a requirement that RPGs must be set within the policy framework of the NSS, including its population targets, which are to be updated from time to time by the Minister. RPGs are a key enabler for the preparation of Core Strategies which are now a requirement for every development plan as they translate overall national and regional population targets and estimates of future housing requirements into city and county council figures.

3.4.2 Regional Planning Guidelines for the Greater Dublin Area (2010-2022)

The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 give effect, at a Regional level, to the national planning framework put forward in the National Spatial Strategy (NSS) and National Development Plan (NDP). They provide a Regional framework for the formulation of policies and strategy in the County Development Plan and seek to ensure the proper balance between the different settlements in the region with regard to development, population and services. The Guidelines present an updated Regional settlement strategy. They also set out 'Population Targets' for the region and for each County, including County Meath, which have been formulated having regard to the January 2009 'population targets' issued by the Department of Environment, Heritage and Local Government (DoEHLG) and supplementary guidance of August and October 2009.

Furthermore, the Guidelines outline a range of criteria for Development Plans in the context of population and settlement and identify strategic infrastructure investments for the region. This Regional guidance has influenced the development of the settlement strategy for County Meath. These criteria include the following:

- The Dublin and Mid-East regions will be attractive, vibrant locations for industry, commerce, recreation and tourism and will be a major focus for economic growth within the country.
- The Greater Dublin Area (GDA), through its ports and airport connections will continue to be the most important entry/exit point for the country as a whole, and as a Gateway between the European Union and the rest of the world. Access to-and-through the GDA will continue to be a matter of national importance.
- Development in the GDA shall be directly related to investment in integrated high quality public transport services and focused on compact urban form.
- Development within the existing urban

footprint of the Metropolitan Area (in Meath this includes the electoral divisions of Dunboyne and Rodanstown, which includes the environs of Maynooth and Kilcock) will be consolidated to achieve a more compact urban form, allowing for the accommodation of a greater population than at present, with much-enhanced public transport system, with the expansion of the built up areas providing for well designed urban environments linked to high quality public transport networks, enhancing the quality of life for residents and workers alike.

- Development in the Hinterland Area (which relates to the remainder of Meath excluding the electoral divisions of Dunboyne and Rodanstown) will be focused on the high quality integrated growth and consolidation of development in key identified towns, separated from each other by extensive areas of strategic green belt land devoted to agriculture and similar uses. These towns will have high levels of employment activity, high order shopping and full range of social services, with good road and bus linkages to other towns and by high quality public transport to the City and play key roles in serving the surrounding rural communities and smaller towns and villages.

3.4.3 North East Regional Waste Management Plan (2005-2010)

Meath is located in the North East region of the country in terms of waste management planning. The Waste Management Plan sets out the proposed policy for integrated waste management within the region and places an emphasis on waste prevention and minimisation through source reduction, producer responsibility and public awareness and the management of recovery/recycling/disposal of regional waste.

The Plan sets out targets for waste management to be achieved by 2015:

- 43% recycling
- 39% thermal treatment
- 18% landfill

The current North East region Waste Management Plan will remain in place until either reviewed or replaced.

3.4.4 Greater Dublin Strategic Drainage Study, (2001)

Parts of County Meath are within the study area of the Greater Dublin Strategic Drainage Study (GDSDS) The GDSDS sets out a recommended strategy for the long term drainage requirements for the Greater Dublin Region.

The study defined the issues facing the Region's drainage and has taken a strategic approach to address them, being:

- To relieve overloading at Ringsend Wastewater Treatment Works, while catering for committed development to 2011 of zoned lands and resolving pollution and flooding risks within the existing networks.
- To provide for necessary ongoing development in the Greater Dublin Region, while ensuring that existing networks, Ringsend and other local WwTWs can accommodate the needs of the existing catchments to 2031.

Implementation will involve a major programme of works, in parallel with systematic implementation of policies and operational recommendations. A strong co-ordinated regional approach to deliver successfully on these recommendations is required, together with further local detailed work to follow up on the strategic investigations undertaken by the Study.

3.4.5 Retail Strategy for the Greater Dublin Area (2008-2016)

The primary purpose of the retail strategy is to inform the statutory planning process and to ensure that adequate provision is made for retail development throughout the area.

The Strategy sets out the retail hierarchy for the GDA with Dublin City Centre at Level 1 of the hierarchy. Major town centres and county town centres are classified as Level 2 in the hierarchy and include Navan. Dunboyne will gradually develop over the next 20 years towards Level 2 status. Level 3 of the hierarchy

relates to town and/or district centres and sub county town centres, which within Meath are Ashbourne, Dunshaughlin, Kells, Trim, Laytown / Bettystown, and Enfield. Level 4 relates to neighbourhood and local centres, small towns and villages and Level 5 corresponds to corner shops and small villages.

The central key objectives of the Strategy are to promote the vitality and viability of town centres by:

- planning for the growth and development of existing centres;
- promoting and enhancing existing centres, by focusing development in such centres and encouraging a wide range of services in good environments which are accessible to all;
- integrating the provision of high quality retail development with mixed uses in towns and centres to create attractive, active places;
- Supporting the role of town centres as places to visit that have strong community and civic functions and are service centres for the surrounding population.

Other key objectives include:

- enhancing consumer choice by making provision for a range of shopping, leisure and local services, which generally allow choice to meet the needs of the entire community, including partially excluded groups and new areas of population growth;
- supporting high quality, well designed efficient, competitive and innovative retail in town centres as an overarching objective in local/town plans, mixed with leisure, tourism, culture, business and other sectors; and
- improving accessibility, ensuring that existing and new development is, or will be, accessible and well served by a choice of means of transport and where possible within walking distance.

3.4.6 Draft Transport Strategy for the Greater Dublin Area - National Transport Authority, (2010-2030)

The draft strategy document constitutes a strategic transport plan for the GDA for the

next 20 years. A number of fundamental tenets underlie the draft strategy objectives. These include the adoption of a hierarchy of transport users with pedestrians, cyclists and public transport users at the top of the hierarchy and consequently these users should have their safety and convenience needs considered first. A second key principle is the requirement that land use planning and transport planning need to be considered together in the overall development of the GDA region.

The land use measures set out in the strategy seek to:

- Focus person-trip intensive development, particularly key destinations such as retail and offices, into Dublin City and Designated Town centres within the GDA (for Meath these equate to the large growth towns I identified in the Regional Planning Guidelines for the Greater Dublin Area 2010, i.e. Navan and the Drogheda environs); and
- Focus any person-trip intensive development outside Dublin City and Designated Town centres to locations served by stations on the existing and proposed rail network (particularly Metro and DART).

3.4.7 Eastern River Basin District River Basin Management Plan (2009 – 2015)

The Eastern River Basin District covers the majority of County Meath and is one of eight river districts within the island of Ireland formed to aid the implementation of the requirements of the EU Water Framework Directive 2000/60/EC. The Directive requires the preparation of management plans for each district.

The ERBD RBMP sets out the objectives for the water bodies within the plan area and outlines actions necessary to achieve these objectives. In compliance with the WFD these are to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwaters which:

- (a) Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their

water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems;

- (b) Promotes sustainable water use based on a long-term protection of available water resources;
- (c) Aims at enhanced protection and improvement of the aquatic environment, including through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances;
- (d) Ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and
- (e) Contributes to mitigating the effects of floods and droughts.

The EU has published guidance documents on the implementation of the WFD. There are 26 in total and are designed to assist member states to implement the WFD. Principally they are intended to provide a method based approach to implementing the WFD but acknowledges actions will need to be tailored to specific circumstances of each EU Member State. For example Guidance Document No: 20 provides clarity on Article 4.7 of the Directive which gives an exemption for a deterioration in status caused as a result of a physical modification to the water body, for example, dredging or construction.

Small portions of the county are also within the Shannon River Basin District and the Neagh Bann River Basin District.

3.4.8 Eastern Catchment Flood Risk Assessment and Management (CFRAM)

The Eastern Catchment Flood Risk Assessment and Management (CFRAM) study commenced in the Eastern district in June 2011 and will run until the end of 2015. With a land area of approximately 6,300 km², the Eastern district accounts for one tenth of the land area of Ireland and 40% of its population with the majority living in the Greater Dublin Area.

The Catchment Flood Risk Assessment and Management (CFRAM) programme aims to

reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. The programme will meet the requirements of the European Union (EU) Floods Directive (Directive 2007/60/EC); the transposing regulations (S.I. No. 122 of 2010); and the 2004 national flood policy review.

To support the national CFRAM programme, a series of CFRAM studies on River Basin District (RBD) scale have been commissioned to allow detailed analysis to be carried out in areas requiring further assessment in relation to their flood risk. The studies focus on areas known to have experienced flooding in the past and will also address issues such as climate change, land use practices and future development.

The Eastern CFRAM Study has several key phases:

- 2011 - Flood Risk Review (FRR) to identify a decisive list of Areas for Further Assessment (AFAs);
- 2013 - flood risk maps and flood hazard maps will be drawn up for the AFAs;
- 2013 to 2015 - flood risk management objectives and flood risk management options will be developed;
- 2015 - flood risk management plans (FRMPs), including measures in relation to flood prevention, protection and preparedness, will be developed and will take a sustainable, catchment-based approach to assessing and managing flood risks.

3.4.9 Draft Fingal East Meath Flood Risk Assessment and Management Study (FEMFRAMS)

The draft study is being carried out to meet the requirements of the 2007 EU Floods Directive.

The objectives of the FEM FRAMS are to:

- Identify and map the existing and potential future flood hazard and risk areas within the study area.
- Build the strategic information base necessary for making informed decisions in relation to managing flood risk.
- Identify viable structural and non-structural measures and options for managing the flood risks for localised high-risk areas and within the catchment as a whole.
- Prepare a Flood Risk Management Plan for the study area, and associating Strategic Environmental Assessment, that sets out the measures and policies, including guidance on appropriate future development, that should be pursued by the local authorities, the OPW and other stakeholders to achieve the most cost effective and sustainable management of flood risk within the study area taking account of the effects of climate change and complying with the requirements of the Water Framework Directive.

The Flood Risk Management Plan will include prioritized studies, actions and works (structural and non-structural) to manage flood risk in the Fingal East Meath area in the long-term, and make recommendations in relation to appropriate development planning.

3.5

County Level

3.5.1 Corporate Plan for Meath Local Authorities (2009 – 2014)

The mission of the Corporate Plan for Meath is to drive the economic, social, cultural and environmental growth of our County in a balanced manner that is inclusive of all our citizens.

The Development Plan will be a primary tool in the achievement of this goal.

The following supporting strategies of the Corporate Plan relate to the environment of Meath:

- To protect, conserve and enhance a clean, safe and healthy environment for present and future generations.
- To ensure County Meath's impressive natural, built and cultural heritage is protected, conserved and maintained to the highest standards.

- To further enhance the physical appearance of towns and villages and to promote high standards of architectural design and construction, with Meath Local Authorities operating as an exemplar of creativity and innovation.
- To appreciate and enjoy the living history of the county's rich archaeological and cultural landscape which traces the county's "Royal Past", best exemplified by the magical Boyne Valley.
- To improve travelling times and road safety of all users by implementing efficient traffic management measures.
- To develop and improve Parks to facilitate passive recreation for all citizens.
- Producing a consistent supply of good quality potable water.
- Providing effective wastewater collection and treatment facilities whilst striving to realise the aims of the Water Framework Directive.
- Promoting sustainable urban drainage systems.
- To operate a system of physical planning, which facilitates and provides the impetus for economic development, whilst at all times fostering protection of the natural and built environment of the County.

3.5.2 Le Chéile – An Integrated Strategy for Meath to 2012

The strategy was launched in 2002. It sets out 184 actions to be implemented over the 2002-2012 period and has six overall objectives:

1. Secure sustainable economic and employment growth leading to improved living standards in County Meath;
2. Improve the international competitiveness of businesses in Meath and the capacity to attract inward investment;
3. Promote more balanced development throughout Meath;
4. Promote social inclusion in all parts of the county;
5. Improve quality of life for all sections of society in Meath;
6. Maintain and enhance the quality and diversity of the natural and cultural heritage.

An interim review of the strategy published

in 2005 identified 21 priority actions for 2005-2008, which were distributed under four headings: actions on economic, social and cultural infrastructure; actions in the productive sectors; actions in education, training and human resources; and actions in social, cultural and environmental facilities and services.

A further strategy review was published in 2009 identifying priority areas for the period 2009-2012 which consist of training and development, economic development, environment and sustainable energy and social inclusion. Actions across these areas are then detailed.

3.5.3 County Meath Heritage Plan (2007-2011)

The first County Meath Heritage Plan sets out 77 actions to be carried out over the five year Plan period to protect, manage and conserve the heritage of the county.

The Heritage Plan seeks to complement the Development Plan, and other statutory plans e.g. through the collection of relevant data, and by undertaking actions to ensure that heritage policy is effectively implemented.

The actions were arranged into four strategic themes:

1. Awareness and Education.
2. Baseline Data and Information.
3. Best Practice in Heritage Conservation and Management.
4. Integrating heritage within the Local Authority.

3.5.4 County Meath Biodiversity Action Plan (2008-2012)

The County Meath Biodiversity Action Plan was adopted in April 2010 and provides a framework for the conservation of biodiversity and natural heritage throughout the county. The Biodiversity Action Plan sets out a range of actions in terms of the biodiversity of Meath which have been divided into four strategic themes of:

1. Awareness and education.
2. Best practice in natural heritage conservation and management.

3. Baseline data and information.
4. Integrating biodiversity into the role of Local Authority.

The production of the Biodiversity Action Plan is an action of the County Meath Heritage Plan 2007- 2011 and an objective of the County Meath Development Plan 2007- 2013.

3.5.5 County Meath Groundwater Protection Scheme

Groundwater protection is a priority issue for local authorities as groundwater is an important source of water supply. Human action can have serious long term impacts on groundwater. The widespread disposal of domestic, agricultural and industrial effluents to the ground pose increasing risks to this important resource.

EU policies and national regulations require that pollution must be prevented as part of sustainable groundwater quality management.

The County Meath Groundwater Protection Scheme provides geological and hydrogeological information for the planning process, so that potentially polluting developments can be located and controlled in an environmentally acceptable way.

3.5.6 Brú na Bóinne World Heritage Site Management Plan (2002)

In 1993 Brú na Bóinne was listed by UNESCO as a World Heritage Site and the management plan was prepared to provide a clear strategy for managing the area which, including its buffer zone covers some 3,300 hectares.

The key objectives of this plan are:

- To ensure protection of its cultural and natural heritage by implementing legislation, cooperating with landowners and liaising effectively with planning / development authorities and other interested bodies.
- To undertake a monitoring programme of the impact of the conservation works at the megalithic tombs at Newgrange and Knowth and to prepare conservation strategies for all the archaeological sites, the Special Areas of Conservation and

Natural Heritage Areas in Brú na Bóinne.

- To provide a high standard of public access and interpretation of the site.
- To establish key priorities for research which will provide a greater understanding of the site's broad range of archaeological monuments.
- To maintain close co-operation with the local community, government departments and agencies to ensure the effective implementation of the management plan.

3.5.7 County Meath Wetlands and Coastal Habitats Survey

This survey was carried out to determine and map the type, extent and condition of wetlands and coastal habitats in the county. The study focuses on sites which lie outside of designated areas and as such do not currently receive protection from either the Wildlife (Amendment) Act 2000 or under the European Communities (Natural Habitats) Regulations, 1997. This project was an action of the County Meath Heritage Plan 2007-2013.

3.5.8 Transboundary Development Plans

The Development Plans of adjoining Planning Authorities were reviewed during the SEA process and transboundary consultation with the relevant Planning Authorities took place at the Scoping stage of the SEA process:

- Louth County Development Plan 2009-2015
- Kildare County Development Plan 2011-2017
- Fingal County Development Plan 2011-2017
- Cavan County Development Plan 2008-2014
- Westmeath County Development Plan 2008-2014
- Offaly County Development Plan 2009-2015
- Monaghan County Development Plan 2007-2013

3.6

Sub County Level Plans

The Meath County Development Plan 2013-2019 will be the guiding document for all sub-county level plans within Meath including any Local Area Plans (LAPs) for settlements within the County. Under the Planning and Development Act 2000 (as amended) Local Area Plans must comply with the policies and objectives as set out in County Development Plan for the area in which they are situated. Therefore if necessary, LAPs within Meath will

be amended to be brought into compliance with the new County Development Plan. Meath County Council intends to publish these variations within one year of the adoption of the new County Development Plan.

The settlements within County Meath that will be addressed by individual Local Area Plans and Town Development Plans are listed below:

- | | | |
|------------------------|------------------|---------------------|
| • Ashbourne | • Dunshaughlin | • Maynooth Environs |
| • Athboy | • Enfield | • Mornington |
| • Ballivor | • Gibstown | • Mornington East |
| • Bettystown | • Gormanston | • Moynalty |
| • Carlanstown | • Julianstown | • Navan |
| • Carnaross | • Kells | • Nobber |
| • Clonard | • Kentstown | • Oldcastle |
| • Crossakeel | • Kilbride | • Rathcairn |
| • Donacarney | • Kilcock | • Rathmolyon |
| • Donore | • Kildalkey | • Ratoath |
| • Drogheda South | • Kilmainhamwood | • Slane |
| • Drumconrath | • Kilmessan | • Stamullen |
| • Duleek | • Laytown | • Summerhill |
| • Dunboyne Clonee Pace | • Longwood | • Trim |

4

Environmental Baseline of County Meath

4.1

Introduction

The purpose of this section of the Environmental Report is to describe the relevant aspects of the current state of the environment within the Development Plan area. This baseline information outlines the environmental context within which the Meath County Development Plan 2013-2019 will be implemented.

The aim of this chapter is therefore to identify the following parameters;

- The key environmental baseline resources and sensitivities;
- The key environmental threats and trends; and
- The likely evolution of the environment in the absence of the Development Plan.

The baseline data allows for the “State” of the environment to be identified in objective terms. Where possible and where data exists a quantitative measurement of the environmental conditions is provided, however where such information is absent, qualitative descriptions of environmental themes are provided instead. Where important information deficits are noted, recommendations are provided in the mitigation

measures section to ensure that any absence of critical information will be addressed as part of the ongoing monitoring and review of the Development Plan.

The headings provided are in accordance with the legislative requirements of the SEA Directive. An emphasis is placed on the strategic elements of each aspect and where potentially relevant to Plan policy.

The topics addressed are:

1. Biodiversity, Flora and Fauna
2. Population and Human Health – Demographics *
3. Soil & Geology
4. Water
5. Air Quality and Climatic Factors
6. Material Assets
7. Cultural Heritage including Architectural and Archaeological Heritage
8. Landscape

** Human health is not considered directly in this report, but is instead dealt with through consideration of other environmental issues such as air quality, water quality etc.*

4.2

Technical Difficulties Encountered and Information Gaps

A sizeable volume of information was compiled and collated in relation to the environment of Meath during the preparation of this SEA. Recent National and County level studies on various aspects of the environment (water, cultural heritage etc) have resulted in a significant amount of data becoming available. However gaps do remain in information available, for instance in relation to complete ecological coverage, e.g. habitats, trees, hedgerows etc.

Technical difficulties encountered include a lack of availability of detailed conservation management plans for some Natura 2000 sites within the County. Further to this detailed information on health problems and related issues in the County were not available at the time of writing.

In addition to this the report Climate Change, Heritage and Tourism: Implications for Ireland's Coast and Inland Waterways prepared by the Heritage Council and Fáilte Ireland in 2009²

² Climate Change, Heritage and Tourism: Implications for Ireland's Coast and Inland Waterways, Heritage Council and Fáilte Ireland, 2009.

stated that the potential impacts of climate change on inland waterways are at the moment conjectural due to a lack of data on current status. The report suggests that to determine the impacts of climate change on heritage and its sensitivity to impacts the following actions are required:

- i. Baseline surveys of historic structures and the establishment of monitoring schemes to see if impacts are already identifiable, (including indirect impacts such as flood relief schemes);

- ii. Mapping/modelling of vulnerable areas (water supply, river flow) and of vulnerable structures (bog embankments, historic bridges, locks);
- iii. Planning for risk management of historic structures, and historic urban centres; and
- iv. Training staff of waterways and local authorities to deal with waterways emergencies.

The issues highlighted above are not currently in place and therefore represents a recognisable deficit in terms of assessing the potential critical effects of climate change on historical structures.

4.3

Study Area Overview

County Meath is located on the east coast of Ireland within the Greater Dublin Area and covers an area of 230,000 hectares. It is the second largest county in Leinster with Navan as its county town. Other main settlements within the County include Ashbourne, Dunshaughlin, Kells and Trim. The full Plan area is shown in Map 4.1.

The 2011 Census showed that the Plan area had a recorded population of 184,135 in 2011, an increase of 13% over the inter-censal period from 2006.

The principal town Navan is one of the largest towns in the Greater Dublin Area and is

classified as a Large Growth Town 1 in the Regional Planning Guidelines (RPGs) for the Greater Dublin Area 2010-2022.

The County hosts a wealth of historical and archaeological sites of national and international importance. The archaeological complex of Brú na Bóinne which has been designated as a UNESCO World Heritage Site and includes the burial sites of Newgrange, Knowth and Dowth, is located in the east of the county. The County also possesses a diverse range of landscapes, including 10 kilometres of coastline, the drumlin hills in North Meath, rich pastures, tracts of peatland and raised bog in the southwest and the central upland area.

4.4

Biodiversity, Flora and Fauna

4.4.1 Introduction

The natural heritage of County Meath is an important asset and a unique resource. The variety of habitats distributed throughout Meath are focussed around the Boyne and Blackwater rivers as well as along the short coastline which supports a wide range of rare or threatened

flora and fauna species. Protecting and conserving these habitats is critically important, not just to the residents of the County but also in a national and international context.

Also referred to as flora and fauna; biodiversity has been defined by the Convention of Biological Diversity as:

The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems

Biodiversity supports life on earth; it is a crucial part of all our lives and its economic value is being increasingly recognised. Not only does it underpin important economic sectors such as tourism and agriculture but it provides many other benefits which can be grouped into four main categories:

- **Provisioning services**
(production of food and water, etc.)
- **Regulating services**
(e.g. the control of climate and disease)
- **Supporting services**
(e.g. nutrient cycling and crop pollination)
- **Cultural services**
(such as spiritual and recreational benefits)

The importance of protecting our natural heritage has been recognised at an international level and takes into account that the condition of biodiversity within any particular nation can not be seen in isolation. Changes to biodiversity in one country can have international transboundary implications. (For instance deforestation in one country can lead to flooding in another or loss of habitats for migratory birds).

4.4.2 Designated Habitats

The EU has provided a basis for the legal protection of certain important ecological sites throughout Europe. Natura 2000 was established under the 1992 E.C Habitats Directive and is an EU wide network of such protected areas it provides for the designation and protection of sites that support annexed habitats and species by requiring, among other things, their favourable conservation status to be maintained or restored. The aim of the network is to assure the long-term survival of Europe's most valuable and threatened species and habitats. The Natura 2000 network is comprised of two main designations:

- Special Areas of Conservation (SAC); designated by Member States under the Habitats Directive, these sites are established for the protection and conservation of habitats and species listed in Annex I (habitats) and Annex II (species – not birds) of the EU Habitats Directive.
- Special Protection Areas (SPA); established under the 1979 Birds Directive these

sites are designated for the protection and conservation of Annex 1 (rare and threatened bird species) and regularly occurring migratory species, and for bird habitats.

These designations were transposed into Irish law under the European Communities (Birds and Natural Habitats) Regulations 2011, (S.I. No. 477 of 2011).

In addition to SPA and SAC designations Irish legislation contains a further designation for areas that are considered important for their habitats or which hold species of plants and animals whose habitats needs protection – these areas are known as NHAs (Natural Heritage Areas) and are designated under the Wildlife (Amendment) Act, 2000. NHAs are also designated to conserve and protect nationally important landforms, geological or geomorphological features.

Depending on their quality and importance, sites may carry multiple designations such as SAC, SPA, NHA, Ramsar site, Statutory Nature Reserve or Refuge for Fauna. Planning Authorities are obliged by law to ensure that these sites are protected and conserved.

Special Areas of Conservation (SAC) and Special Protection Areas (SPA) are protected under S.I. No. 477/2011 — European Communities (Birds and Natural Habitats) Regulations 2011, which consolidated the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010.

The designated habitats within County Meath are shown in Map 4.2 and such sites are listed in Table 4.1.

The importance of these sites is recognised in the existing plan and they will continue to be afforded protection through enforcement of current legislation and through the support of the Local Authority working in conjunction with other state/non-state organisations.

The protection of the integrity of Natura 2000 sites has been further legislated for under Article 6(3) of the Habitats Directive.

Under this legislation any plan or project not directly connected with or necessary to the management of a Natura 2000 site but that is likely to have a significant effect on such a site, either individually or in combination with other plans or projects, shall be subject to an Appropriate Assessment of its implications

for the site in view of the site's conservation objectives.

For a proposed plan or project to be approved its Appropriate Assessment must establish beyond reasonable scientific doubt that it will not have an impact on a Natura 2000 site.

Table 4.1: Areas Protected under EU and National Legislation

Sites within County Meath	
Candidate Special Areas of Conservation	Special Protection Areas
Boyne Coast and Estuary	Boyne Estuary
River Boyne and Blackwater	River Nanny Estuary and Shore
Rye Water Valley / Carton	Lough Sheelin
Mount Hevey Bog	River Boyne and Blackwater
White Lough, Ben Loughs and Lough Doo	
Lough Bane and Lough Glass	
Killyconny Bog (Cloughbally)	
Monybeg and Clareisland Bogs	

Sites within County Meath	
Proposed Natural Heritage Areas	Natural Heritage Areas
Ballyhoe Lough	Girley Bog
Ballynabarny Fen	Jamestown Bog
Balrath Woods	Molerick Bog
Boyne Coast and Estuary	
Boyne River Islands	
Boyne Woods	
Breaky Loughs	
Corstown Loughs	
Crewbane Marsh	
Cromwells Bush Fen	
Dowth Wetland	
Doolystown Bog	
Duleek Commons	
Kilconny Bog (Cloghbally)	

Sites within County Meath	
Proposed Natural Heritage Areas	Natural Heritage Areas
Laytown Dunes / Nanny Estuary	
Lough Naneagh	
Lough Sheelin	
Lough Shesk	
Mentrim Lough	
Mount Hevey Bog	
Rathmoylan Esker	
Rossnaree Riverbank	
Royal Canal	
Rye Water Valley / Carton	
Slane Riverbank	
Thomastown Bog	
Trim Wetlands	
White Lough, Ben Lough and Lough Doo	

4.4.3 Other Habitats

In addition to the areas protected by legislation many other important habitat types exist within County Meath and these sites play a significant role in the natural environment. The County Meath Wetlands and Coastal Habitats Survey (2010) compiled information on approximately seventy undesigned wetlands in the County. Amongst them are:

- Inland waters including rivers, springs, mesotrophic and eutrophic lakes
- Maritime wetlands
- Freshwater Marsh
- Raised Bog
- Cutover Bog
- Turloughs
- Fen and Flush

Furthermore within the County there are a range of other habitat types (broadly described

and classified in “A Guide to Habitats in Ireland” published by The Heritage Council, 2000). They include³:

- Grasslands
- Scrub
- Drainage ditches
- Lakes, Rivers and Canals
- Coastal Zones
- Inland Wetlands
- Peat Bogs
- Eskers
- Woodland – Riparian, Broadleaved and Mixed
- Agricultural or Cultivated Land
- Horticultural Land

These habitats have an important function in providing shelter and refuge to a host of animal and plant species alike. Species that are supported by these habitats in the Plan area include:

³ County Meath Wetlands and Coastal Habitats Survey, Meath County Council and Heritage Council, 2010.

- Badger,
- Common Newt,
- Deer, Frog ,
- Grey Heron,
- Kingfisher,
- Little Egret,
- Mallard,
- Moorhen,
- Reed Bunting,
- Sedge Warbler,
- Snipe,
- Teal,
- Water Rail,
- and a diverse variety of both fish and floral species.

4.4.4 Rare and Protected Species and Their Habitats

Certain plant, animal and bird species are rare and threatened. This includes nationally rare plants which occur in Meath, plants listed in the Red Data Lists of Irish Plants, the Flora Protection Order, 1999 (or other such Orders) and their habitats, birds listed in Annex I of the Birds Directive, and animals and birds listed in the Wildlife Act, 1976 and subsequent statutory instruments. Many of these species are protected by law.

A 2006 study⁴ surveyed the rare / threatened and scarce plant species for County Meath. A total of 25 species were found and of that number 7 of these species are currently protected by Flora Protection orders. In total four of the 25 rare/threatened and scarce vascular plant taxa recorded in County Meath have been located since 1990 and three have been relocated and surveyed in detail since 1998. Three of the plant records investigated in the field were found to have no remaining suitable habitat for the rare/threatened species recorded at the sites. In each of these cases the species was recorded as extinct for the site.

The Boyne River valley was investigated in detail during this survey. Although areas of suitable habitat were located for the two rare/threatened species most associated with the

river valley, *Hordeum secalinum* (Meadow Barley) and *Juncus compressus* (Roundfruit Rush), neither were found. The habitat for both of these species is wet meadows and pastures and the fact that they were not located at any of their sites could suggest that the management or ecology of the wet meadows found along the Boyne River has changed over time.

In addition, strict protection under the Habitats Directive applies to the species listed in Annex IV of that Directive, including all bat species, the otter, and all cetaceans. Where Annex IV species are present, all possible measures to avoid damage and disturbance to them must be taken in the formulation of proposals for development.

Invertebrates are abundant along soft sections of Meath coastline and are the main attracting feature for the waders and wildfowl that overwinter and breed along the coast.

4.4.5 Existing Environmental Issues

Biodiversity has become an integral part of the conservation of our wild areas. Ireland is one of 193 countries which are party to the Convention on Biological Diversity along with the other EU Member States and the EU itself. In its recent assessment, the Commission states that Europe is seeing the constant loss, degradation and fragmentation of natural habitats and entire ecosystems are also being pushed to the point of collapse.

Nationally, although significant progress has been made in the past decade, biodiversity loss has not been halted in Ireland. The status of many of our habitats and some of our species is judged to be poor or bad (Ireland's Second National Biodiversity Plan).

There are five main pressures causing biodiversity loss:

- habitat change
- overexploitation
- pollution
- invasive alien species
- climate change

⁴ Survey of Rare/Threatened and Scarce Vascular Plants in County Meath, BEC Consultants, 2006

The primary mechanism for conserving, protecting and enhancing biodiversity in Ireland is through the Actions for Biodiversity 2011-2016, Ireland's Second National Biodiversity Plan⁵, of which a key concept is that local authorities (and other agencies) share responsibility for the conservation and sustainable use of biodiversity.

The Plan states that the principal target is: "That biodiversity loss and degradation of ecosystems are reduced by 2016 and progress is made towards substantial recovery by 2020."

It is European and national policy to protect designated areas from development thus ensuring their long term protection. Therefore restrictions must be provided within the plan and indeed close to such areas where such development is incompatible with the site's long term protection. The National Parks and Wildlife Service is preparing management plans for the nation's natural assets which is likely to take some time to complete but will become a valuable tool in assessing the issues relevant to each site. The management plans will also provide mechanisms for their effective protection. Designated areas will form the basis of controlled development within the plan area and restrictions imposed on further development, which may adversely impact on the overall integrity of the protected area.

As stated previously, under the Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) an Appropriate Assessment is required for all plans or projects which may impact on sites designated as either Special Areas of Conservation or Special Protection Areas. The Local Authority will be obliged to seek such an assessment where the need arises. Furthermore landowners within specially protected areas are required to consult with the Minister for the Environment, Community and Local Government when considering carrying out certain activities. These are known as notifiable actions and include tree cutting, land drainage etc.

Threats to wetlands typically arise from man induced activities, which are often associated

with 'improving' the land for cultivation or exploitative use. In Meath the following threats/damage were recorded at wetland sites:

- Drainage
- Afforestation
- Infill
- Peat Cutting
- Invasive Species
- Enrichment
- Other Development
- Dumping
- Reclamation

Waste water treatment plants and water supply can also have significant impacts on wetland habitats.

The County Meath Wetlands and Coastal Habitats Survey identified littering as a particular problem in and around the coastal sites. Meath's proximity to Drogheda and north County Dublin make it particularly vulnerable. Another significant impact is the regular exercising of race horses - increasing the risk of sand blow outs and subsequent erosion.

The apparent decline in the occurrence of rare/threatened and scarce plant species in County Meath can be attributed to a degradation of semi-natural habitats within the County that is due in part to changes in agricultural practices, but is also due to development pressures on the land in the County, pressures that are increased by the County's close proximity to Dublin.

Alien species are plants or animals that have been introduced, usually by people, outside their natural range. Alien species can sometimes become 'invasive' when they spread rapidly and out-compete the native flora and fauna, pushing out native species and/or leading to environmental degradation. Invasive non-native plant and animal species are the second greatest threat to biodiversity worldwide after habitat destruction.

Invasive species can be particularly problematic in aquatic systems. They can have a negative

⁵ Actions for Biodiversity 2011-2016, Ireland's Second National Biodiversity Plan

impact on recreational and amenity use of waterways, as well as threatening native ecosystems.

Examples of invasive species in Meath include Japanese knotweed (common along roadsides), giant hogweed (grows along river banks and on waste ground), and the grey squirrel (largely responsible for the decline of the red squirrel).

Part 6 of the European Communities (Birds and Natural Habitats) Regulations 2011 contain important new provisions to address the problem of invasive species in Ireland. The regulations contains a list of flora for which it is an offence to plant, disperse, allow or cause to disperse, spread or otherwise causes to grow in any place specified in relation to that plant. It also contains a list of animals for which it is an offence to breed, reproduce or release or allow or cause to disperse or escape from confinement.

Climate change has the potential to significantly impact on the biodiversity of County Meath. In fact it is now widely recognised that biodiversity and climate change are interconnected. Biodiversity is affected by climate change, with negative consequences for human well-being, while biodiversity, through the ecosystem services it supports, also makes an important contribution to both climate-change mitigation and adaptation.

Temperature increases of only 1 or 2 degrees are predicted to have significant negative impacts on biodiversity and increases in flooding events which would have the potential to lead to severe habitat loss and fragmentation.

4.4.6 Effects of Not Implementing the Plan

County Meath has a varied and diverse natural heritage and as such there are many plans and

guidance documents at European, National and Local level, which aim to guide development in order to ensure that this natural heritage is protected.

However, in the absence of the new Plan there would be no long term framework or guidance for development within Meath. As a result, each planning application in the plan area would be determined in isolation and there would be no assessment of long term, cumulative or causal impacts on sensitive habitats and biodiversity. This would invariably lead to habitat loss and fragmentation.

Pressures on natural resources would continue although the rare or threatened habitats, protected under EU and national legislation would continue to be afforded protection. The Local Authority does have control over activities which may adversely impact the sites both directly and indirectly. Certain activities such as Wastewater Treatment facilities, increased runoff due to urbanisation etc. are all factors which influence the Development Plan process. In the absence of the plan and careful consideration of the potential outcomes, deterioration in at least some of the protected areas would result. Also other important habitats, currently not listed or proposed for statutory designation would be susceptible to adverse changes through incompatible uses, resulting in a diminished natural environment and loss of biodiversity.

Developments along riverbanks would result in a reduction in ecological connectivity within and between these and other habitats. Pollution of various water bodies may occur from developments along the edges of water bodies or where single dwelling units discharge to groundwater.

4.5

Population, Human Health and Quality of Life

4.5.1 Introduction

This section discusses the impact of the Development Plan on the population of County Meath. An overview of the current and estimated future population and the issues affecting quality of life are discussed. Human health data for the County is not readily available. However, impacts on human health and quality of life may derive from any of the environmental parameters discussed throughout this Chapter. Ultimately, all of the effects of a development on the environment impact upon human beings and their quality of life, both positively and negatively. Direct effects relate to matters such as water and air quality, noise, and landscape change. Indirect effects relate to such matters as flora and fauna. Accordingly, the topic of human beings and their quality of life is addressed in this Environmental Report by means of an appraisal of the indirect effects, etc. of the Development Plan on the other environment parameters, of which human beings and their quality of life are

an integral part. Where appropriate, mitigation measures to reduce/avoid adverse impacts are identified and incorporated into this Report and the Plan under the other environmental parameters.

4.5.2 Population Trends

Three major trends determine population change, namely; the number of births, the number of deaths and migration to and from a location. The 2011 Census results recorded a population of 184,135 in County Meath. This constitutes an increase of 13% since the previous census in 2006. This increase is the second largest proportional growth of any County in the Greater Dublin Area and is almost 5 percentage points higher than overall State growth. Table 4.2 below shows the actual and percentage population growth within the Plan area compared to the State, Leinster and the other counties within the Greater Dublin Area (GDA) and Louth over the 2006 – 2011 period.

Table 4.2: Actual and Percentage Population Growth 2006-2011

	Population 2006 (No.)	Population 2011 (No.)	Actual Population Change (No.)	% Pop Change
State	4,239,848	4,588,252	348,404	8.2
Leinster	2,295,123	2,504,814	209,691	9.1
Dublin	1,187,176	1,273,069	85,893	7.2
Dublin City	506,211	527,612	21,401	4.2
Dún Laoghaire- Rathdown	194,038	206,261	12,223	6.3
Fingal	239,992	273,991	33,999	14.2
South Dublin	246,935	265,205	18,270	7.4
Kildare	186,335	210,312	23,977	12.9
Longford	34,391	39,000	4,609	13.4
Louth	111,267	122,897	11,630	10.5
Meath	162,831	184,135	21,304	13.1

No information has yet been published with regard to the level of growth that was experienced by individual development centres within the County. However the Preliminary Census 2011 Results indicates the level of growth experienced by Electoral Divisions (EDs) over the inter censal period. An Electoral Division can be defined as the smallest legally defined administrative area in the State for which Small Area Population Statistics (SAPS) are published from the Census. The Irish State contains 3,440 Electoral Divisions, 92 are contained within County Meath, with the ED of St. Mary's straddling the Meath–Louth border.

Within Meath, population growth has been concentrated along the east of the County and along the south eastern border with Fingal. In particular the EDs of Ratoath, Dunaghmore, Dunboyne, Stamullen, Julianstown, as well as Navan and Navan Rural have experienced considerable growth over the past fifteen years.

Ten of the 92 EDs of County Meath have seen a reduction in population between 1996 and 2011 with Trim Urban seeing the greatest loss with a reduction of 14.1% (179 people). These

EDs are primarily located in the more rural parts of the County. Between 2006 and 2011 the population of Kells town and its surrounding EDs of Kells Rural, Teltown, Boherboy and Loughan have all experienced population declines ranging from -1% to -7%. Map 4.3 shows the population growth of the EDs within County Meath between 2006 and 2011. Figure 4.1 below shows the Electoral Divisions in County Meath which have experienced population decline from 1996 to 2011.

The remaining EDs in County Meath have increased in population over the past four Census periods with 43 EDs experiencing growth in excess of 20% compared to their 1996 recorded populations. The population of Ratoath in the south of the County has seen a considerable 71% increase over the past fifteen years, with an extra 7,502 people now living in the area. The ED of St. Mary's has also increased extensively, with an extra 7,243 people enumerated on Census night 2011 representing a 67% population increase since 1996. Figure 4.2 shows a graph of the ten EDs within Meath that have experienced the greatest actual population growth since 1996.

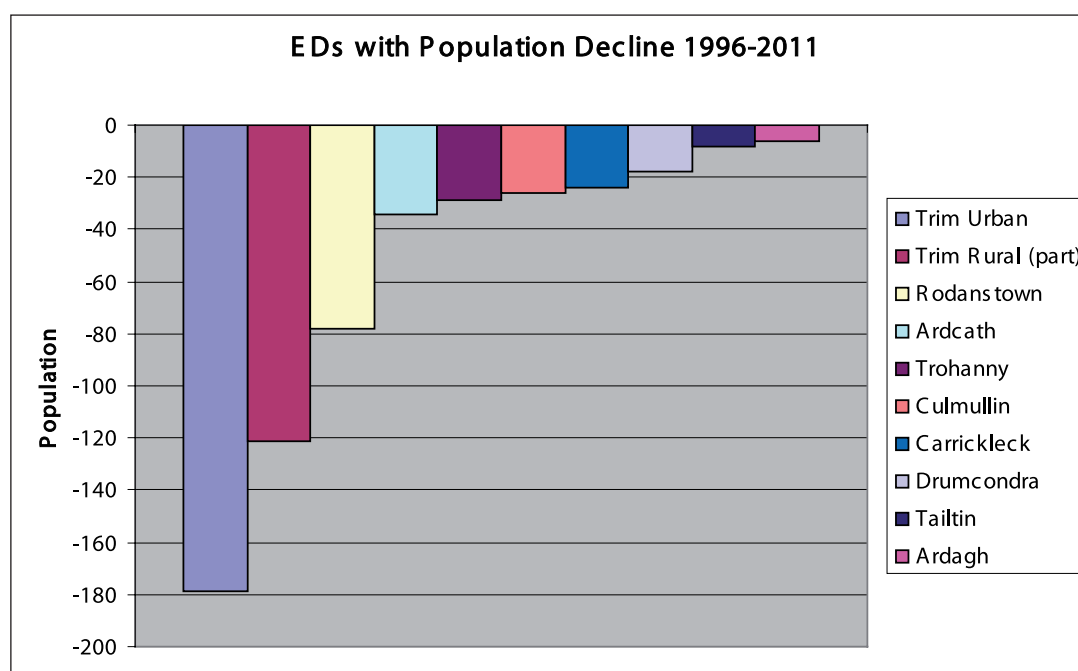


Table shows change in population (by number) from 1996 to 2011

Figure 4.1 Electoral Divisions in County Meath with declining populations 1996-2011

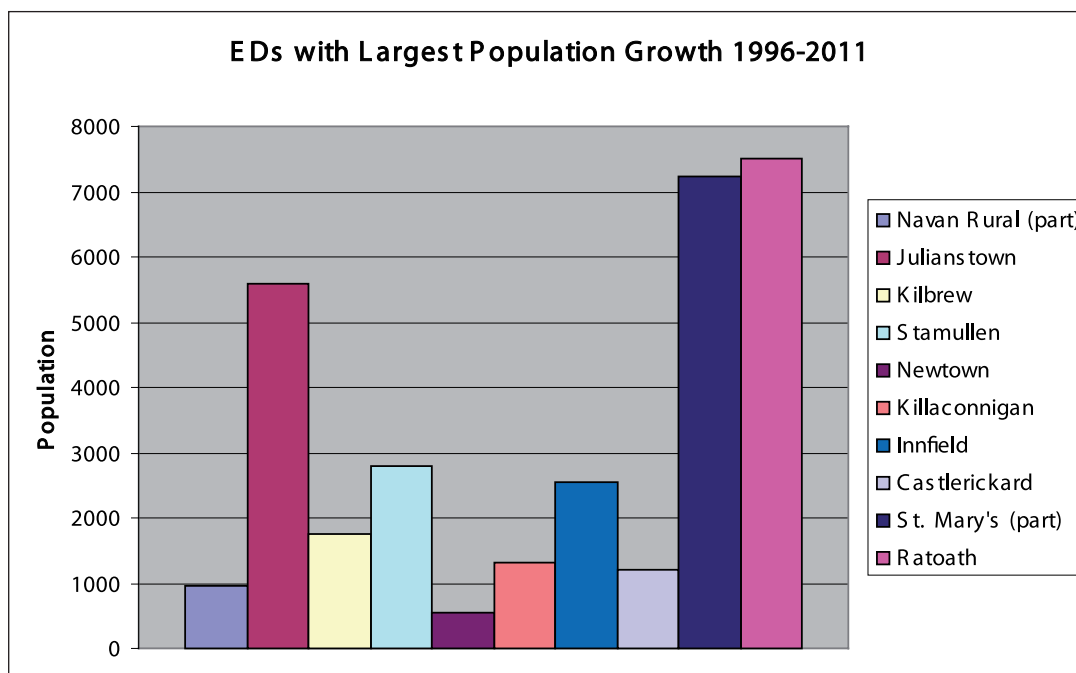


Table shows change in population (by number) from 1996 to 2011

Figure 4.2 Electoral Divisions in County Meath with Largest Population Growth 1996-2011

4.5.3 Household Sizes

The national trend is one of falling household size from an average of 3.14 persons per household in 1996 to 2.7 in 2011 (Census 2011). County Meath has recorded a slightly higher average of 3 persons per household in 2011 which constitutes the highest average of the counties in the Greater Dublin Area. This suggests family units and demonstrates the County's desirability to this group both as an attractive place to live but also due in part to its relative affordability and proximity to Dublin.

4.5.4 Housing Stock and Vacant Dwellings

The total stock of houses in the country grew by 234,562 (13.25%) between 2006 and 2011, rising from 1,769,613 units to 2,004,175 units.

The 2011 census figures show that there are currently over 6300 vacant dwellings in County Meath. This represents a decrease of 120 dwellings since the 2006 census. The vacancy rate of the County has fallen over the previous census period to 9.1% and is below the State vacancy rate of 14.7%. Meath has the fifth lowest vacancy rate in the Country which is probably a result of its proximity to Dublin.

Vacancy rates in counties with a high number of holiday homes are generally considerably higher. The Regional Planning Guidelines set an appropriate vacancy rate of 6.5% which reflects the level needed for the market to operate efficiently and normal turnover of stock. Therefore with a rate of 9.1% in 2011 it is clear there is currently an excess of housing stock within Meath. This excess stock should be taken into consideration when calculating future housing need for the County.

4.5.5 Population Projections

Population projections are a central component of any County Development Plan as they have a direct impact on various housing, community, and educational provisions and assist in determining future development and how to plan for it. In 2009, the DoEHLG published a set of population targets for each region in Ireland for 2022. In accordance with the Planning and Development (Regional Planning Guidelines) Regulations 2009 the Regional Planning Guidelines (RPG) for the Greater Dublin Area have divided this population target for the region amongst the seven counties within the GDA. County Development Plans must be formulated to comply with the targets set out in the Guidelines. Table 4.3 below sets

out the RPG population targets as they apply to the individual counties within the GDA region. The population of County Meath in 2016 is

anticipated to be 195,898, rising to 210,260 people by the year 2022.

Table 4.3: Population Targets for Local Authorities⁶

Council	2011 Census (No.)	2016 Pop Target (No.)	2022 Pop Target (No.)
Dublin City	506,211	563,512	606,110
Dun Laoghaire Rathdown	194,038	222,800	240,338
Fingal	239,992	287,547	309,285
South Dublin	246,935	287,341	308,467
Kildare	210,312	234,422	252,640
Wicklow	136,640	164,280	176,800
Meath	184,135	195,898	210,260
GDA Total	1,662,536	1,955,800	2,103,900

With a recorded population of 184,135 in 2011, Meath County Council must therefore plan for a population increase of 11,763 people over the next four years and 26,125 up to the year 2022. This population increase must include the natural increase in population (current population – deaths + births) as well as any immigration to or from the County.

The RPGs also set out the housing allocation for the Local Authorities within its administrative

area. (See Table 4.4 below) It proposes the development of 18,472 additional dwellings in Meath up to 2016 and a further 15,729 up to the year 2022. The RPGs state that 11% of the total housing allocation for Meath is to be developed within parts of the County that fall within the Metropolitan area of the GDA. Figure 4.4 highlights the Metropolitan and Hinterland areas of the Greater Dublin Area.

Table 4.4 Housing Allocation for Local Authorities in the GDA (from RPG GDA 2010-2022)

Authority Area	2006 Census (No.)	2016 (No.)	2022 (No.)
Dublin City	223,098	265,519	319,903
Dun Laoghaire/ Rathdown	77,508	98,023	117,893
Fingal County	89,909	118,646	142,144
South Dublin	87,484	115,373	137,948
Kildare	68,840	93,748	112,477
Meath	61,257	79,729	95,458
Wicklow	49,088	68,351	82,012
GDA Total	657,184	839,389	1,007,835

⁶ Regional Planning Guidelines for the Greater Dublin Area 2010-2022, Page 83

4.5.6 Settlement Strategy

The allocation of future population and housing within Meath must comply with the settlement strategy for the County as set out in the National Spatial Strategy and Regional Planning Guidelines for the GDA (as shown in Figure 4.3 below). The Settlement Strategy aims to promote the potential of the GDA as an international gateway; develop consolidated and sustainable cities and towns and support high quality public transport; and increase opportunities for walking and cycling.

Within the settlement strategy for the GDA, Navan is identified as a Large Growth Town 1. These towns are described as “key destinations, economically active towns supporting surrounding areas located on Multi Modal Corridor in Metropolitan Corridor”⁷.

Dunboyne is classified as a Large Growth Town II, such towns are defined as urban areas which are smaller in scale than Large Growth Town I, but are strong active growth towns, economically vibrant with high quality transport links to larger towns/city.

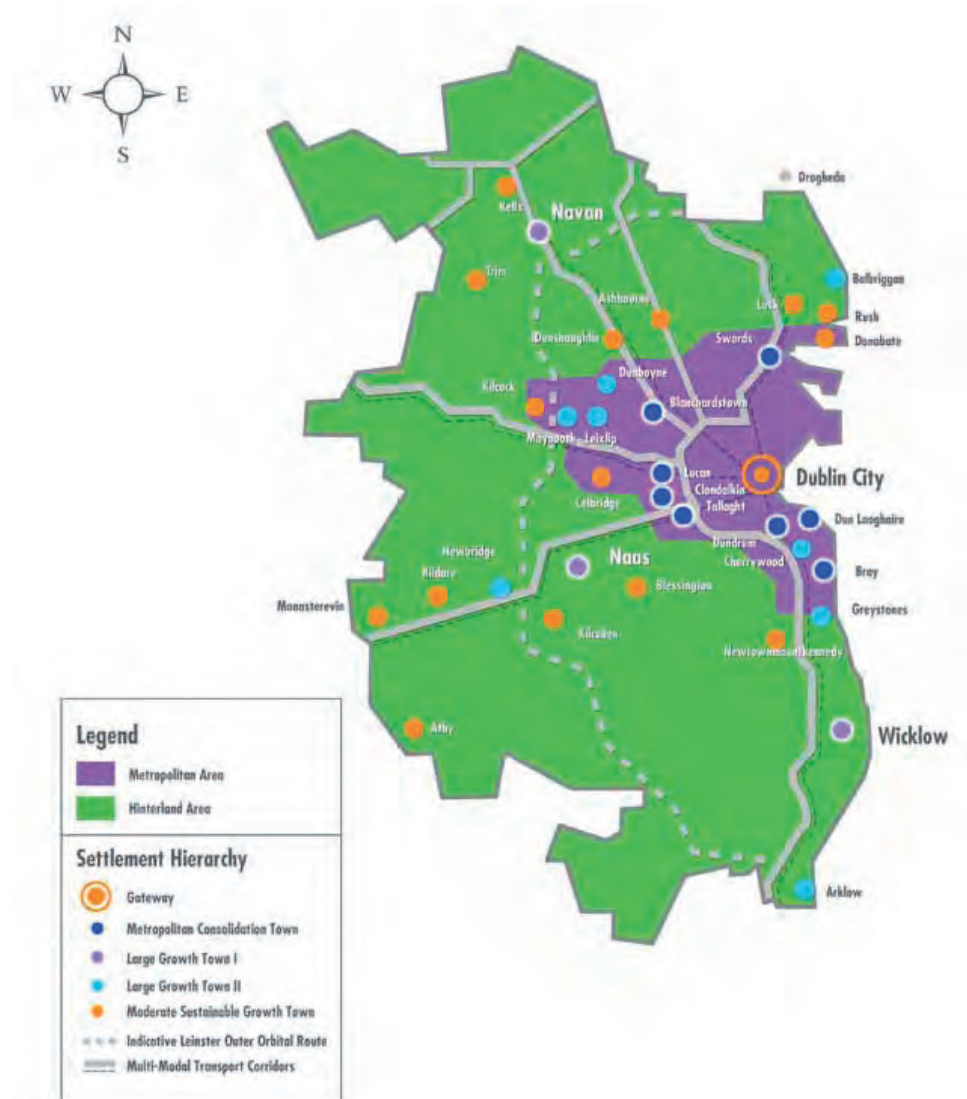


Figure 4.3 Settlement Strategy from the Regional Planning Guidelines for the Greater Dublin Area, 2010-2022

Table 4.5 sets out the Settlement Hierarchy for Meath as outlined in the Core Strategy for Meath included in the Meath County

Development Plan 2013-2019. The settlement structure for the County can be seen in Map 4.1.

⁷ Regional Planning Guidelines for the Greater Dublin Area 2010-2011, Page 5

Table 4.5: Core Strategy Settlement Hierarchy for County Meath

Type of Settlement	County Meath Settlement Hierarchy Centres
Large Growth Town I	Navan, Drogheda Environs
Large Growth Town II	Dunboyne, Maynooth Environs
Moderate Sustainable Growth Towns	Ashbourne, Kells, Trim, Kilcock Environs, Dunshaughlin ⁸
Small Towns	Athboy, Bettystown/Laytown/Mornington East, Duleek, Enfield, Oldcastle, Ratoath, Stamullen
Villages	Ballivor, Carlanstown, Carnaross, Clonard, Clonee, Crossakiel, Donore, Drumconrath, Gibbstown, Gormonston, Julianstown, Kentstown, Kilbride, Kildalkey, Kilmainhamwood, Kilmessan, Longwood, Mornington/Donacarney, Moynalty, Nobber, Rathcairn, Rathmolyon, Slane, Summerhill

4.5.7 Commuting Patterns and Distance to work

A persons' journey to their place of work or school is a factor in determining their quality of life. In addition it is also a measure of the sustainability of settlements; how does a settlement maximise the proportion of the population working as well as living within them? The commuting patterns, highlighted below, are of some concern as they reflect an unsustainable reliance on private car based travel within the County. Often places of work

or education are extensive distances from an individual's places of residence.

Figure 4.5 highlights the modes of transport used by the population of Meath in 2006. By far the highest proportion of people, 62% within Meath, used private cars (either as driver or passenger) as their means of travel to school, work or college. This is almost 30% greater than the proportion of Dublin City residents. The levels of walking, cycling and train usage in Meath were lower than the State and the other counties in the GDA.

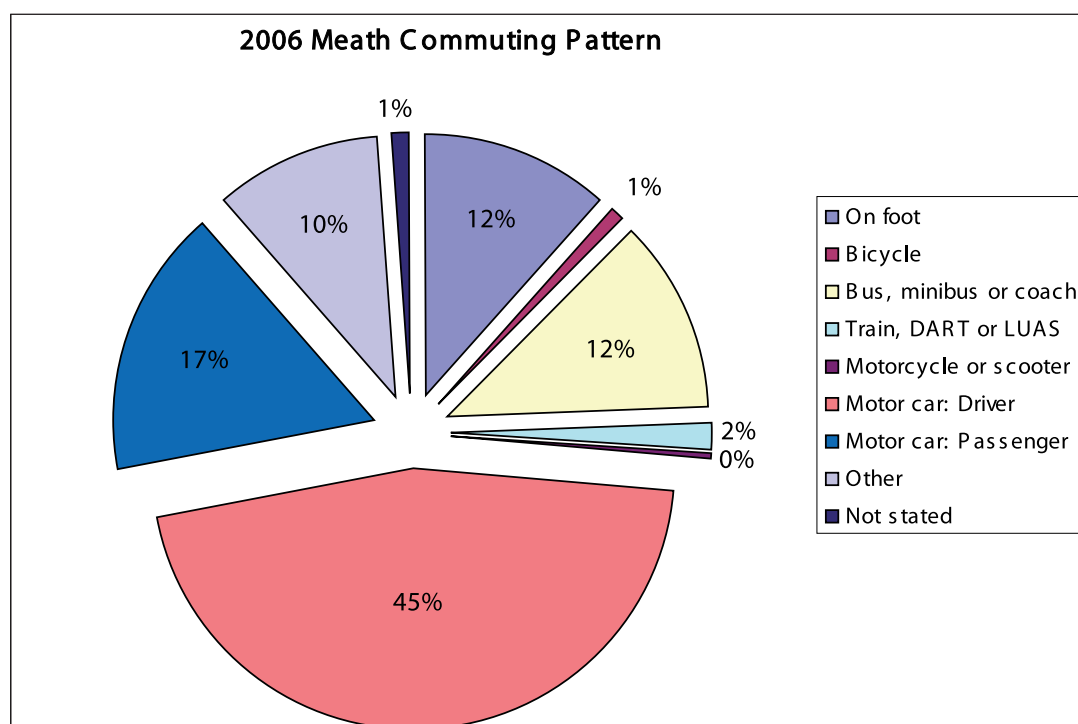


Figure 4.5: Census 2006 Commuting Pattern County Meath.

⁸ Dunshaughlin will become a Moderate Sustainable Growth Town following the granting of permission of a railway order for the Navan Rail Line Phase II, including a station at Dunshaughlin.

Results from the 2006 census regarding commuting distances for the population of County Meath indicate that residents commute the furthest distances compared to the remaining population of the GDA. Almost 18% of the population commuted distances between 25 and 49 kilometres with a further 8.9% commuting distances in excess of 50km. Such lengthy distances will have obvious negative impacts on the quality of life for inhabitants and reflect an unsustainable pattern of development.

4.5.8 Radon

Radon is a radioactive gas which is naturally produced in the ground from the uranium present in small quantities in all rocks and soils. Tiny radioactive particles are produced by the gas which when inhaled can cause lung cancer. The risk of contacting lung cancer as a result of Radon depends on how much Radon a person has been exposed to over a period of time. Radon levels in the County have been collated from the Radiological Protection Institute of Ireland. Results show that there are parts of Meath in which residents are at a higher risk of being exposed to Radon; these areas include Stamullen / Gormanstown, Dunshaughlin / Oberstown, and Athboy.

4.5.9 Noise

Environmental noise is described as unwanted or harmful outdoor sound created by human activities, including road, rail, air traffic and industry. EC Directive 2002/49/EC deals with the regulation of environmental noise. It does not apply to domestic noise. The directive is implemented in Ireland by the Environmental Noise Regulations 2006 (S.I. 140/2006).

The Regulations allow for action to be taken by each member state, with a view to preventing and reducing environmental noise, particularly where exposure levels can induce harmful effects on human health and to preserving environmental acoustic quality where it is good.

The Regulations have designated the relevant local authorities as the bodies charged with development and making of Noise Action Plans. Meath County Council and Navan Town Council (The Councils) prepared a Noise Action Plan in

2008. Under the requirements of the legislation the Councils are responsible for noise action planning relating only to the major roads passing through their functional area. There are no agglomerations subject to noise mapping or action planning within their jurisdiction.

For the purposes of noise action planning, it was proposed to define lands and properties within a 1km band, centered on the carriageway, as being near a major road with the exception of sections of major roads passing through developed areas. Accordingly it was proposed that, within a built up area, only properties in the immediate vicinity of the road be designated as being near the source. Based on these definitions, a number of sections of roadway qualified for noise mapping and, as such, are subject to consideration for action planning.

Certain locations and building types are considered to be more sensitive to noise pollution than others. The main priority of the Environmental Noise Directive (END) is to reduce environmental noise exposure in residential areas. It is also recommended that competent authorities designate buildings such as educational and health care facilities as being noise sensitive.

Aside from noise mapping areas the noise environment in County Meath varies from town centre noise which would be influenced by local noise sources such as building services equipment, serving shops and restaurants, traffic in rural areas where the noise environment would be influenced by community noise sources such as local traffic, agricultural activity etc.

4.5.10 Existing Environmental Issues

Significant environmental issues exist with regard to the population of County Meath. The unprecedented growth of the past fifteen years has placed considerable strain on the County's ability to adequately provide the physical and social infrastructure needed to support its growing population. It is well known that the settlement pattern in County Meath has resulted in a pattern of unsustainable commuting which has been shown to have a negative impact on human health and quality of life.

Challenges for the future include retaining the young working population of Meath to prevent high levels of emigration by encouraging them to live and work in the area.

As stated above there are several locations throughout the County that are at high risk of Radon exposure.

The Noise Action Plan for Roads states that there are three main settlement areas within the County that are exposed to environmental noise from roads. They are: Navan and Dunshaughlin on the N3 and residential developments situated along the R132 regional road including Julianstown. Ribbon settlements along sections of national road within the County are also exposed to environmental noise but there is minimal exposure along Motorways within the County as a result of their route selection and also due to mitigation measures contained within their respective Environmental Impact Statements.

Several locations throughout the County have been found to be exposed to environmental noise levels over the accepted thresholds. Map 4.4 highlights the areas of the County at risk from environmental noise.

4.5.11 Effects of Not Implementing the Plan

In the absence of the MCDP 2013-2019 there would be no structure within which to regulate, aid and/or control development within the County. The absence of regulated development would lead to further imbalances in population distribution in particular areas within the County (most likely in the areas closest to Dublin city) placing pressure on service provision and infrastructural facilities. This would have negative impacts on human health and quality of life as well as adversely affecting the natural environment. Without an agreed target population and suitable zoning of settlement land all of the environmental parameters would be adversely affected to varying degrees.

4.6

Soil and Geology

4.6.1 Introduction

The upper most layer of the earth's surface is generally termed "Soil". It comprises for the most part organic matter, minerals and fine to course grained weathered rocks. The variability in the constituent parts and the percentage content of each in the soil matrix results in differing characteristics. This has implications for suitable land use and the appropriateness for differing land use practices.

Geology encompasses the understanding and study of the solid and liquid matter that constitutes the earth and the processes by which they are formed, moved and changed. Its understanding is necessary to fully appreciate the geological factors that shape and influence the world and its particular structure.

4.6.2 Soils

Soil can be defined as the top layer of the earth's surface. It consists of fine to course grained rock and mineral particles, organic

matter (the remains of plants and animals) and the living organisms that reside in the soil.

Soils are classified on a broad scale into soil groups, each of which consists of a collection of closely related soil series. Each great soil group consists of soils sharing one or more distinguishing features in common. Only the more prevalent soil groups and series are discussed here. Map 4.5 shows the soils and subsoils of County Meath based on the EPA's Soil Mapping Project.

4.6.2.1 Brown Earth Group

Generally well drained, mineral soils with a uniform profile showing little variation throughout the profile. They are generally noted as good arable soils. The nutrient status of the brown earths tend to be low when in their natural state, however they respond well to fertiliser applications.

- Kells Series
Covers some 11% of County Meath, this

series is found in two distinct areas, in the northwest within a triangle between Oldcastle, Southeast of Kells and north of Moynalty. The second area is in the north east stretching from Kilberry through Rathkenny and Lobinstown. The Kells Series is classified as a Brown Earth of low base status.

4.6.2.2 Grey Brown Podzolics

They are moderate to well drained, possess a moderate structure and are usually mildly acidic to neutral. They are generally a good all-purpose soil and can be productive under most conditions.

- **Dunboyne Series**
This series covers over 10% of the county area. It is primarily found east of a line running from Navan to Summerhill. This is a deep, moderately well to well drained soil of medium to high base status. The Dunboyne Series has a wide range of uses. Due to their heavy texture, weak structure and sticky consistency they are not considered ideal for tillage purposes. They will under good management practices grow a variety of arable crops and root vegetables.
- **Patrickswell Series**
This series covers some 7% of the county land area. Apart from a large area east of Trim it is generally found in the southwest of the county. Where these soils occur the topography is generally undulating to gently rolling.
- **Rathowen Series**
This series occupies almost 14% of the county's land area. It is mostly found west of a line from Drumconrath in the north to Laracor in the south. The soils within this series are deep to moderately well drained. It is ideal for grassland is also useful for the production of vegetable crops such as roots, potatoes etc.

4.6.2.3 Podzol Group

These soils are intensively leached are considered to be degraded soils. Podzols are generally poor soils with high lime and fertiliser requirements. Under appropriate management regimes they can be productive agricultural

soils, however they will revert to semi natural vegetation if left unmanaged. They are mostly used for rough grazing and forestry.

- **Ashbourne Series**
This series is the most extensive within the county occupying some 17% of the land area. It is found mainly east of a line running from Slane to south of Summerhill. They have a heavy texture and a weak structure and therefore its uses for agricultural purposes are limited. However where drained and under a high level of management it can be a highly productive grassland soil.
- **Streete Series**
This series occurs mainly in the north of the county and occupies some 8% of its land area. They occur where the elevation is above 60 metres in the mid and west of the county to nearly 200 metres in the Drumlin area in North of the county. The heavy nature of the soil limits this soil's use to grassland production. In order to achieve good grass production drainage may be required.

4.6.2.4 Mineral Soil Complexes

Mineral soil complexes occur where no one soil predominates. There are several such complexes found throughout Meath:

- **Patrickswell-Baggotstown-Elton Complex**
The major occurrence of this soil type is in a broad belt west of Slieve na Callaigh and stretching north-westerly direction towards Lough Sheelin. It covers approximately 4.26% of the county area. This soil complex has in general a wide range of uses. Good yields of arable crops and root vegetables can be achieved over wide areas within this complex particularly where the topography is more gentle.
- **Ladestown – Rathowen – Banagher Complex**
This soil complex is found in two main areas; in the north within a triangle formed by Wilkinstown, Carlanstown and Syddan; and in the northwest south of Sliabh na Callaigh extending as far south as the Westmeath border. The complex extends to over 3.7% of the land area of the county.

The soils complex is somewhat limited in its range of suitability for various farming activities.

- **Boyne Alluvium Complex**
These soil complexes occur as the name suggests along the Boyne River but also along many of its tributaries. As such it occupies some 4.4% of the county's land area and is found around Longwood, Clonard, Ballivor, Kildalkey, and south of Athboy on the rivers Clonard/Kilwarden, Blackwater, Stonyford, and Tremblestown. The Boyne Complex is also found on the Nanny River and its tributaries.

4.6.2.5 Peat Soils

Peat soils make up only a tiny fraction of the land area within the County. Typically peat soils have an organic content above 30% and are at least 30cm in depth. Only two types of peat occur in the country, blanket and basin peat. Blanket peat is absent from the County however two types of basin peat are found - Fen Peat and Raised Bog Peat.

- **Fen Peat**
This peat type is formed under the influence of base-rich groundwater and is composed mainly of reeds, sedges and other semi aquatic or woody plants. Peat soils of this type occur in river valleys and interdrumlin hollows. Two fen peats occur in Meath, one is the unreclaimed fen peat, Pollardstown series and the other is reclaimed peat, Banagher series.
- **Raised Bog Peat**
Under suitable climatic conditions raised bog peat may build up over fen peat. As the depth of fen peat increases the living vegetation is less defined by groundwater and becomes increasingly dependent upon precipitation as a source of moisture. Extensive areas of raised bog have been cut over and large areas on the western border of the county are under development by Bord na Móna for peat.
- Within this group there are two series, Allen and Gortnamona. Combined they occupy some 2.5% of the county's land area. Their suitability for agricultural purposes is limited but the Gortnamona

series can suit grassland production. However the use of raised peat bog is generally confined to extraction for compost fuel purposes and/or forestry development.

4.6.3 Geology

An audit of County Geological Sites in Meath was carried out in 2007 by the GSI in association with the Heritage Council and Meath County Council. It was carried out as an action of the County Meath Heritage Plan 2007-2011.

County Meath is a place with a subtle but distinctive landscape formed over hundreds of millions of years by various geological processes. The bedrock foundation and the more recent history of geomorphological processes involving river channels and glaciers are what have created an underlying geological diversity. Map 4.6 shows the Geology of County Meath.

Meath is dominated by a broad, smooth surface which takes up much of the southern and central parts of the county. These smooth areas represent large expanses of a till plain. One of the most striking features of this glacial landscape occurs in the area between Benhead and Gormanston where a large flat outwash plain of sand and gravel has been deposited. Other examples of meltwater deposited features include the esker at Murrens and the delta fan formation at Rathkenny. The high relief, bumpy topography around Ardagh to the north, exposes a glacially streamlined landscape. This area is a classic example of a large scale drumlin field. A number of very pronounced gorges cut into Meath's landscape representing modern fluvial systems that occur within pre-existing glacial channels. The Boyne Valley is the best example of this.

Predominantly all geological formations within the County are of Palaeozoic age. The principal rock types are:

- Ordovician and Silurian formations;
- Upper carboniferous shale; and
- Carboniferous Limestone.

Most of the bedrock underlying the County

consists of Lower Carboniferous aged rocks, mainly limestone. These formed on the continental shelf of a tropical sea around 340 million years ago. There were both deep marine basins and shallow water environments across Meath.

A period of shallow seas with excessive evaporation left gypsum and mudstone deposits in the Kingscourt (Cavan) area in a downwarped basin. The southern end of the faulted depression is located within County Meath. Some of the last sediments to be deposited in Meath occurred during the Quaternary period (1.6 million years ago to present) when a series of large ice sheets moved over Ireland, and down the Irish Sea, depositing glacial till (clay, sand and gravel) and scouring the underlying bedrock giving Meath much of its present day geomorphological character.

The predominant rock types in Meath are sedimentary rocks, limestone of Carboniferous age in particular. These sedimentary rocks have only been mildly affected by folding and retain many of their original sedimentary and depositional structures.

4.6.4 Existing Environmental Problems

The soil environment is a much overlooked aspect of the natural environment. However soils are an intrinsic part of the environment and perform a range of uses benefitting the wider environment. Soils have an economic value in terms of agricultural production, their type and quality dictating the type and intensity of production. Similarly they can support the growth of commercial forests, its timber used in buildings and other essential everyday areas of human life. The suitability of the principal soils found within the county is discussed above where it is evident they are generally fertile and productive. The soil environment can therefore support a wide range of agricultural uses, thereby benefitting the economic base of County Meath.

In addition soils also have an ecological value, their status being a critical factor in determining botanical diversity and ultimately the range of fauna which feed upon or live within those

species of plant life. This is particularly evident with Fen Peat as discussed above. Its extent is limited so too is its use for any commercial agricultural purposes.

Changes in soil result from both natural processes and human activities which contribute to their dynamic and evolving nature. Such changes are matters of concern if they result in the physical, biological or chemical degradation of soils. This can result in the impairment of ecologically-essential soil processes, the reduction in productive capacity, the depletion of soil quality and biodiversity and the direct loss of soil. Many of the changes arise as a result of pressures from human activities.

For example soil is lost annually through the development of agricultural land. The number of hectares, which are rezoned annually on a countrywide basis is not known, nor is the quantity of soil loss through surface sealing. Urban environments have greatly changed in Ireland with the centre of cities and towns being subjected to depopulation with growth focused on the periphery of these areas. With urban expansion, agricultural land surrounding cities and towns as well as green areas within them are subjected to increasing pressures.

The type and depth of soil has direct implications on water movement which can lead to increased pollution threats if not properly considered. Land spreading of both organic and artificial fertilizers, the use of pesticides/herbicides/fungicides can, if inappropriately used, particularly when adverse weather conditions prevail, be carried from the point of use to rivers, lakes and ground water resources. The protection of the 'soil' environment is somewhat accounted for through the Code of Good Agricultural Practice (2006).

Land spreading of farm effluent and application of fertilisers in agricultural areas is a delicate balance, particularly on low permeability soils with possible implications on water quality (discussed later). Also in certain areas the soil's poor percolation characteristics render them unsuitable for conventional septic tank methods of domestic effluent disposal. This has implications for rural housing.

4.6.4.1 Coastal Erosion

Coastal erosion is a natural process which results from the motions of the sea, the impacts of which are often seen on coastal and estuarine shores in the form of shifting sand and storm damage to public roads and footpaths. In some cases human activities interfere with the sea's natural motion causing the effects to change and to impact on different stretches of shore-line. In addition climate change will in the future lead to sea level change and a greater risk of both coastal flooding and erosion.

4.6.4.2 Geodiversity

Geodiversity is the often forgotten foundation for much of the biodiversity which has been identified for conservation through SAC or NHA designation; therefore many of the most important geological sites are actually the same areas. In these areas, the geological case enhances and protects the value of these sites for nature conservation, but requires no additional designation of actual land areas. In Meath, the Boyne Valley and Blackwater Valley are such cases.

Geological Heritage sites are supported under the Wildlife (Amendment) Act, 2000 but no geological NHAs exist as yet.

There are 73 quarries in County Meath registered under Section 261 of the Planning and Development Act 2000 (as amended) (Map 4.7 indicates the distribution of known quarries in the County).

Adverse environmental impacts can occur from extractive industries, from both existing quarries and new quarry extensions if not appropriately managed. Extraction ultimately leads to the total removal of a resource within a given area and can lead to localised environmental issues. The implications for the natural and cultural environment can result in the landscape being degraded, archaeological heritage being lost, and pollution occurring. Due to the nature of quarrying it can result in reprofiling of the landform which can have adverse visual impacts on the landscape and on scenic routes. Biodiversity, groundwater and aquifer resources are also vulnerable.

4.6.5 Effects of Not Implementing the Plan

Section 261 of the Planning and Development Act 2000 (as amended) provides for the registration and control of quarries, and the Quarry and Ancillary Activity Guidelines for Planning Authorities 2004 (current guidelines of the Department of the Environment, Community and Local Government) are useful to Local Authorities when assessing applications for quarry developments.

There is no formal European legislation to protect soils. Presently, in Ireland the protection of the 'soil' environment is indirectly enforced through the Code of Good Agricultural Practice (2006). However, in September 2006, the European Commission published the final Thematic Strategy for Soil Protection and a proposal for a Directive establishing a framework for the protection of soil across the EU (COM(2006)232). The overall objective of the strategy is the protection and sustainable use of soil, based on the guiding principles of preserving soil functions, preventing further degradation and restoring degraded soils to a level of functionality consistent with current and intended use. Once adopted the European Soil Thematic Strategy will guide and frame Ireland's approach to developing its own soil protection strategy.

Thus, in the absence of the Meath County Development Plan 2013-2019 there would not be a framework within which to promote sustainable development to regulate, aid and/or control development whether economic, social or environmental. Development would have no policy regulation or guidance over where or to what extent it could occur, leading to a significant deterioration in the soil and geology environment. In the absence of a Plan greenfield sites may be developed over viable alternative brownfield sites resulting in a loss of 'soil' through surface sealing or in the accumulation of non-renewable soil and subsoil resources. The harvesting of peat would be likely to continue resulting in losses of peat soils.

Quarrying and mining activity would operate without policy control thus having a potentially negative effect on geology and geological

heritage. It is likely that there would be applications to set up and/or expand quarrying / mining activities in certain areas which are underlain by valuable deposits.

Such development would also result in the reduction of non-renewable subsoil and soil resources. Any uncontrolled development would have a direct negative impact due to

soil loss and run-off, directly impacting on water and also causing indirect impacts from potential contamination due to ancillary works associated with the development or lack of appropriate waste water facilities. Furthermore, assessing the cumulative effects of individual developments on the soil and geology of the area would remain absent.

4.7

Water (Surface, Ground and Flooding)

4.7.1 Introduction

For the purposes of this section of the Environmental Report the water environment is taken to include natural features such as lakes, rivers, streams and groundwater. In addition flooding is also dealt with in this section. Wastewater treatment and drinking water may be referred to in this section, but are discussed in more detail under the Material Assets section.

Water is fundamental to all life; for humans, plants and animals alike. It is also critical in economic terms in generating and sustaining wealth in a number of key areas such as agriculture, fishing, power generation, industry transport and tourism. However it is also a fragile resource requiring continued protection. In general terms Ireland's waters are of good quality, however preserving the high standard of water is essential for human health and the natural environment.

Since 2000, Water Management in the EU has been directed by the Water Framework Directive (WFD) 2000/60/EC which was transposed into Irish law under the European Communities (Water Policy) Regulations 2003 (S.I. No. 722/2003). This legislation requires governments to take a holistic approach to managing all their water resources based on natural geographic boundaries, i.e. the river catchment or basin. The WFD establishes a common framework for the sustainable and integrated management of all waters covering groundwater, inland surface waters, transitional waters and coastal waters.

Member States must aim to achieve good status in all waters by 2015 and must also

ensure that the status does not deteriorate in any waters. Under the Directive, Member States must also keep a Register of all water bodies which require extra controls on their quality because of how the water is used by people and by wildlife.

The area of land which is drained by a river is known as its catchment or basin. A river basin includes all surface waters including rivers, streams, canals lakes etc as well as underground water systems and the lands that drain into them. Water catchments are not bound by political borders while the management and responsibility for them are.

In 2011 the Environmental Protection Agency (EPA) published a Water Framework Status Update based on monitoring results for the period (2007-2009). The Water Framework Status Update detail's the quality of all waters within each River Basin District. In terms of surface waters, Meath has been divided into a total of 144 river water-bodies, 2 lake water bodies, 1 transitional water body and 1 coastal water-body. In terms of groundwater status County Meath was divided into a total of 46 ground water bodies. Of the total 144 river water-bodies the 2011 EPA Report states that 28 of these water bodies are at good status, 71 are at moderate status, 33 at poor status and 12 at bad status.

4.7.1.1 Surface Water

The island of Ireland (classified under the WFD as Ecoregion 17) has been divided into eight river basin districts to help manage the implementation of the Directive and a River Basin Management Plan has been developed for each river basin district.

The majority of County Meath is situated within the Eastern River Basin District, with the north of the plan area within the Neagh River Basin District and a western portion of the County contained within the Shannon International River Basin District.

The River Basin Management Plans affecting County Meath sets out the objectives and actions required to achieve at least 'good' quality status for all waters, in the period 2009-2015. The ultimate deadline for Member States

for achievement of 'good' status is 2027 at the latest.

Within the larger catchments of the RBD are Water Management Units (WMU). WMUs are geographic areas primarily defined by similar hydrology and topography. These groupings have been created so that multiple river segments or water bodies can be treated as one management unit. These are listed in Table 4.6 below. The principal rivers in the County are listed in Table 4.7.

Table 4.6: River Basin Districts and the constituent WMU's within County Meath.

River Basin District	Water Management Unit
Eastern River Basin District	Tolka WMU
	Stonyford WMU
	Nanny WMU
	Delvin WMU
	Broadmeadow WMU
	Athboy WMU
	Blackwater North WMU
	Blackwater South WMU
	Boyne Upper WMU
Neagh Bann RBD	Dee WMU
Shannon RBD	Inny WMU

Table 4.7: Main Rivers in County Meath⁹ and their WFD Status 2009

River	Length	2009 WFD Water Quality
River Boyne	115.3	Good – Moderate
Rye Water	68.7	Good - Poor
River Blackwater	67.8	Good – Moderate, Poor in places
Moynalty River	54.1	Good – Moderate
Athboy River	51.9	Good – Moderate
River Nanny	48.6	Good - Poor
River Dee	43.7	Good - Poor
River Tolka	42.5	Moderate – Poor
Delvin River	41.3	Moderate – Poor
Skane River	40.3	Poor
Clady River	35.8	Poor
Hurley River	30.7	Moderate – Poor

⁹ From Meath SFRA 2011. Note: River lengths shown are the length of the watercourse within County Meath.

River	Length	2009 WFD Water Quality
Tromman Stream	25.7	Not surveyed
Broadmeadow Water	24.3	Poor
Stonyford River	21.6	Good – Moderate
Barora River	19.7	Not surveyed
River Blackwater (South)	18.9	Good – Moderate, Poor in places
Boycetown River	18.3	Moderate
Upper Inny River	16.7	Not surveyed
Pinkeen River	16.3	Moderate
River Deel	16.2	Good – Moderate
Knightsbrook River	12.3	Moderate – Poor
Yellow River	11.9	Good - Poor
Kilmainham River	11.4	Good
Killary Water	10.7	Moderate – Poor
Garra River	10.1	Not surveyed

4.7.1.2 Rivers

Map 4.8 and Table 4.7 above set out the main rivers found within County Meath. The reported results of the EPA biological surveys carried out over the period of 2007-2009 as part of the first three years of the Water Framework Directive (WFD) monitoring programme are also shown above. Based on these surveys the EPA classified the river waters into four biological quality classes.

- A – Unpolluted (Good),
- B – Slightly polluted/eutrophic (Moderate),
- C – Moderately polluted (Poor) and
- D – Seriously polluted (Bad)

4.7.1.3 Lakes

Lough Bane and Annagh or White Lake are the two lakes within County Meath that are designated Water Framework Directive operational monitoring lakes. The 2011 EPA report details the findings of monitoring carried out for the monitoring period (2007-2009) on the designated lakes. Water quality within both lakes for the monitoring period was found to be at good status and comply with the objectives of the Directive.

Part of Lough Sheelin is within the administrative boundary of Meath County

Council. The lake has shown signs of eutrophication since the early 1970s. Studies of the trophic status and monitoring of the water quality are being carried out on a continuous basis by the Shannon Regional and Central Fisheries Boards and Cavan County Council.

In general phosphorus levels were low for a eutrophic lake in 1998-2000 but the chlorophyll and transparency data clearly confer a eutrophic status in these years. Zebra mussels were first reported in Lough Sheelin in Autumn 2001 and their presence and colonisation was confirmed in Spring 2003. In 2004 and 2005 a marked improvement in water transparency is evident, this is almost entirely attributable to the spread of zebra mussels (*Dreissena polymorpha*) in Lough Sheelin.

4.7.2 Water Management Units (WMU)

As stated above there are eleven Water Management Units within County Meath. The management plans for their relevant River Basin Districts outline the status of the waters within each WMU and highlights external environmental pressures and proposed programme of measures for each WMU. The

WMU's of County Meath are highlighted in Map 4.9 of this report.

4.7.2.1 *Athboy WMU*

The EPA has determined the quality of waters within the WMU using hydrology, water quality, ecology and morphology monitoring data. The current status of two of the Athboy tributaries, Scurlockstown and Clonmore is high and moderate respectively. However the status of both the upper and lower Athboy River is poor. Under the WFD the Athboy River must achieve "Good" status by 2021.

4.7.2.2 *Blackwater North WMU*

The EPA has concluded approximately 60% of the rivers are of 'High' or 'Good' status while some 20% are rated as 'Poor'. In addition the Agency has determined the status of the lakes concluding that 60% are either 'Poor' or 'Bad' and only 20% are rated as 'Good'. Acurry Lough is rated as 'Good' while Drumkeery Lough and Upper Lough Skeagh are 'Poor'. Ramor Lough is rated as 'Bad'.

The rivers indicate Biochemical Oxygen Demand (BOD) above acceptable limits indicating an over abundance of material absorbing oxygen, with negative impacts on oxygen demanding life forms. Phosphorous was also found to be above acceptable levels within County Meath. The river downstream of Acurry Lough was found to be at risk due to over abstraction. Furthermore the rivers are also at risk from flood alleviation measures such as dredging.

4.7.2.3 *Blackwater South WMU*

Approximately 40% of this WMU is located within County Meath; the remainder is within County Kildare. The WMU consists of some 48km of channel length and includes part of the Royal Canal. The predominant land use is agriculture, 70% pasture and 14% arable. The principal settlements are Enfield, Timahoe and Longwood.

The current status of river water is moderate to good along much of the Blackwater and its tributaries.

Within the WMU the identified problems are:

- High nutrients – ammonia

- Oxygen demand
- Low ecological rating
- Dredging

Specifically in County Meath the principal pressure has been identified as agriculture. The Enfield/Johnstownbridge and Longwood Wastewater Treatment Plant has been upgraded however the river may not be capable of dealing with the discharge.

4.7.2.4 *Boyne Upper WMU*

The Boyne Upper WMU is spread out over four counties; Westmeath (30%), Offaly (30%), Kildare (20%) and Meath (20%). The WMU comprises some 120km of river channel length. Parts of the Royal and Grand Canal systems are within the WMU. Land use is predominantly agricultural, 68% is pasture and 14% bogs. The principal settlements include Rochfortbridge, Miltownpass, Kinnegad and Edenderry. The Boyne River is designated as a SAC and is a salmonid water body, it is also designated by the EPA as being a nutrient sensitive river.

The status of rivers within this unit is approximately 50% 'moderate', 20% 'good' and 30% 'poor'. 'Poor' status has been assigned to the Glash river, a tributary of the Boyne, the river Garrisker, a tributary of the Glash, the Kilwarden a tributary of the Kinnegad and the Castlejordan a tributary of the Yellow river.

4.7.2.5 *Broadmeadow WMU*

The overall channel length within the Broadmeadow WMU is 76km with 55% located within County Meath, the remainder within the administrative area of Fingal County Council. The predominant land use is agriculture, 47% pasture, 44% arable. Urban populations within the WMU cover approximately 9% of the land area; the principal settlements are Ashbourne, Swords and Ratoath.

Over 60% of the water within this WMU are rated as either 'poor' or 'bad' with less than 20% rated as either 'good' or 'high'. The Broadmeadow upper is rated as 'bad', while the Broadmeadow lower is rated as 'high'. A host of tributaries to the Broadmeadow are rated as 'bad' or 'poor'.

4.7.2.6 *Delvin WMU*

This is a short channel length of 21km however

the WMU is divided between County Meath (56%) and Fingal (44%). The river Delvin marks the administrative boundary between the two local authorities. The predominant land use is agriculture, 58% pasture and 40% arable. The principal settlements are Stamullen, Naul and Garristown.

The status of waters is generally 'poor'; the entire length of the Delvin River is rated as such. Only its tributary the Saddlestown is rated as 'moderate'. The Garristown and Stamullen WWTP are identified as particular problem areas.

4.7.2.7 Nanny WMU

The Nanny WMU is principally located within County Meath, 5% of the WMU is within Fingal. The river length is 71 km. The predominant land use is agriculture, 58% pasture and 38% arable. Urban populated areas comprise 2% of the land area, the largest settlement is Duleek.

Approximately 50% of the channel length is rated as being of poor status, the remainder rated as 'moderate'. The section of channel rated as 'poor' include the Upper Nanny and many of its tributaries.

4.7.2.8 Stonyford WMU

Just below half of this WMU is located within County Meath (44%), the remainder is within Westmeath. The channel length is 48km and the predominant land use is agricultural pasture land or bog. The principal settlements are Delvin and Ballivor.

The water status is approximately 75% 'good' to 'high' with less than 15% rated as 'poor'.

4.7.2.9 Tolka WMU

This WMU is divided between three local authorities, namely Meath (54%), Fingal (29%) and Dublin City (16%). The river length extends to 57km and the WMU includes the Royal Canal. While agriculture is the predominant land use its inclusion of parts of Fingal and Dublin city means over 35% of its area is urbanised.

Approximately 25% of the channel length is either 'poor' or 'bad', the Pinkeen River; a tributary of the Tolka is rated 'bad'. Only the Tolka tributary, the Mulhuddart is rated as

'good'. The lower stretches of the Tolka are rated as 'poor'.

Within the WMU the identified problems are:

- High nutrients– phosphorous, ammonia
- Oxygen demand
- Low ecological rating
- Heavily modified channel

The principal pressures are agriculture in the upper catchment and wastewater and industrial discharges in the lower catchment. In the upper catchment the pressures associated with agriculture are emphasised by poorly drained soils which lead to increased rates of surface runoff, leading to a loss of nutrients from the land to surface water bodies. In the lower catchment combined sewer overflows (wastewater discharge) are a principal concern.

4.7.2.10 Dee WMU

The DEE WMU traverses three counties namely Cavan, Meath and Louth. Some 90% is located within Meath and Louth, both taking approximately an equal share. There are a number of key settlements within the WMU; those located within County Meath include Drumconrath, Nobber and Lobinstown.

All lakes have a 'moderate' status while the river data indicates the status is predominantly 'moderate' (58%), 16% are 'poor' and 26% are 'good'.

4.7.2.11 Inny WMU

The Inny WMU is contained mainly in counties Longford and Westmeath with a only a small portion in the western tip of County Meath. Of the 65 river waterbodies within this WMU 10 have Good status, 36 Moderate, 18 Poor and 1 Bad status. Oldcastle Waste Water Treatment Plant is located within this WMU and is sited as a point pressure on this WMU.

4.7.3 Groundwater

Groundwater is the water stored underground in formations of saturated rock, sand, gravel, and soil. Surface water and groundwater are intimately linked to each other within the hydrological cycle and is an important source of water for streams, rivers and lakes. Ground water resources are an invaluable source

of water supply for the public, industry and agriculture and also perform an important role in sustaining base flows in the rivers within the plan area and their tributaries. In Ireland groundwater provides between 20% and 25% of drinking water supplies. Thus the protection of groundwater quality from the impact of human activities is a high priority; resources are susceptible to pollution with long term consequences both for humans and the natural environment.

The Meath County Groundwater Protection Scheme identifies the majority of its groundwater as having 'extreme vulnerability'. Its protection is therefore of the utmost importance. Groundwater vulnerability for the County is set out in Map 4.10. Map 4.11 highlights the status of the groundwater bodies throughout the County.

Types of groundwater bodies within Meath include Poorly Productive Bedrock which covers the majority of the County, a corridor of Productive Fissured Bedrock in the middle of the County around Navan, Trim and Dunshaughlin and a pocket of Karstic around the Duleek, Mornington, Bettystown, Laytown area. The majority of the groundwater within Meath have been given Water Framework Directive risk scores of 2a – **Expected to achieve good status**. However the Karstic and Productive and Fissured bedrock within the County has been awarded a risk score of 1a, – **At risk of not achieving good status**.

The GSI's mapping indicates that much of the groundwater in Meath is moderately to extremely vulnerable to contamination. The extremely and highly vulnerable areas are focussed in the north-west of the County, around Kells and Oldcastle.

Athboy, Carlanstown, Carnaross, Clonard, Crossakeel, Donore, Drumconrath, Dunboyne, Clonee Pace, Kells, Kilmainhamwood, Laytown, Moynalty, Navan, Oldcastle, Slane and Trim all overlie 'highly' or 'extremely' vulnerable groundwater.

Rural housing developments, which individually would not necessarily have significant adverse effect on groundwater, can have cumulative adverse effects as ground water can be

permanently polluted by a proliferation of inadequate waste water treatment systems.

4.7.3.1 Aquifers

Aquifers are underground layers of rock which contain water and which are capable of yielding it to surface waters such as streams and rivers. 'Major Vulnerable Regionally Important Aquifers' and 'Highly Vulnerable Regionally Important Aquifers' are aquifers which are important at a regional level and which are most sensitive to an imposed contaminant load. Groundwater Protection Reports have been prepared by the Geological Survey of Ireland (GSI) for seven locations in County Meath listed below.

- Athboy
- Ballivor
- Curragha
- Dunboyne
- Nobber
- Slane
- Dunshaughlin

4.7.4 Flooding and Flood Risk

The underlying causes of flooding, heavy rain and high sea levels are, essentially uncontrollable. However, the factors affecting the extent and severity of the flood can be addressed. The most influential of these factors is development, in particular development in flood plains i.e. areas adjacent to rivers that tend to become flooded following periods of heavy rain. The most common causes of flooding in County Meath are the flooding of rivers (and the Boyne Estuary and its tributaries in the case of East Meath) and the inadequacy of existing stormwater pipe networks in response to extreme rainfall events. Other contributing factors include land drainage exercises, overgrazing, deforestation and cattle access that can all impact on river bank stability, thus causing flooding due to faster water runoff.

Historic records help to indicate which areas are prone to flooding, although it is always possible that areas not known to have flooded in the past or for which no records of flooding are available, might flood in the future due to changes in upstream or downstream conditions or the occurrence of more extreme rainfall

events, which are becoming increasingly prevalent.

A Strategic Flood Risk Assessment (SFRA) for Meath was undertaken as part of the Development Plan review. (Appendix 6 of the Development Plan refers) This assessment was prepared in accordance with requirements of the DoECLG and OPW Planning Guidelines, The Planning System and Flood Risk Management.

Flood risk can be defined as the probability of flooding multiplied by the consequences of flooding. The SFRA for Meath contains Flood Zone Mapping for the County which highlights those parts of the County that are at a higher risk of flooding. Appendix A of the SFRA shows those areas of the County that lie within Flood Zone A (high probability of flooding) and Flood Zone B (moderate probability of flooding) (It should be noted that Flood Zones do not take into account the presence of flood protection structures such as flood walls or embankments.

In the 'Planning System and Flood Risk Management', the probability of a flood event taking place is recognised through the classification of Flood Zones which indicate a high, moderate or low risk of flooding from fluvial or tidal sources.

Hydrological studies of a number of watercourses in the County have been undertaken by Meath County Council in recent years, in partnership with the OPW and Fingal County Council, to identify potential flood risks and measures to reduce the risks. These include:

- FEMFRAMS (Fingal East Meath Flood Risk Assessment Management Study) - on going
- River Tolka Flooding Study
- Mornington District Surface Water & Flood Protection Scheme
- Kells Stormwater Drainage Study
- Swan River Flood Risk Assessment
- River Rye Water Flood Risk Assessment Management Study

The OPW's National Flood Hazard Mapping website¹⁰ makes available information on areas potentially at risk from flooding. This website provides information on numerous historical flood events that have affected Meath.

Rivers are the primary cause of flooding in Meath; historically, some 60% of events are attributed to fluvial sources ranging from the major rivers, such as the Boyne, Nanny and the Tolka, to the smaller tributaries and drains.

5% of the flood events recorded in County Meath have been attributed to coastal/ estuarine flooding. The coastal settlements of Mornington, Bettystown and Laytown have historically all been susceptible to coastal/ estuarine flooding.

Sustainable Urban Drainage Systems (SuDS) are effective technologies which aim to reduce flood risk, improve water quality and enhance biodiversity and amenity. The objective of SuDS in new developments is to replicate, as closely as possible, the surface water drainage regime to the predevelopment 'greenfield' situation. The surface water runoff rate from the developed site must be limited to the 'greenfield' runoff rate to reduce the risk of flooding.

4.7.5 Existing Environmental Issues

The principal threat to water is pollution which can adversely impact on all parts of the water cycle from groundwater to rivers, lakes estuaries and coastal waters. In simple terms pollution means the presence of a harmful substance such as a poisonous metal or pesticide, a nutrient or indeed silt.

Pollution comes primarily from two sources, point or diffuse. Point sources are easily identifiable and generally static and include discharging effluents from industries, wastewater treatment plant and so on. Diffuse sources operate over a sometimes large areal extent and may include activities such as farming, forestry or the combined impact arising from an over reliance on septic tanks.

¹⁰ www.floodmaps.ie

Water bodies within the County are under a range of pressures. These include:

- diffuse pollution sources particularly from urban and agricultural land uses (domestic and industrial); and,
- morphological alterations particularly channel drainage associated with rivers, impoundments on lakes.

Inadequately treated effluents can lead to unacceptable levels of harmful pollutants entering water courses or bodies. These pollutants can lead to a deterioration in overall water quality but more dramatically give rise to fish kills, adverse impacts on human health, bathing water quality, shellfish waters and delicate habitats. The key issue in relation to discharges is the assimilation capacity of the receiving river.

Estimates of nutrient input into waters within the Eastern River Basin indicate that municipal and industrial discharges produce approximately 60% of the yearly phosphorus load with the remainder coming from diffuse sources such as agriculture. There have been growing concerns over the capacity of wastewater treatment works within smaller towns to cope with their expanding populations. Many treatment plants serving populations of less than 500 people provide inadequate treatment before discharge to surface waters. However it is the accumulative effect of discharges from these treatment plants which is of real concern.

The potential impacts of pollution from increased urbanisation are a particular problem in the Eastern River Basin district. The subject of combined sewer overflow spillage and run-off from road networks into the basins estuaries, rivers, canals is also of concern. Increased urbanisation and impermeable areas allow storm water to reach drainage networks faster than before. The receiving sewer networks are in some areas unable to cope with this influx leading to an increased risk of localised flooding. Also increased storm flows, previously attenuated by undeveloped land can increase the occurrence of combined sewers overflowing to surface water.

Threats to surface and ground water are increased through one-off dwellings in

unserved areas and their reliance on on-site treatment systems. Particular concerns arise where there is an over concentration of such systems, especially in groundwater dependent areas. There are also certain areas where on-site systems may not be appropriate by reason of soil type or shallow depth of soil.

Water is also affected by physical modifications to waterways. These are engineered modifications and can directly lead to the removal of habitats and an alteration to the natural structure or flow of water within its channel. This can lead to a loss or reduction in biodiversity, loss or rare or endangered habitats and species depletion of valuable fish stocks.

These include:

- land drainage for either agriculture, urban development, forestry or peat extraction.
- Construction of flood defences or weirs to control water levels;
- Damming of lakes to provide storage for power generation or water supply; and
- Port developments or construction of coastal defences to prevent erosion or flooding.

Finally water abstraction is an increasing problem for water resources and can potentially lead to problems for both underground and surface water bodies. An increasing demand for water means its removal from the ground or the river may result in endangering ecosystems by virtue of diminished water supply. In extreme cases over abstraction can result in dried up rivers or lake shore and can lead to salt water intrusion into groundwater.

4.7.5.1 Groundwater

Groundwater quality is protected under the requirements of the European Water Framework Directive (2000/60/EEC). EU and Irish legislation require that all groundwater be protected; this includes both the source and the resource. The main objective of the scheme is to control development so as to prevent contamination/pollution of water resources.

Groundwater status within the Plan area is shown in Map 4.11. It shows the status of the majority of the plan area as being 'Good' in 2010. However, the majority of the

groundwater resource within the Plan area is classified as being of extreme vulnerability. This presents significant challenges in terms of appropriate land use and the long term protection of vulnerable resources.

4.7.5.2 Flooding

In Meath, 3.9% of all properties recorded in the An Post Geodirectory are located in areas with a high to moderate probability of flooding from rivers¹¹.

There is an increased risk of flooding due to development, climate change and rainfall patterns. Development can exacerbate the problems of flooding by accelerating and increasing surface water runoff, altering watercourses and removing floodplain storage. It is now recognised that flood risk management must be treated as a central issue in the development of the County. Areas of floodplain and wetlands should therefore be recognised and preserved as natural defences against flood risk.

The Planning System and Flood Risk Management guidelines recommends that a precautionary approach to climate change is adopted due to the level of uncertainty involved in the potential effects. Climate change may result in increased flood extents and therefore caution should be taken when zoning lands in transitional areas.

4.7.6 Effects of Not Implementing the Plan

The protection and maintenance of the waterbodies of County Meath is legislated for at both a European and National level. However, in the absence of the Meath County Development Plan 2013-2019 there would not be a framework within which to regulate and/or control development. The baseline information for County Meath has highlighted that a number of waterbodies are under pressure from

various sources of pollution. Agriculture and wastewater and industrial discharges as the main pressures on the waterbodies within the County. Furthermore, there are a number of waterbodies reported to be at significant risk of failing to meet the requirements of the Water Framework Directive by 2015.

Several existing wastewater treatment facilities in the County are currently close to or at maximum capacity, future development in the absence of the Meath County Development Plan 2013-2019 would have a negative effect on the water quality within the County and surrounding areas.

If new and uncontrolled development is not accompanied by appropriate wastewater infrastructure/capacity then it is most likely that surface and groundwater bodies would fail to meet the objectives of the Water Framework Directive; and there would be significant adverse direct and indirect impacts, etc. on water and the other environmental parameters in the County to varying degrees.

For example, poor water quality would have a direct adverse impact on human health. In addition, in the absence of the Plan, development would take place without the implementation of Sustainable Urban Drainage Systems (SuDS) technologies. This could lead to an increase in surface water run-off due that would be discharged directly into the groundwater system.

Such an increase in run-off, together with other factors such as intense rainfall could result in an increase in flooding. This would then lead to impacts on other factors such as biodiversity which would be exposed and vulnerable to a direct loss of species types and numbers. Tourism and quality of life could also be indirectly impacted upon if lakes and beaches suffered a reduction in their water quality status.

¹¹ SFRA for County Meath, 2011

4.8.1 Air Quality

Air quality monitoring in Ireland is undertaken largely to implement EC Directives. In 2008 the EC Directive 2008/50/EC on ambient air quality and cleaner air for Europe (the CAFE Directive) entered into force. This piece of legislation placed the previous air quality framework legislation into a single directive. It sets out air quality objectives and targets for:

- Sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter (PM₁₀ and PM_{2.5}) and lead
- Carbon monoxide and benzene
- Ozone
- Arsenic, Cadmium, Nickel and Benzo(a) pyrene

The EU objective with regards to air quality is: **to achieve levels of air quality that do not result in unacceptable impacts on, and risks to, human health and the environment.**

Overall, air quality in Ireland continues to be of good quality and remains the best in Europe. In 2010, measured values of sulphur dioxide (SO₂), nitrogen dioxide (NO₂), carbon monoxide (CO), Ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), heavy metals, benzene and polycyclic aromatic hydrocarbons (PAH) were all below limit and target values set out in the CAFE Directive and 4th Daughter Directive.¹²

The Environmental Protection Agency is involved in air quality monitoring and has installed a number of air quality monitoring stations throughout Ireland. The EPA Report **Air Quality in Ireland 2010** provides an overview of the air quality in the country for 2010 based on data obtained from the 28 monitoring stations. County Meath has one monitoring station located in Navan, approximately 20m from the N3 in the town centre.

The purpose of an air quality index is to express complex air quality information in simple terms. Five bands are used in the Irish index:

- Very good
- Good
- Fair
- Poor
- Very poor

The index is based on a maximum of four parameters; the one-hour average of SO₂ (sulphur dioxide), NO₂ (nitrogen dioxide) and O₃ (ozone), combined with the rolling 24-hour average of PM₁₀ (particulate matter with diameter less than ten microns). All figures are rounded to the nearest whole number.

For the purpose of air quality monitoring Navan is located within Zone C which covers cities and large towns comprising Galway, Limerick, Waterford, Clonmel, Kilkenny, Sligo, Drogheda, Wexford, Athlone, Ennis, Bray, Naas, Carlow, Tralee, Dundalk, Navan, Letterkenny, Celbridge, Newbridge, Mullingar and Balbriggan. The index rating for overall air quality in Zone C is good. The remainder of the County is located within Zone D.

Ambient Air quality Monitoring was carried out by the EPA in Navan from April 26th 2007 – 28th February 2008.

Monitoring was completed at the site for PM₁₀, carbon monoxide, sulphur dioxide, nitrogen oxides, benzene and lead. Monitoring was done by a mobile unit containing continuous monitors for sulphur dioxide, nitrogen oxides and benzene. PM₁₀ was measured by collecting particulate matter on a filter and analysing it in the laboratory.

Results were compared with the Air Quality Standards Regulations 2002.

The report of the monitoring conducted is available on the EPA website and is summarised as follows:

- Ambient levels for carbon monoxide, sulphur dioxide, nitrogen oxide, benzene,

¹² EPA report Air Quality in Ireland 2010

lead and PM₁₀ were recorded over the monitoring period.

- PM₁₀ was above the upper assessment threshold which means that continuous monitoring is required.
- All other parameters are below the lower assessment threshold. No action is required for these pollutants (sulphur dioxide, nitrogen oxides, carbon monoxide and benzene and lead).

The latest data from the Environment Protection Agency indicate that emissions

of greenhouse gases in Ireland in 2009 were 62.32 Mt CO₂eq. This represents a reduction of 7.9% (5.36 Mt CO₂eq) on emissions in 2008. The downturn in the economy has been attributed in part to the reduction. It is anticipated that Ireland will comply with Kyoto Protocol, however achieving the more stringent 2020 targets will require serious effort by all the stakeholders.¹³

There are 24 Integrated Pollution Prevention and Control licensed activities in the County (see Map 4.12 and Table 4.8).

Table 4.8: IPPC Licensed Facilities, County Meath

No	IPPC Licensed Facility
1	Lagan Cement Limited
2	Doherty Brothers Timber Company Limited
3	Loredo Limited
4	Trimproof Limited
5	Mr Jack Marry
6	Mr Ivan Reynolds
7	Sherlock Brothers Limited
8	Cabglove Limited
9	Mr David Murray
10	Navan Carpets Limited
11	Boliden Tara Mines Limited
12	Dunbia (Slane)
13	Xtratherm Limited
14	Irish Cement Limited
15	P Carney Limited
16	Complex Tooling & Molding Limited
17	Complex Tooling & Molding Limited
18	Kells Stainless Limited
19	Mr Jack Marry
20	Gleneagle Woodcrafts Limited
21	College Proteins
22	Gypsum Industries Limited
23	Kingscourt Bricks Limited
24	Cooksgrove Limited

¹³ Meath Climate Change Strategy and Energy Management Action Plan 2011-2012, Page 8

In April 2011, the Environmental Protection Agency (EPA) indicated that Ireland can comply with its Kyoto obligations for the 2008-2012 period without any further purchase of credits.

In 2008, the EU Commission's "Energy and Climate Package" required Ireland to deliver a 20% reduction in non-Emissions Trading Scheme (ETS) greenhouse gas emissions by 2020 (relative to 2005 levels) and keep emissions below annual limits over the period 2013-2020.

Projections indicate that Ireland will breach its annual limit by 2016, in the best case scenario, and exceed its EU 2020 target by between 4.1 and 8.8 million tonnes of CO₂ in 2020.

4.8.2 Climate Change

It is now largely recognised that tackling the issue of climate change must take centre stage on policy agendas around the world. The UN's Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (UNEP, IPCC, 2007), concluded that if left unchecked, the world's average temperature could rise by as much as 6°C by the end of the century, causing serious harm to economies, societies and ecosystems worldwide.

Climate Change is a phenomenon that has widespread economic, health and safety, food production, security, and other dimensions. It is also widely recognised that Climate Change is occurring as a result of the build up of atmospheric Greenhouse Gases (GHG's) such as carbon dioxide. Most GHG emissions are related to the energy generation, transport, agriculture, and industry sectors.

Ireland ratified the UN Framework Convention on Climate Change in 1994 and the Kyoto Protocol in 2002. In signing up to the Kyoto Protocol Ireland agreed to a target of limiting its greenhouse gas emissions to 13 per cent above 1990 levels by the first commitment period of 2008–2012. Domestic policy to achieve that target is outlined in the National Climate Change Strategy 2007–2012. The economic

growth witnessed in Ireland over the past decade has resulted in GHG emissions being 29% above 1990 levels in 2002. However, according to the EPA, Ireland will be much closer at the end of 2012 to the ambitious targets set out in the Kyoto protocol, due to the slowdown in economic activity. In the future better use of energy and modal shifts in transportation will help to reduce Green House Gas generation.

The National Climate Change Strategy 2007–2012 states that there is now scientific consensus that global warming is occurring as a result of man made green house gases. In order to avoid the devastating effects that climate change is predicted to have, action must be taken to stabilise and reduce these harmful emissions.¹⁴ The EPA states that global warming is the primary environmental challenge of this century.¹⁵

Within Ireland evidence of climate change exists in line with changes that are occurring at regional and global levels. These changes are expected to continue to increase in the coming decades and up to at least the end of this century.¹⁶

The principal manifestations of climate change in Ireland are anticipated to be:

- Increased mean annual temperatures;
- Increased mean annual rainfall, but with the likelihood of drier summers;
- More extreme weather including heavy downpours and more intense storms; and
- Higher sea levels due to melting ice and thermal expansion.

The direct impacts of these climate change phenomena will include:

- Higher evaporation and regular summer drought conditions, albeit possibly interspersed with heavy downpours;
- Alluvial flooding and occasional flash floods;
- Greater coastal erosion;
- Coastal flooding and the gradual inundation

¹⁴ National Climate Change Strategy 2007-2012, Page 7

¹⁵ www.epa.ie

¹⁶ The EPA Climate Change Research Programme (CCRP) 2007-2013 Report Series No. 1

of low lying areas, especially following tidal surges exacerbated by the combined effect of sea level rise and storms.

These impacts present serious consequences for heritage and for socio-economic activity that is directly or indirectly associated with it, including tourism and amenity.

The Climate Change Strategy and Energy Management Action Plan 2011-2012 produced by Meath Local Authorities states that the possible impacts of Climate Change on Ireland and Meath include:

- Sea Level Rise (25% of population live in coastal areas);
- Extreme Weather Events (storms, flooding & heat waves);
- Increased River Flow in Winter and reduced River Flow in Summer
- Increased Water Shortages (East of Country);
- Change to Agricultural production (Weather patterns – different crops & farming practices – increased irrigation etc);
- Loss of biodiversity (Peatlands, flora and fauna);
- Change in distribution of Flora & Fauna (invasive species, non indigenous species etc).¹⁷

The Heritage Council and Fáilte Ireland produced a report in 2009 entitled **Climate Change, Heritage and Tourism: Implications for Ireland's Coast and Inland Waterways**. The report outlines the impact that climate change is likely to have on the country over the next 70 years:

Ireland is likely to experience a potential mean temperature rise relative to the 1961-90 period of up to 2.1°C to 2.7°C by the 2080s, with the autumn months warming the most. Rainfall will become more seasonal with wetter winters and dryer but greyer summers. More extreme rain or precipitation events will occur, changing the current pattern of 'low duration, low intensity' to 'long duration, high intensity'.

The likelihood of inland flooding will increase as a result, in particular in the west and the midlands. The whole country will experience scarcity of water in the late summer and autumn, possibly more so in the east and south.

Sea levels are likely to rise by at least 18-59cm by the 2080s. This will be exacerbated by more storm events, storm surges, and increased wave energy. Coastal flooding, caused by a combination of these elements, and the resultant coastal erosion will be more prevalent, placing low-lying areas and soft coastlines at particular risk.¹⁸

In terms of the impact of climate change on the heritage of Ireland it is believed that the changes predicted for our current climate will not only intensify existing processes of decay and damage, but the greater frequency of extreme events like flooding may also cause an abrupt intensification of these processes, rather than a gradual increased rate of decay.¹⁹

Potential impacts of climate change on biodiversity include shifts in the distribution of plants and animals, loss of habitat, changes in timing of seasonal events and population declines/losses and expansion of invasive alien plants. These changes may in turn impact on essential resources such as water (in terms of supply and quality) and soil fertility.

Protecting biodiversity and maintaining natural ecosystems in a healthy state, can help reduce the impact of climate change. For example, coastal wetlands in good condition can help protect inland areas against rising sea levels. Floodplains that have not been altered significantly and associated wetland ecosystems can help limit the effects of river flooding. Intact freshwater wetlands help maintain clean water for drinking supplies.

Land use changes can and will have far-reaching implications for climate change that could include sweeping changes to commuter patterns with the building of more one-off houses in rural areas (also influenced by

¹⁷ The Climate Change Strategy and Energy Management Action Plan 2011-2012, Meath Local Authorities, 2011, Page 3

¹⁸ Climate Change, Heritage and Tourism: Implications for Ireland's Coast and Inland Waterways, The Heritage Council and Fáilte Ireland, 2009, Page 82

¹⁹ Ibid, Page 83

government policy such as the Guidelines for Sustainable Rural Housing, 2005) and the resultant increase in GHGs, SO₂, NOx, VOC and other pollutant emissions.

The Climate Change Strategy and Energy Management Action Plan 2011-2012 prepared by the Meath Local Authorities sets out the strategy for County Meath in mitigating and adapting to climate change. It aims to clearly identify the solutions to the challenge of reducing energy related emissions. It also outlines the actions to be taken to meet the requirements as set out in the National Climate Change Strategy.

4.8.3 Existing Environmental Issues

4.8.3.1 Air Quality

Overall, road traffic has now become the greatest source of air pollution generally. In urban areas, concern has clearly shifted to a range of pollutants associated with this source which may be considered relatively new in the context of air quality control. The most important of these pollutants are NO₂, particulate matter less than 10 microns in diameter (PM₁₀), carbon monoxide (CO) and a wide variety of Volatile Organic Compounds (VOC), including carcinogens such as benzene. Advances in engine technology and fuel development will, it is predicted, offset any rise in tail pipe emissions from increased car usage due to an increased population. The majority of the plan area is rural in nature where travel is an essential part of daily life. Therefore it is important that a good quality road infrastructure is provided and indeed alternatives to the private car are encouraged where possible.

4.8.3.2 Climate Change

Land use changes can and will have far-reaching implications for climate change that could include sweeping changes to commuter patterns with the building of more one-off

houses in rural areas (also influenced by government policy such as the Guidelines for Sustainable Rural Housing) and the resultant increase in GHGs, SO₂, NOx, VOC and other pollutant emissions.

4.8.4 Effects of Not Implementing the Plan

In the absence of the Meath County Development Plan 2013-2019 there would be no framework for the logical and sustainable development of Meath over the next six years. Development would be permitted to occur on an ad-hoc basis which would result in a sprawled settlement pattern and an increase in reliance on private forms of transport. The impact of this would be an increase in energy consumption and release of emissions into the atmosphere. There would be no regulation on the location of heavy industry which could result in such uses being sited in inappropriate locations proximate to residential developments.

The absence of the Development Plan would have negative environmental impacts on noise, air quality and ultimately climate change which could further lead to serious long term detrimental impacts on human quality of life, property, biodiversity, agriculture productivity and water quality. Furthermore, the cumulative effects of individual developments would not be coordinated or assessed for their effects on the environment.

Effective planning is one of the most powerful tools available in the challenge of reducing carbon emissions. In the absence of a new Development Plan there would be no requirement for future development to be undertaken in a sustainable manner thereby addressing the key issue of green house gas production.

4.9.1 Introduction

Material assets can be defined as the critical infrastructure essential for the functioning of society such as: electricity generation and distribution; water supply; wastewater treatment; and transportation. Whilst this infrastructure is essential its usage can lead both directly and indirectly to adverse environmental impacts. This section will discuss the following:

1. Transportation (road and rail)
2. Waste Management
3. Water Supplies
4. Wastewater Treatment Infrastructure
5. Energy

4.9.2 Transportation

Transportation is an essential element to the functioning of the Irish economy and will continue to be promoted as a crucial component to the further sustainable development of County Meath. Nonetheless, the role of the Local Authority is somewhat limited with respect to the provision of transportation infrastructure. The National Roads Authority is directly responsible for the national road network, Iarnród Éireann is directly responsible for the rail network and Bus Éireann and other private operators are responsible for public bus services. The Local Authority will continue to liaise with the relevant authorities in enhancing service provision to the inhabitants of the Plan area.

The National Transport Authority (NTA) is a statutory body formed in 2009 with responsibility for securing the provision of public passenger land transport services; it also has responsibility for the development of an integrated transport system within the Greater Dublin Area (GDA). The NTA has produced a draft Strategic Transport Plan for the GDA up to the period of 2030. The Strategy establishes appropriate policies and transport measures that will support the GDA (including

County Meath) in meeting its potential as a competitive, sustainable city region. This strategy will form the top level of the hierarchy of transport plans for the Greater Dublin Area.

In terms of international transportation the inhabitants of County Meath have good access to both Dublin and Belfast International Airports along the M1 motorway as well as Dublin, Dun Laoghaire and Belfast Ports.

4.9.2.1 Road

County Meath is strategically placed within the Greater Dublin Area between the cities of Dublin and Belfast. As a result the County is well served by a high quality Motorway, National, Regional and local road network. (See Map 4.13)

Currently 38% of all private cars and 30% of all goods vehicles registered in the State are registered with local authorities in the Greater Dublin Area²⁰. A fully operational road network is therefore essential to the efficient functioning of the region.

The Motorways, National primary and secondary roads play a central role in providing ready access to all regions of the Country. They connect the County with the adjoining Region and their Gateways, provide direct access to Dublin City and to Dublin and Belfast International Airports and to the regional rail network and ports.

The main roads within the County include the M1 motorway linking Dublin and Belfast (and former N1, now R132) and the N2 Dublin to Derry national primary road. The M3 Clonee to Kells and M4 Dublin to Galway, Castlebar and Sligo (and former N4), also traverse through the county linking the Dublin Metropolitan Area to the regions. The national secondary roads N51 and N52 are medium distance through-routes connecting important towns.

A series of Regional roads run throughout the County. These roads provide an important function in linking the smaller towns, villages

²⁰ www.nationaltransport.ie

and gauges with the larger urban centres and with the national primary and secondary routes.

A list of regional roads serving the County is provided below.

Table 4.9: Regional Roads Co. Meath

Regional Roads County Meath		
R108	R154	R161
R125	R155	R162
R132	R156	R163
R149	R157	R165
R150	R158	R194
R151	R159	R195
R153	R160	R401

4.9.2.2 Public Transport

Meath is served by the rail network with the Dublin to Belfast line crossing the County, with stations at Gormanston, Laytown (and Drogheda). Iarnród Éireann operates frequent Inter-City and regular services on this line.

As part of the Government's Transport 21 Programme the first phase of the proposed railway linking Navan to Dublin opened in September 2010. Over 25 trains per day run between the new M3 Parkway station and Dublin City Centre. The proposed phase 2 extension of the Navan-Dublin rail line will consist of 34km of railway line. Stations will be located at Dunshaughlin, Kilmessan, Navan town centre and a further station on the northern edge of Navan. The proposed development has the potential to offer these growing towns and their hinterlands direct, fast, environmentally friendly access to Dublin city centre.

Other train services serving the county to Dublin are available at Laytown and Gormanston (east Meath), and at Enfield. Car parking upgrades providing for additional car parking provision have been carried out in recent years at the Enfield and Gormanston train stations.

Stations located immediately adjoining the County which are also used by Meath residents include Maynooth, Clonsilla, Hansfield, Drogheda and Balbriggan.

Meath is also easily accessible by regular bus service to and from Dublin with Bus Éireann running buses to/from Dublin every 15 minutes at peak times.

4.9.3 Waste Management

The Local Authorities of Meath, Louth, Cavan and Monaghan form the North East region with respect to Waste Management Planning. The current Waste Management Plan for the region is the replacement North East Regional Waste Management Plan 2005 – 2010. The objective of the Waste Management Plan is to develop a sustainable approach to managing resources, by minimising the waste that is generated in a safe and environmentally sound manner and disposing of wastes in accordance with current National and EU waste legislation and policies.

Ireland is well advanced towards achievement of most of its EU obligations across a broad range of waste legislation. However the Country is currently at risk of not achieving a number of national waste management targets. There is still a significant distance to achieving the target for the diversion from landfill of 50% of household waste by 2013. For construction and demolition wastes and municipal wastes, the targets set through national policy in 1998 have been achieved.

The EPA National Waste Report 2009 found that a total of 2,952,977 tonnes of municipal waste was generated in 2009, a decrease of 8.4% on 2008. Over 50% of this waste was disposed of to landfill.

With regards to household waste an average of 365kg per person was generated in 2009, a figure which has also decreased since the previous year. Of this amount approximately 237kg of waste per person was disposed to landfill.

There are several EU directives relating to waste recycling, recovery and diversion which set out targets for member states to achieve.

Table 4.10: EU Directives relating to Waste Management

Directive	Title
94/62/EC as Amended	Packaging Directive
2002/96/EC	WEEE Directive
2000/53/EC	End of Life Vehicles Directive
2006/66/EC	Batteries Directive
1999/31/EC	Landfill Directive
2008/98/EC	New Waste Framework Directive

The 2009 EPA report shows that with the exception of End of Life Vehicle targets, Ireland is well advanced towards achievement of most of its EU obligations across a broad range of waste legislation.

There has also been a range of waste management targets set out at a national level. The EPA National Waste Report 2009 highlights the areas in which Ireland is at risk of not achieving a number of these national targets. In particular current figures are a considerable distance from the target for the diversion from landfill of 50% of household waste by 2013. Both public and private waste collectors have been slow to roll-out source separated waste collection services for bio-waste from households and commercial premises. This has contributed significantly to the failure to progress a number of the targets specified in the National Strategy on Biodegradable Waste (DoEHLG, 2006).

The North-East Region Waste Management Plan 2005-2010 sets out regional objectives including waste prevention and minimisation, improved infrastructure for recycling and recovery of waste through the waste hierarchy. It is primarily aimed at securing the best environmental management of waste, including prevention and minimisation where possible and practicable. The Waste Management Plan aims to ensure that waste is used as a resource, resulting in a better solution for the people and the environment in the region.

The Plan sets the following targets to be achieved by 2015:

- 43% recycling
- 39% thermal treatment
- 18% landfill

Upon its publication in 2005 the North East Region Waste Management Plan presented the following results on foot of the measures and actions of the previous 2001 Plan.

- Household waste recycling has increased from <4% to c.16%, through a combination of Bring Banks, Recycling Centres and kerbside recycling.
- Commercial waste recycling has increased from <9% to c. 35%, thanks to source separation of packaging and other wastes for recycling by business.
- Recovery of dry-recyclables and organic waste is being achieved.
- Significant progress has been made towards developing the thermal-treatment facility required by the original Plan.
- The Region has secured substantial additional municipal landfill capacity, which enables the safe disposal of residual waste.

There are a number of licensed waste facilities within the County. Table 4.11 highlights the EPA licensed waste facilities located within County Meath.

Table 4.11: Waste Licensed Facilities

Name	EPA License No	Location	Type
Basketstown Landfill Facility	W0010-01 W0010-02	Summerhill, Meath	Landfill
Midland Waste Disposal Company Limited	W0131-01 W0131-02	Navan, Meath	Waste Transfer Station
Panda Waste Services	W0140-01 W0140-02 W0140-03 W0140-04	Navan, Meath	Waste Transfer Station / Integrated Waste Management Facility
Knockharley Landfill	W0103-01 W0146-01 W0146-02 W0146-03	Navan, Meath	Landfill
Murphy Concrete Manufacturing Ltd	W0151-01	Gormanstown, Meath	Landfill
Indaver Ireland	W0167-01	Carranstown, Duleek Meath	Integrated Waste Management Facility
McGill Environmental Systems		Kells, Meath	Compost Facility
Padraig Thornton Waste Disposal Ltd	W0195-01 W0195-02 W0206-01	Dunboyne Industrial Estate, Meath	Compost Facility / Integrated Waste Management Facility
Organic Gold (Marketing) Ltd	W0219-01	Navan, Meath	Compost Facility
Kiernan Sand & Gravel Ltd	W0262-01	Summerhill, Co. Meath	Soil Recovery Facility
Clashford Recovery Facility LTD	W0265-01	Naul, Co. Meath	Soil Recovery Facility
Lyndon Douglas	W0268-01	Summerhill, Meath	Soil Recovery Facility

There are also recycling facilities in Navan, Trim, Kells and Dunboyne and a number of bring centres throughout the County. A kerb-side collection for separated waste materials has been introduced in a number of urban areas.

In addition, a recovery and disposal facility for inert Construction & Demolition waste is under development at Gormanston in County Meath.

A Waste to Energy facility at Carranstown has recently begun operations. This facility has been developed in line with the North East Regional Waste Management Plan and will process up

to 200,000 tonnes of waste annually. This will generate enough renewable energy to meet the needs of 20,000 homes.

4.9.4 Water Supplies

The provision of safe potable water is a basic human necessity. Within Ireland drinking water is supplied either by the Local Authority, a Group Water Scheme or by private borehole. Meath County Council is directly responsible for the improvement and maintenance of public water services in the County. The quality of both surface and groundwater reserves are an important element of the area's supply of water

and it is critical that resources contributing to the water supply network remain free from contamination.

households within the County in 2011. Almost a third of households within the County receive their water from private sources.

Table 4.12 below demonstrates the household water supply for the 61,922 recorded

Table 4.12: Census 2011 Household Water Supply County Meath

Type of Supply	No of Households
Public Mains	43,689
Local Authority Group Scheme	4,164
Private Group Scheme	913
Other private source	11,361
No piped water	156
Not stated	1,639

Meath County Council currently puts approximately 45,000 m³ of potable water in to supply each day through 20 main water supply schemes and a watermain distribution network totalling approximately 1,800km. Water for Dunboyne, Clonee and Kilcloon is imported from Fingal County Council, the Meath environs of Drogheda, Meath's coastal villages, Duleek, Stamullen and Kentstown are primarily served by an import from Louth County Council and there are small water imports from Kildare, Cavan and Westmeath to serve, Mulhussey/Kilcock, Ballinaclose and Galboystown respectively.

There are a number of water supply resources in Meath made up of river abstraction, lake abstraction and boreholes. Details regarding abstraction points are set out within the Eastern Regional Basin District Characterisation Report. Public Water Supplies obtained from surface water abstraction are located at:

- the River Boyne at Roughgrange which services Drogheda;
- the River Boyne at Scurroughstown which services Trim;
- the River Blackwater at Liscartan, and;
- Lough Bane.

Water Supplies obtained from ground water abstraction include:

- Athboy;
- Ballivor;

- Castle Town;
- Clonard;
- Dunshaughlin;
- East Meath Curragh borehole;
- Enfield;
- Kilmainham Wood;
- Kilmessan;
- Longwood;
- Moynalty;
- Nobber;
- Slane; and
- Summerhill.

The County Meath Groundwater Protection Scheme provides a detailed baseline with regard to aquifer potential and vulnerability.

Group water Schemes, from Ground water sources, include:

- Kiltale;
- Meath Hill;
- Robinstown;
- Clooney Raffin;
- Pottlereagh;
- Drumgill; and
- Lions Den.

An "Assessment of Needs for Water Services Capital Works" has been prepared by Meath Local Authority and contains a ranked list of 31 Water Services Capital Works Projects totaling an estimated cost of €281.2 million which have been identified as requiring substantial

investment in the short to medium term, for the purpose of addressing existing serious infrastructural deficiencies.

4.9.4.1 Drinking Water Quality

There are 18 Water Treatment Plants in County Meath. They are shown in Map 4.14.

The Environmental Protection Agency (EPA) is the supervisory authority for public water supplies and the Local Authority is in turn the supervisory authority for group water schemes. Drinking water is monitored for microbiological, chemical and indicator parameters as part of an established monitoring programme in accordance with European Communities (Drinking Water) (No. 2) Regulations, 2007. The following supplies are monitored:

- All public water supplies
- Public and private group water schemes supplying >10m³ per day
- Private supplies that supply <10m³ per day but is a commercial activity

Results of all monitoring are sent to the EPA for publication in their annual drinking water report.

An internal reporting system is in place allowing constant appraisal of all drinking water results.

Where non-compliances are detected they are reported and action is taken to ensure that the water is compliant with the drinking water regulations.

In relation to the quality of the drinking water supplied by Meath County Council, the most recent data available from the EPA on water quality analysis undertaken by the agency is from the EPA's report "The Provision and Quality of Drinking Water in Ireland - A Report for the Years 2010" published in 2011. The report includes a Remedial Action List (RAL) of Water Supplies for which action is required in order for them to become compliant with the Drinking Water Regulations. The following table outlines the public water supplies (PWS) within Meath that were included in the Remedial Action List in 2010, the reasons for their inclusion and the proposed measure to be taken to rectify their issues.

In 2010, 3 PWS were removed from the RAL (Carrickleck, Lobinstown and Castletown) due to the completion of the necessary remedial works (installation of disinfection systems) and none were added.

Table 4.13: Water supplies on the EPA Remedial Action List 2010.

Name of Water Supply	Population Served	Primary reason for Inclusion on the Remedial Action List (there may be issues other than those listed)	Proposed Action Programme	Interim Measures
Ballinaclose	200	Failed to meet E.coli standard as reported in the Drinking Water Report and needs investigation and improvement if necessary to ensure that the root cause of the problem has been rectified.	Upgrade of water treatment plant	Reservoir bypassed to improve chlorine levels
East Meath	30,000	Elevated levels of THM's above the current standard in the Drinking Water Regulations	Upgrade of water treatment plant to include changes to the chemical dosing and filtration system	Installation of chlorine monitors and alarms

Name of Water Supply	Population Served	Primary reason for Inclusion on the Remedial Action List (there may be issues other than those listed)	Proposed Action Programme	Interim Measures
Kells-Oldcastle	8,250	Inadequate treatment for Cryptosporidium	Upgrade of water treatment plant to include treatment barrier capable of removing Cryptosporidium	Investigation into alternative disinfection chemicals (i.e. UV)
Navan & Mid-Meath PWS	28,000	EPA Audit Observation - Treatment and Management Issues	Improve operation of water treatment plant including implementation of recommendations of EPA audit	N/A
Trim PWS	8,850	Elevated levels of THMs above the standard in the Drinking Water Regulations	Improve operations of water treatment plant following review of the treatment processes	N/A

The five plants listed above serve a population in excess of 75,300, which is a considerably large proportion of the population of Meath. While the issues of concern vary between the plants, the potential threat to human health cannot be ignored.

Stalleen, supplying 55,000 people in Drogheda and counties Meath and Louth is failing to achieve aluminium standards however work to remediate this problem will not commence until September 2012.

Cryptosporidium was identified in the water supply at the Mount Talbot PWS in 2010. The EPA has issued a direction in relation to this.

The EPA report states that microbiological compliance levels in Public Water Supplies in Meath were 100% in both 2009 and 2010 whilst chemical compliance levels have improved from 99.2% in 2009 to 99.7% in 2010.²¹

The trihalomethanes non-compliances were primarily due to the chlorination of water with elevated levels of organic matter present. The fluoride non-compliances were due to elevated levels of fluoride above the Irish standard. However, all samples were below the EU fluoride standard of 1.5 mg/l.

By the end of 2010 all Meath County Council PWS had chlorine monitors and alarms installed to ensure that supplies are adequately disinfected at all times.

4.9.5 Waste Water Treatment and Discharge

The safe treatment and disposal of sewerage is fundamental to the sustainable development of our society. The treatment of waste water is either through wastewater treatment plants or individual septic tank units. The breakdown of the sewerage facilities used by the private households within County Meath in 2006 is given in Table 4.14.

²¹ EPA

Table 4.14 **Census 2011 Household Sewerage Facilities County Meath**

Type of Sewerage Facility	No of Households 2011
Public Scheme	38,293
Individual Septic Tank	18,299
Individual Treatment not Septic Tank	3,099
Other	289
No sewage facility	66
Not stated	1,876

The County is served by over 40 wastewater treatment plants, the majority of which are located within the County borders. (Map 4.15) However the eastern side of the County relies on facilities that are outside the jurisdiction of Meath County Council and therefore represents a transboundary issue. Wastewater from Ashbourne, Ratoath, Kilbride, Dunboyne and Clonee is discharged into the Dublin network where it is treated at Ringsend. In general there is limited capacity in most of the waste water schemes in the County for significant further development, when existing demands together with permitted developments have been connected.

Some of the key points in relation to wastewater treatment are:

- The largest waste water treatment plants (WWTPs) are located at Navan, Trim, Dunshaughlin (Regional) and Kells.
- The largest municipal wastewater treatment plant in County Meath is located at Ferganstown and serves the town of Navan and its environs. The plant has an EPA licensed capacity of 50,000pe and was designed to accommodate expansion to 60,000pe if the need arises.
- The wastewater from Julianstown, Laytown, Bettystown, Mornington and Donacarney discharges to the Drogheda Borough Council waste water treatment works (WWTW) at Marsh Road for treatment. There is limited available capacity to facilitate significant further development in these areas.
- The wastewater from Dunboyne, Clonee, Ashbourne and Ratoath discharges to the Fingal sewer network which subsequently discharges to the Ringsend WWTW for

treatment. There are capacity constraints in the sewer networks conveying to Ringsend WWTW and also at the Ringsend WWTW.

- The required upgrade to the foul sewer system for Dunboyne is dependent on the upgrade to the Ringsend Treatment Plant.

There are 21 agglomerations within Meath with greater than 500 p.e. One of these agglomerations had no treatment or only basic treatment. While there were six agglomerations within the County with secondary treatment that failed EPA standards/guidance values.

Impacts on river water quality are measured by the increase in Molybdate reactive phosphorus (MRP) concentration between the upstream and downstream of outflows under summer low flow conditions (July-August 2005). MRP is a commonly used measure of pollution. This testing was carried out in an attempt to focus on the effects of the individual outflows. Findings indicate that in 6 cases the increase in MRP d/s in the watercourse was in excess of 0.05mg P/l. It would appear from this data that the outflow from these treatment plants is having a significant environmental impact upon these watercourses. In a further 11 cases the increase in MRP concentrations was between 0.014 mg P/l and 0.048 mg P/l although not of comparative significance, these are still considered to have a lesser impact but are nonetheless having a negative impact upon water quality.

In an increasing number of cases around the County, where there are constraints in municipal sewage treatment facilities, small and medium scale treatment facilities have been licensed. There are a number of such plants in Meath, all of which are monitored as a condition

of the license. The cumulative impact and long term maintenance of these facilities may have long term environmental consequences.

4.9.5.1 *Septic Tanks*

There were 18,299 detached housing units served by on site treatment systems recorded in the 2011 census. These systems vary in age, levels of maintenance and suitability to site-specific conditions. There is a large proportion of existing septic tanks within the county which were not designed to deal with the quantity and characteristics of the throughput arising from modern lifestyles.

These systems have a potential negative impact upon both ground and surface water quality.

The recent ruling of the European Court of Justice on septic tanks and other waste water treatment systems has highlighted the need for a system for performance standards, monitoring and inspection of private waste water treatment systems. The Planning Authority currently requires applicants to submit details for waste water treatment systems as per the EPA "Code of Practice for Wastewater Treatment and Disposal Systems for Single Houses (P.E 10 or less)" (2009) document and will continue to implement the most up to date guidelines and standards in this area.

4.9.6 *Energy*

Electricity is provided in Ireland through a national grid system which is made up of a network of high voltage (110,000 volts, 220,000 volts and 400,000 volts) transmission stations, power lines and cables. The system includes approximately 6,000 km of overhead lines and underground cables and over 100 transmission stations. Power is generated by power plants throughout the country, utilising a variety of fuel or energy sources – including gas, oil, coal, peat, hydro-electricity, wind turbines and other sources including biomass and landfill gas.

Technologically advanced societies such as Ireland have become increasingly dependent on external energy sources for transportation, the production of many manufactured goods, and the delivery of energy services. As the problems of climate change and peak oil production become more prevalent, societies

are increasingly turning to renewable energy sources for power. To this end the Government have set a target for 40% of electricity consumed to be generated from renewables by the year 2020.

Within Meath electricity is generated at the newly operational Waste to Energy facility in Duleek. There are also two small hydroelectric schemes at Slane and Navan which produce between 0.1/MW and 0.2 /MW of electricity. Planning permission has also been granted for a 60MW open cycle gas turbine power generation plant at Carranstown.

Ireland's total energy generated from wind is 2031.25 Megawatts. This is generated from 170 wind farms throughout 27 counties.

An assessment of Meath's energy provision carried out in 2002 concluded the County has the potential to increase its' provision of renewable energy through the use of the following options:

- Bio energy using agriculture crops and forestry
- Biomass
- Geothermal power sourced from underground reservoirs and aquifers
- Hydro energy and wave power
- Solar Power
- On and offshore wind farms

Wind and hydro are likely to become two of the most viable forms of renewable energy in the County. Specifically in relation to wind energy and of significant relevance to all areas of the Country is the SEAI's Wind Atlas. This is a digital map of Ireland's wind energy resource and provides detailed information on wind speeds, electricity transmission and distribution networks for specific locations around Ireland at national and county levels. It can provide assistance to developers and policy makers alike. Presently it is used by some local authorities to help identify areas suitable for wind energy developments.

4.9.7 *Existing Environmental Issues*

4.9.7.1 *Transport*

The 2006 Census results show that the residents of County Meath rely heavily on the

use of private cars for transport. Travel patterns show that a high proportion of residents commute long distances by car to school, work, mostly to Dublin. The County is therefore dependent on an efficient and adequate road network. As such, the maintenance and upgrade of the existing road network and where necessary, the provision of new road networks or realignments of existing roads are essential to ensure that the road network and its carrying capacity are maintained to a high standard.

Development pressure from the Dublin metropolitan area and recent road improvements have led in particular to significant growth along the Belfast-Dublin corridor. This has accentuated commuting from Meath into Dublin. This has in turn led to increased pressure on county roads that link primary road corridors. The M3 is the most significant road infrastructure development to have occurred in the County. The road network is unable to cope with the current volume of commuters and this can lead to considerable congestion at peak times. The future delivery of the Navan–Dublin rail line should help to alleviate this problem.

The impact of the economic downturn on travel demand in County Meath is as yet unclear but it is imperative that a sustainable balance is sought between public and private transport modes, for instance the integration of park and ride facilities with public transport provisions. In addition lands planned for future public transport requirements should be protected from inappropriate development.

Other issues in relation to transportation infrastructure relate to the capacity of the train line in east Meath and the need to extend the rail network to Navan.

4.9.7.2 Waste Management

The latest figures from the EPA (2009) show that approximately 60% of municipal waste generated in Ireland was sent to landfill in 2008. The amount of household waste generated in the State equated to 365kg per person, a fall in 3% since 2004. Of this figure an average of 237kg of household waste per person was sent to landfill, equating to a fall in 8.6% since 2004.

Ireland is at risk of not achieving a number of national targets in relation to waste management. In particular current figures are a considerable distance from the target for the diversion from landfill of 50% of household waste by 2013. Both public and private waste collectors have been slow to roll-out source separated waste collection services for bio-waste from households and commercial premises. This has contributed significantly to the failure to progress a number of the targets specified in the National Strategy on Biodegradable Waste (DEHLG, 2006).

4.9.7.3 Water Supplies

With difficulties arising in increasing abstraction levels from the main rivers to meet demand, it is evident that greater dependence will be placed on groundwater to satisfy the increasing demand particularly to the east and south east of the county.

There is currently significant abstraction from the major water courses in County Meath, in particular from the River Boyne. The relationship between flow rates, abstraction rates, assimilative capacity, and the consequent impact on environmental factors into the future is an ongoing concern. Lough Bane supplies drinking water for the Kells/Oldcastle Area. The abstraction/recharge rate within this water-body should be considered in order to ensure the status of this lake is protected.

Following an exceedance of a parametric value, the EPA may issue a Direction under the Drinking Water Regulations, if it is not satisfied that the actions taken by the Water Services Authority are adequate.

The EPA issued a direction to Meath County Council during 2010 in relation to Slane Public Water Supply due to flooding of the borehole caused by a combination of flooding of the River Boyne and inadequate protection of the source.

4.9.7.4 Leakages

The ageing water distribution network and consequent unaccounted for water loss in the older settlements in Meath is of concern. The abstraction and processing of this water which is lost has environmental as well as economic consequences both in relation to its abstraction

and treatment. Unaccounted water represents a considerable proportion of water treated for distribution in County Meath with a loss of 58% reported in 2000. (Meath Outline Rural Water Strategic Plan and Report).

The 'Meath Countywide Water Conservation Project' commenced in November 2005 with funding of €18m. Very substantial success resulted from this project. Over 5,000 leaks were found and fixed and unaccounted for water (UFW) has been reduced from 58% to 35%. Such improvement works resulted in increased water supply capacity.

Water conservation through active leakage control, demand management and pressure management has played and will continue to play a major role in reducing the demand for potable water, thereby facilitating additional developments and improving the level of service to existing developments in the county through the existing watermains networks.

4.9.7.5 Private boreholes

In an increasing number of cases where development has been restricted by deficiencies in water supply infrastructure, boreholes and water treatment facilities have been provided by developers. Although good mapping now exists with regard to the location, and broad capacity of aquifers in the County, the rates at which they replenish has not been established.

4.9.7.6 Capacity

The total water supply distribution input for County Meath is currently approximately 45Ml/day.

While the water treatment plant in Stalleen is located within Co. Meath, it is operated by Louth County Council. There is an agreement between Louth County Council and Meath County Council to allocate 47% of the capacity of that plant to Meath. The capacity allocation to Meath equates to approximately 15,000 m³/day. It is estimated that Meath currently uses 12,500 m³/day of that allocation. The Stalleen Water Treatment Works is nearing capacity.

The East Meath, Drogheda and South Louth Water Supply Scheme will cater for the water services needs of East Meath, Drogheda and

South Louth up to at least the year 2030. This will include the development of substantial ground water sources in the East Meath Area to meet the projected water supply needs of East Meath and the Meath environs of Drogheda. The scheme is proposed on a phased basis and will reduce Meath County Council's reliance for water on Louth Local Authorities. Phase 1 of the Kiltrough Augmentation Scheme has been completed and is providing an additional 3,000m³/day of water to Meath from boreholes at Kiltrough water tower.

In the meantime, Meath County Council has acknowledged that the current water supply situation places a constraint on additional large-scale development in the environs of Drogheda.

The two existing water treatment plants serving Navan and environs are nearing capacity and there is limited scope to produce additional water from these plants. The ability, therefore, to serve significant further development in Navan from the existing supplies is limited. Spare capacity on the Navan scheme is currently estimated at only approximately 5,000 p.e. and much of this has already been committed to pending developments, i.e. developments that have been granted but not yet constructed and occupied.

Dunboyne and Clonee are supplied via imports to County Meath from Fingal County Council. The Dunboyne/Clonee Water Supply Scheme Stage 1, which involves the laying of approximately 6km of new trunk/distribution main from Fingal to Dunboyne together with provision of necessary storage and a new booster pumping station, is included in the 2009 Water Services Needs Assessment. This infrastructure will allow Meath County Council to import up to 5,400m³/day of water from Fingal. The current supply pipe has a hydraulic capacity of approximately 2,800m³/day. Currently Meath imports c. 2,300 m³/day hence there is a limited amount of spare capacity. If included in the next Water Services Investment Programme, these required works could be realised by 2016. Therefore, in the meantime, water supply is a constraint to substantial further development.

4.9.7.7 Wastewater Treatment

Meath has a large number of watercourses to

which effluent is discharged both by Meath County Council from its municipal waste water treatment plants and privately by license issued by the Environment Section of Meath County Council. The assimilative capacity of these water courses represents a significant asset to facilitate development within the County.

The EPA report *Urban Waste Water Discharges in Ireland: A Report for the Years 2006 and 2007* found that both Navan and Trim treatment plants were not compliant with the Regulations which set the limits for the discharge of phosphorus from waste water treatment plants to designated sensitive areas. The concentration limit (annual mean) for total phosphorus is 2mg/l P plants from 10,000 to 100,000 p.e. and 1mg/l P for plants greater than 100,000 p.e. The Navan plant exceeded the limit with an annual mean total Phosphorous mg/l of 2.52. Trim treatment plant failed to achieve the required sampling frequency.

Recurring problems identified at waste water treatment plants audited by the EPA include: inadequate collecting systems for waste water (e.g. poorly performing combined sewer overflows); insufficient treatment capacity; poor effluent quality; insufficient sampling frequencies; lack of training for plant operators; poor assimilative capacity for discharged effluent in the receiving waters, and; poor sludge management on site.

Wastewater from Drogheda and its immediate environs is pumped to the Drogheda Wastewater Treatment Plant (WWTP). There is significant shortfall in the availability of wastewater treatment capacity in the Drogheda Treatment Plant to cater for the projected needs of Drogheda.

The new upgraded Drogheda Wastewater Treatment Plant will only partially address capacity constraints and further substantial works are required to deliver a long-term solution to wastewater treatment in the region.

As highlighted there is insufficient wastewater treatment infrastructure in the County to serve the existing and future population. Therefore, there is a need to provide additional wastewater treatment infrastructure/capacity.

The status of both water supply and waste water disposal infrastructure are currently significant constraints to development in County Meath. The water bodies within the County are suffering environmental damage from inadequacy in the capacity of both private and Local Authority systems and the assimilative capacity of receiving waters. This is affecting river and estuarine water quality, ground water, and seawater.

4.9.7.8 Urban runoff

Urban runoff is the surface runoff of rainwater caused by urbanization. The pollution potential of the surface water run off is becoming increasingly of concern particularly its cumulative impact over entire catchment areas. Any increase in impervious surfaces such as roads, carparks, and roofed areas will increase the amount of runoff accumulated during precipitation events, and in turn decrease the level of waters percolating naturally through the soil.

Problems of overloading sewerage and surface water disposal systems will be exacerbated without the provision of necessary additional infrastructure improvements to serve future development.

4.9.7.9 Energy

County Meath is overly reliant on external and non renewable energy sources. While renewable energy is to be welcomed any new wind farm development within Meath must be carefully sited and designed so as to avoid negative impacts on the protected views and landscapes of the County.

4.9.8 Effects of Not Implementing the Plan

In the absence of the Meath County Development Plan 2013-2019, issues such as future water demand, resource identification and protection will not be comprehensively assessed resulting in a poor level of service provision impacting on current and future development. Also, the future investment in key infrastructure will not be targeted appropriately to key development areas. The result would be a haphazard, un-coordinated delivery of service, resulting in negative environmental impacts.

4.10

Cultural Heritage

4.10.1 Introduction

Cultural heritage can be defined as the legacy of physical objects and intangible attributes of a group or society that are inherited from past generations, preserved in the present

and maintained for the benefit of future generations.

The UNESCO definition of Cultural Heritage states:

the entire corpus of material signs - either artistic or symbolic - handed on by the past to each culture and, therefore, to the whole of humankind. As a constituent part of the affirmation and enrichment of cultural identities, as a legacy belonging to all humankind, the cultural heritage gives each particular place its recognizable features and is the storehouse of human experience. The preservation and the presentation of the cultural heritage are therefore a corner-stone of any cultural policy.

Within County Meath there is an abundance of monuments, groups of buildings and sites of extreme importance in cultural heritage terms. Map 4.16 highlights some of the most important sites within the County. These heritage sites are significant both in their number and their importance, on both a national and an international level. The County contains some of the country's most important heritage sites including the UNESCO World Heritage site of Brú na Bóinne and the Hill of Tara. In addition to the intrinsic value of the cultural heritage of Meath, the County also benefits economically through the tourism value of these sites and their ability to attract visitors. Within this great variety of building types and uses are structures of architectural heritage significance and distinctive character that are deemed worthy of protection.

In addition to the sites listed above there are a host of other important sites of national and local value and include:

- Battle of the Boyne Site
- Bective Abbey
- Fourknocks
- Hill of Slane
- Loughcrew Cairns
- Newgrange
- St. Columcille's House
- Tower of Lloyd
- Trim Castle

4.10.2 National Monuments or Archaeological Heritage

The archaeological heritage of an area includes structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other types as well as their context, whether situated on or under land or water. County Meath has a wealth of archaeological sites ranging from cairns and passage graves to medieval churches and castles. For example, the archaeological complexes of Newgrange, Knowth, Dowth, Tara and Loughcrew are of international archaeological significance whilst the towns of Trim, Kells and Slane are also of particular archaeological significance with very important medieval structures surviving intact above ground and the potential of archaeological finds below ground.

The prime archaeological resource in the county, namely Brú na Bóinne has been designated as a World Heritage Site by UNESCO. The site contains many outstanding archaeological features, notably its megalithic art, the large and varied grouping of monuments and evidence of continuous settlement and activity in the area for some 7,000 years (this is discussed in more detail below). The Tara Complex and Monastic Site of Kells were recently added to Ireland's Tentative World Heritage list.

The National Monuments Acts 1930 – 2004 provide for the protection of archaeological

heritage. The Record of Monuments and Places (RMP) was established under Section 12 of the National Monuments (Amendment) Act 1994 and structures, features, objects or sites listed in this Record are known as Recorded Monuments. As well as extending protection to all known sites, now identified as Recorded Monuments, the National Monuments Acts 1930 – 2004 extends protection to all previously unknown archaeological items and sites that are uncovered through ground disturbance or the accidental discovery of sites located underwater. Where necessary, the Minister for Arts, Heritage and the Gaeltacht will issue preservation orders to ensure protection is afforded to sites believed to be under threat. It should be noted that any direct impacts on national monuments in State or Local Authority care or subject to a preservation order will require the consent of the Minister for Arts, Heritage and the Gaeltacht and the National Museum of Ireland under Section 14 of the National Monuments Act 1930 as amended by Section 5 of the National Monuments (Amendment) Act 2004. Any potential impacts on archaeological heritage should be subject to full archaeological assessment.

There are 52 National Monuments in Meath in the ownership or guardianship of the Minister for Arts, Heritage and the Gaeltacht. Other monuments which may be defined as national monuments are in the ownership or guardianship of the Local Authorities who have responsibilities under the National Monuments Acts (1930-2004) for their care.

In addition there are over 6000 sites/ structures highlighted on the Sites and Monuments Record (SMR), the majority of which are present on privately owned land.

The DAHG excavations database has a record of 1,990 Irish Excavation Reports for the County of Meath. This database contains summary accounts of all the excavations carried out in Ireland (North and South) from 1970 to 2007. This further illustrates the extent of archaeological heritage in the County.

4.10.3 UNESCO World Heritage site of Brú na Bóinne

The archaeological complex of Brú na Bóinne

covers an area of 780 hectares and comprises many exceptional archaeological features, notably its megalithic art, the large and varied grouping of monuments and evidence of continuous settlement and activity in the area for some 7,000 years. There are 93 Recorded Monuments within the boundary of the Brú na Bóinne. The most well known of the sites within the Brú na Bóinne are the megalithic tombs of Newgrange, Knowth and Dowth. The complex has been designated as a World Heritage Site by UNESCO and is described by UNESCO as 'Europe's largest and most important concentration of prehistoric megalithic art.' A buffer area of 2,560 ha. was recommended around the complex by UNESCO and the State is legally obliged to protect the area to the highest international standards.

4.10.4 Hill of Tara

The Hill of Tara is considered the ceremonial and mythical capital of Ireland, and is the centerpiece of a large archaeological landscape with hundreds of significant sites. Celtic in origin, Tara is said to be the location of St. Patrick's conversion of the Irish to Christianity in the early fifth century, and was the coronation site of Irish kings between the sixth and twelfth centuries. Tara is one of the most important focal points of the cultural landscape of Ireland.

4.10.5 Industrial Heritage

The County contains significant stretches of both operational and derelict waterways and historic railway infrastructure which together with mills and lime kilns represent major heritage artefacts. Meath County Council has completed a study of Industrial Heritage of the County and compiled a database based on existing cartographic and historical sources, and on information contained within relevant statutory databases such as the Record of Monuments and Places.

4.10.6 Architectural Heritage

4.10.6.1 Protected Structures and ACAs

County Meath possesses a remarkably diverse and rich architectural heritage that forms an integral part of the county's landscape. In 1999 the Government launched a package of measures aimed at protecting our built heritage. At the heart of the system is a

statutory requirement that the protection of buildings of artistic, architectural, historical, cultural, archaeological, scientific, technical or social interest be a mandatory objective of the Development Plan of each Local Authority. These buildings and structures are compiled on a register known as the "Record of Protected Structures" (RPS). There are 1,422 protected structures in County Meath.

4.10.6.2 Vernacular Architecture

Vernacular Architecture describes the local regional traditional building forms and types using indigenous materials, and without "grand architectural pretensions", i.e. the homes and workplaces of the ordinary people built by local people using local materials. This is in contrast to formal architecture, such as the grand estate houses of the gentry, churches and public buildings, which were often designed by architects or engineers.

The majority of vernacular buildings are domestic dwellings. Examples of other structures that may fall into this category include shops, outbuildings, mills, limekilns, farmsteads, forges, gates and gate piers.

4.10.6.3 NIAH

The National Inventory of Architectural Heritage (NIAH) was established under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999. Under the NIAH, surveys of the post-1700 architectural heritage of Ireland were carried out on a county wide basis. As part of the initiative, a survey of Meath was carried out in 2002. It lists the structures of interest to be found throughout the County. These structures include Castles, Gate lodges, Follies, Farmhouses and Cottages which can be found throughout the countryside, while the heritage towns of Meath, Kells and Slane contain many fine period buildings.

4.10.6.4 Architectural Conservation Area (ACA)

Section 81 of the Planning & Development Act 2000-2011 places a statutory obligation on Planning Authorities to ensure that all development plans must now include objectives to preserve the character of a place, area, group of structures or townscape that is:

(a) of special architectural, historical,

- archaeological, artistic, cultural, scientific, social or technical interest or value, or
- (b) contributes to the appreciation of protected structures.

Such areas are defined as Architectural Conservation Areas (ACAs) and their inclusion within the Development Plan affords greater control over the form of development and reduces instances of inappropriate development, demolition and change within the designated area. There are 21 Architectural Conservation Areas (ACAs) within County Meath:

- Ardbraccan Demesne
- Athboy
- Dunboyne
- Dunsany Castle Demesne
- Headfort Demesne
- Julianstown
- Kilmessan
- Laytown
- Longwood
- Moynalty
- Oldbridge Demesne
- Oldcastle
- Slane
- Slane Castle Demesne
- Slane Mill Complex
- Summerhill
- Somerville Demesne
- Stackallen Demesne
- Navan
- Trim
- Kells

Detailed statements of character which include planning guidance have been prepared and published for the majority of the ACAs within County Meath, with the remaining to be prepared over the lifetime of the plan.

4.10.6.5 Heritage Towns

In addition to individual sites of cultural significance County Meath has two Heritage Towns, Kells and Trim which were designated by Bord Fáilte because of their unique heritage resources and potential to achieve tourism development and growth.

4.10.7 Cultural landscapes

The landscape character of the Plan area,

particularly the prehistoric monuments, is an important part of the area's cultural history which reflects the actively settled nature of the area over many centuries. There is a rich landscape heritage particularly the UNESCO World Heritage Site of Brú na Bóinne, Tara, Loughcrew and the site of the Battle of the Boyne; one of Ireland's most iconic historic events, which affected the course of European history.

The Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention), was adopted by The United Nations Educational, Scientific and Cultural Organisation (UNESCO) in 1972 and ratified by Ireland in 1991. The Convention defines the kind of natural or cultural sites which can be considered for inscription on the World Heritage List. The Convention sets out the duties of States in identifying potential sites and their role in protecting and preserving them. The States Parties are encouraged to integrate the protection of the cultural and natural heritage into regional planning programmes. Brú na Bóinne was inscribed as a UNESCO World Heritage Site in December 1993 and its designation status requires that it be protected and preserved because of its outstanding universal value.

4.10.8 Existing Environmental Issues

Cultural Heritage, including all its various elements, represents a finite resource, one which must be protected in order to enrich future generations. Thus, development which is deemed to adversely impact on structures, features, historical areas etc must not be permitted. A proactive approach needs to be maintained by the Local Authority, working in conjunction with the various state agencies and departments as well as stakeholders to ensure the ongoing protection of this element of the environment.

Currently the most immediate threat to the cultural heritage of County Meath is development pressure which can lead to a loss or impairment of a feature of importance. Furthermore it is recognized that our heritage has an economic value particularly in terms of tourism. However unsustainable tourism must be avoided and care taken to ensure a balance

is achieved between the economic gain that cultural heritage can bring and the preservation of the structures / sites of interest. In particular, sites such as the UNESCO World Heritage site of Brú na Bóinne and the Battle of the Boyne site must be carefully managed to ensure that their cultural integrity is maintained.

The Brú na Bóinne area is extremely sensitive to all types of new development, particularly housing, large agricultural structures, extractive industries, commercial afforestation and masts or other tall structures which impinge from outside the visual envelope along the valley. There are a large number of views and prospects that are sensitive to inappropriate forms of development.

4.10.9 Effects of Not Implementing the Plan

The landscapes, sites, structures and artefacts that make up the cultural heritage of County Meath are integral to the identity and character of the County. In the absence of the Meath County Development Plan 2013-2019 there would likely be severe negative impacts on the cultural heritage of County Meath as development would be allowed to take place in inappropriate areas. The landscapes of County Meath, important vistas and views, would no longer be protected as restrictions on inappropriate development would not be in place.

Indirectly the absence of a Development Plan would be likely to have a negative impact on the cultural amenity and tourism value of the heritage sites of County Meath. Ad-hoc uncontrolled development could lead to significant impacts on subsoil archaeological artefacts. Furthermore, the cumulative effects of individual developments would not be easily monitored or coordinated and assessed for their effects on the archaeological landscape, built environment and Architectural Conservation Areas (ACAs).

4.11.1 Introduction

The European Landscape Convention 2000 defines landscape as:

An area as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.

The concept of landscape encompasses all that can be seen by looking across an area of land, i.e. it is the visible environment in its entirety. Landscape is the context in which all change takes place and helps to create a unique sense of place or identity within an area. The landscape is constantly changing, both through the actions of nature and also through human intervention. Therefore the challenge is to bring about change and development in a manner that respects and enhances the landscape as opposed to detracting from it.

County Meath has a rich and varied landscape with historic features dating back to prehistory and many well-known tourist attractions related to its heritage. The County retains a strong connection with traditional agriculture and the landscape supports a wide range of ecological habitats despite the rapid growth in its resident population. It is the interaction of all of these elements that influences landscape character for future generations.

Meath is largely an inland county however it does include a short stretch of coastline. This coastline is characterized by wide sandy beaches and river estuaries. Agriculture is predominantly pasture and livestock production. Towards the south and east of the County large scale commercial farms and stud farms are evident. Whilst commercial forestry is not widespread there are several large forestry plantations within the County. The majority of these are in lowland areas thus limiting adverse visual impacts. Broadleaf woods and copses are widespread and mature trees encircle many historic features such as raths and graveyards which form prominent and attractive features. Valuable pockets of old estate woodland can also be found throughout the County.

Local landscapes, including features such as rivers, streams, ponds, lakes, turloughs, woodlands, hedgerows and field boundaries, make a considerable contribution to the amenity and local distinctiveness of both urban and rural landscapes. It is these landscapes that are most in danger from permanent alteration due to development. Hedgerows, shelter belts and stone walls make a significant contribution to the appearance and character of the local environment while also being important wildlife habitats.

As discussed in section 4.10 there is a wealth of built heritage within the County; three of its towns retain a relatively intact historic core. These are Kells, Trim and Navan. Both Kells and Trim are designated Heritage Towns. The County also contains a considerable number of small settlements, known as graigs, which are built around crossroads. Over the past number of years many of these settlements have come under considerable building pressure and have expanded well beyond their original scale. Conversely others remain as relatively remote rural clusters of vernacular buildings.

The Meath Landscape Character Assessment which was prepared in 2007 gives a comprehensive overview of the landscape of County Meath and the issues pertaining to it. For the purposes of that study the landscape of the County is divided into Landscape Character Types which are then further divided into Landscape Character Areas. Map 4.17 highlights the Landscape Character Areas of Meath and their respective sensitivities.

4.11.2 Landscape Character Types

Landscape Character Types (LCTs) are generic areas of distinctive character which

may occur within several places across the County. They are similar in terms of their overall characteristics although the condition and quality of their individual components may vary. LCT's are further divided into Landscape Character Areas (LCAs) which are geographically specific areas located throughout the County.

The County has been divided into 4 Landscape Character Areas

- (1) Hills and Upland Areas
- (2) Lowland Areas
- (3) River Corridors and Estuaries
- (4) Coastal Areas

4.11.2.1 Hills and Upland Areas

Hills and uplands are a prominent feature in the north and west of the County. The peaks of these hills provide panoramic views to the lowland landscape within the County and further afield. The Tara, Skryne and Slane hills are dominant by virtue of landmarks at their summits as well as their topography.

The hills and uplands contain important historical features with an abundance of archaeological sites and artefacts. The Loughcrew and Tara Hills especially are rich in prehistoric artefacts and contain evidence of human settlement extending back over 9,000 years.

Due to their historic and cultural value the views afforded from these hills are a valuable resource in terms of tourism. However they are at present somewhat isolated and separate entities. Some upland areas are particularly sensitive to new development due to their remote nature and intrinsic landscape features, such as dry stone walls.

4.11.2.2 Lowland Areas

The largest character type in terms of area covered is the lowland character type. Due to the high quality of the land it is predominantly in agricultural usage. In the south there is an abundance of 18th Century demesnes with extensive areas of woodland and parkland bounded by original stonewalls, creating an attractive setting for the numerous estate houses.

Much of the lowlands have an enclosed character with road corridors bounded by

numerous mature trees, dense hedgerows and parkland areas of woodland. Views of landmarks in the surrounding upland areas are a valuable characteristic of this area. The views of the hills of Loughcrew, Tara and Skryne as well as mottes, raths and wooded hilltops should be retained.

The lowland has been more extensively developed over recent years due to pressure from the Dublin metropolitan area. This has led to a change in the landscape character. For instance the myriad of architectural styles are not generally in keeping with the historic vernacular.

4.11.2.3 River Corridors and Estuaries

The lowlands described above are divided by a number of key river corridors. The River Boyne is the largest and most prominent river feature within this character type. The river runs from the southwest corner of the County through Trim, Navan (where it merges with the River Blackwater), Slane and Drogheda. The river is well enclosed with wooded features along much of its length. Excellent views are afforded of the Boyne as it meanders through the countryside particularly around Slane where it cuts through a large flat bottomed valley.

The River Blackwater runs between Kells and Navan where as stated it merges with the River Boyne. The river's Nanny and Delvin have largely undeveloped corridors and thus high ecological value. Both estuaries are densely wooded, particularly the Nanny and are largely undisturbed and therefore very sensitive.

The Royal Canal runs near the southern border of the County and is a product of 19th Century industry. Several towns have developed in Meath due to the canals presence. All rivers and canals provide tourism and recreation potential including fishing, walking, cycling and water sports.

4.11.2.4 Coastal Plain

The coastline of County Meath is relatively short, extending to approximately 10 km. Extensive areas of sandy beaches are punctuated by the estuaries of the Rivers Boyne and Nanny. The coast has a largely undisturbed and remote character with the exceptions of the built up areas of Bettystown,

Laytown and Mornington. The landscape and seascape is complex with diverse habitats and well wooded river corridors however the seaside developments with the settlements is largely at odds with this description and the general scenic value of this character type.

4.11.3 Landscape Character Areas

A detailed description of the landscape character areas (LCA) of County Meath are set out in Appendix 7 of the Meath Landscape Character Assessment. It sets out the sensitivity of each LCA and the nature of development generally acceptable within the each particular area. The Boyne Valley, Tara Skyrne Hills and Loughcrew and Slieve na Calliagh Hills are seen as landscapes of exceptional value.

Table 4.15 below outlines the potential capacity of each LCA to accommodate various classes of development. Each area is ranked No, Low, Medium or High capacity for the 10 types of development as listed. The table shows that the Loughcrew and Slieve na Calliagh Hills LCA has limited or no capacity to accommodate any further development save for medium capacity to accommodate Visitor Facilities or Biomass and Forestry. It does however have a high capacity to accommodate the conversion of existing buildings. The Nanny Valley has low capacity to accommodate any further development in its landscape while the Boyne Valley has low capacity for all types of development apart from medium capacity for visitor facilities and the conversion of existing facilities.

Table 4.15: Landscape Character Areas and their ability to accommodate development

	Potential Capacity to accommodate development: Low, Medium, High									
Landscape Character Area	1. Large Scale Buildings	2. Visitor Facilities	3. Multi-House Residential	4. One-off houses	5. Conversion existing buildings	6. Overhead cables, masts, sub-stations	7. Roads and railways	8. Under-ground services	9. Wind turbines	10. Biomass and Forestry
1. Teervurcher Uplands	Med-Low	High	Low	Low	High	Medium	Medium	Medium	Medium	Medium
2. North Meath Lakelands	Medium	High	Medium	High	High	Low	Medium	Medium	Medium	Medium
3. North Navan Lowlands	Medium	High	Medium	Low	High	High-Med	High	Medium	Medium	High
4. Rathkenny Hills	Medium	High	Low - No	Medium	High	Low	Medium	Medium	Low-Med	Low
5. Boyne Valley	Low	Medium	Low	Low	Medium	Low	Low	Low	Low	Low
6. Central Lowlands	Medium	High	Medium	Medium	Medium	Medium	Medium	Medium	Low-Med	Medium
7. Coastal Plains	Low	Low	Medium	Medium	Medium	Low	Low	Low	Med-Low	Medium
8. Nanny Valley	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
9. Bellewstown Hills	Medium	Medium	Low	Medium	Medium	Low	Low	Low		Low
10. The Ward Lowlands	Medium	Medium	Low	Medium	Medium	Low	Medium	Low	Low	Low
11. South East Lowlands	Medium	Medium	Low	Medium	Medium	Medium	Medium	Medium	Low-Med	Low
12. Tara-Skyrne Hills	Low	Medium	Low	Medium	Medium	Low	Low	Low	Low	Low
13. Rathmoylon Lowlands	High	Medium	Low	Medium	Medium	Low	Low	Low	Low	Low
14. Royal Canal	Low	Medium	Low	Medium	Medium	Medium	Low	Medium	Medium	Low
15. South West Lowlands	Medium	High	Low	Low	High	Medium	Med-Low	Med-Low	Medium	Medium
16. West Navan Lowlands	Medium	High	Medium	Med-High	High	Med-Low	Med-Low	Med-Low	Medium	Medium
17. South west Kells Lowlands	Medium	High	Low	Medium	High	Low	Low	Medium	Low	Medium
18. Lough Sheelin Uplands	Medium	High	Low	Med-High	High	Low	Low	Low	Low	Medium
19. Loughcrew and Slieve na Calliagh Hills	Low	Medium	No	Low-Med	High	No	No	No	No	Medium
20. Blackwater Valley	Low	High	Low	Low	High	Medium	Medium	Medium		Low

4.11.4 Views and Prospects

In addition to the Landscape Character Areas and Types a number of views and prospects are of value and worthy of continued protection from inappropriate development either in nature or scale. A fully revised and updated listed of over 94 Protected Views and Prospects is provided in Appendix 12 of the County Development Plan 2013 - 2019.

4.11.5 Existing Environmental Issues

The Landscape Character Assessment for Meath identifies the unprecedented population growth experienced in the County as a threat to its landscapes and historic settlement structure. Modern unsympathetic development is also a threat to the landscape quality. In many areas of the County hedgerows have been removed and replaced with post and wire fencing resulting in an open and more diminished landscape condition.

Urban areas particularly within commuting distance of the capital have grown rapidly which has eroded the essential character of these towns. Generally the volume of large development within these towns is not in keeping with their character or scale and has created a series of autonomous developments with no reference to their rural setting. Also many settlements have grown at a rate that the historic centres have become detached from the majority of their populations and the relationship between urban areas and landscape setting has been largely lost.

In the upland area of the Plan, visual detractors such as masts in prominent high points threaten the visual quality of the landscape. The dereliction of farms and stone cottages and their replacement by modern bungalows not reflective of traditional vernacular styles have also impacted on the area. The development of access roads for communication masts and forestry has also impacted adversely on sensitive moor habitats which exist within this area.

Urban areas particularly within commuting distance of the capital have grown rapidly

which has eroded the essential character of these towns. Generally the volume of large development within these towns is not in keeping with their character or scale and has created a series of autonomous developments with no reference to their rural setting. Also many settlements have grown at such a rate that their historic centres have become detached from the majority of their populations and the relationship between urban areas and landscape setting has been largely lost.

There has been a growing trend nationally towards so called one off housing in rural areas. While accommodating a local need for housing, this can impact severely on landscape setting, if developments are sited in an insensitive manner.

The landscape of County Meath is under pressure from several factors which could result in a deterioration in its quality. Modern farming practices threaten the traditional field pattern and have resulted in loss of the stone walls and hedgerows which add to the inherent rural nature of large parts of the landscape of Meath. Urban generated development pressure also threatens rural parts of County Meath, in particular those areas adjacent to Dublin and surrounding the counties larger towns and settlements.

Risks to the landscape of Meath include fragmentation, loss of landscape integrity, dilution of inherent landscape character, unplanned uncontrolled expansion of urban settlements, planting and spread of invasive species.

4.11.6 Effects of Not Implementing the Plan

In the absence of the Development Plan the issues highlighted above will remain, indeed without appropriate control the issues may become exacerbated leading to a further diminution of the environment. Thus the Development Plan process plays a pivotal role in combating the negative affects on the landscape aspect of the environment.

4.12

Interactions

The environment is both complex and dynamic and the various elements of the environment interact in an equally complex and dynamic manner. The permutations can be numerous; however at a simplistic level the principal interactions can be either qualified or quantified in most instances.

These interactions can be either benign or unfavourable; can be either proportionate or synergistic; can be short lived or permanent. In addition an event, an individual action or an ongoing activity can have an effect on one or more aspects of the environment. This effect may differ in magnitude, type and duration across several different aspects of the environment.

For example the potential exists for discharges of treated effluent from wastewater plants to surface water systems to impact negatively on water quality. Similarly the use of septic tanks can impact negatively on the quality of ground

water resources if working inefficiently or inappropriately sited. This report has attempted to deal with the issues at a 'root' level thereby diminishing the necessity to discuss further the possible and numerous interactions between the various environmental receptors.

This environmental report has approached each of the environmental receptors on an individual basis though it is fully cognisant of the relationship between the various elements. The report has therefore attempted to present the data in such a way as to indicate fully the potential for impacts on other aspects of the environment where they may occur or indeed are likely to occur.

To highlight the extent of the relationship between the various elements of the environment the matrix (Table 4.16) provides an indication of the interactions present between environmental receptors.

Table 4.16 Environmental Interactions

		Human Beings - Quality of Life	Biodiversity - Flora and Fauna	Soil and Geology	Water Quality - Surface and Ground	Flooding	Landscape and Visual Issues	Material Assets - Wastewater Treatment	Material Assets - Water Supplies	Material Assets - Transportation	Material Assets - Waste Management	Material Assets - Energy	Cultural Heritage	Air Quality	Noise
Is this aspect of the environment likely to interact with other aspects of the environment?	Human Beings – Population		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Biodiversity - Flora and Fauna	Y					Y							Y	
	Soil and Geology	Y	Y		Y	Y			Y					Y	
	Water Quality - Surface and Ground	Y	Y	Y					Y						
	Flooding	Y	Y	Y	Y		Y	Y	Y	Y			Y		
	Landscape and Visual Issues	Y											Y		
	Material Assets - Wastewater Treatment	Y	Y		Y	Y			Y						
	Material Assets - Water Supplies	Y													
	Material Assets – Transportation	Y					Y	Y						Y	Y
	Material Assets - Waste Management	Y		Y	Y		Y		Y	Y		Y		Y	
	Material Assets – Energy	Y	Y				Y								
	Cultural Heritage	Y	Y				Y			Y					
	Air Quality	Y													
	Noise	Y	Y												

The significant aspect of the matrix is the relationship between human beings and all aspects of the environment. There are three simple conclusions to be drawn from the matrix; people benefit most from a high

quality environment; people are collectively responsible for the adverse impacts that can occur; and people are most seriously affected by a deterioration in environmental quality.

5

Strategic Environmental Objectives, Targets and Indicators

5.1

Introduction

The primary objective of the SEA is to provide for a high level of environmental protection and to contribute to the integration of environmental considerations into the preparation and adoption of the Meath County Development Plan 2013-2019.

Article 5 of the SEA Directive requires the identification of environmental protection objectives relevant to the Development Plan. These Strategic Environmental Objectives (SEOs) assist in the prediction, description and monitoring of impacts on the environment as a result of the Development Plan. Indicators allow impacts to be assessed and highlighted in a simple and effective manner. Indicators can also be used to form the basis of a monitoring programme for the Plan, (outlined in Chapter 9 of this Environmental Report) the results of which will inform the next Plan Review and other studies.

Thus to achieve the aim of assessing and improving the environmental performance of the Development Plan, a number of Environmental Objectives, specific to each environmental topic have been formulated. These SEOs are a fundamental part of the SEA process. The Objectives are derived through consultation between the Planning Authority, the report authors (guided by SEA guidelines, incorporating where relevant international,

national and regional policies which govern environmental protection/conservation) and are based on the overall strategy of the Planning Authority to safeguard the environmental integrity of the Development Plan area and to develop its functional area in a sustainable manner.

SEOs are distinct from the objectives and policies contained in the plan, though the process of preparing the Development Plan in conjunction with the SEA allows for the incorporation of environmental themes at an early stage of the process. The Strategic Environmental Objectives (as set out in Table 5.1) are used to assess the proposed development strategies of the Development Plan, its policies and objectives, in order to evaluate and identify where conflicts may occur. The assessment is summarised in Chapter 7 and a full assessment matrix is provided in Table 7.1.

Allied to the development of the Strategic Environmental Objectives are Environmental Indicators and targets. Indicators facilitate the monitoring aspect of the SEA, while targets provide a realistic and achievable target to which the Local Authority can work towards. The indicators are discussed in more detail in Chapter 9.

Table 5.1 Strategic Environmental Objectives (SEOs)

Environmental Parameter	No.	Objective
Biodiversity	B1	Conserve the diversity of habitats and protected species avoiding irreversible losses.
	B2	Promote measures to protect biodiversity by creating and improving habitats, where possible.
	B3	Provide opportunities for sustainable public access to wildlife and wild places at appropriate locations.
	B4	Avoid damage by development to designated wildlife sites and protected species.

Environmental Parameter	No.	Objective
Population	P1	Improve people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns
Human Health	H1	Minimise noise, vibration and emissions from traffic, industrial processes and extractive industry
Soil	S1	Maintain the quality of soils
	S2	Maximise the sustainable re-use of brownfield lands, and maximise the use of the existing built environment rather than developing greenfield lands
	S3	Minimise the consumption of non-renewable sand, gravel and rock deposits
	S4	Minimise the amount of waste to landfill
Water	W1	Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems
	W2	Promote sustainable water use based on a long-term protection of available water resources
	W3	Reduce progressively discharges of polluting substances to waters
	W4	Mitigate the effects of floods and droughts including vulnerability to climate change (i.e. extreme weather, sea level rise, coastal erosion)
Air	A1	Reduce all forms of air pollution
	A2	Minimise emissions of greenhouse gases to contribute to a reduction and avoidance of human-induced global climate change
	A3	Reduce waste of energy, and maximise use of renewable energy sources
	A4	Assess, plan and manage adaptation to climate change impacts
	A5	Reduce the need to travel
Material Assets	MA1	Maximise use of the existing built environment
	MA2	Avoid flood risk and/or coastal erosion in selecting sites for development
	MA3	Maintain water abstraction, run-off and recharge within carrying capacity (including future capacity)
	MA4	Maintain the quality of and access to assets such as aquifers, aggregates, ports, motorways, and all physical and social infrastructures.
Cultural Heritage	CH1	Promote the protection and conservation of the cultural heritage, including architectural and archaeological heritage
Landscape	L1	Conserve and enhance valued natural and historic landscapes, their character and features within them

6

Alternative Plan Scenarios

6.1

Introduction

The issue of alternatives is a critical function of the SEA process and is necessary to evaluate the likely environmental consequences of a range of alternative development strategies for the county within the constraints imposed by environmental conditions. The alternative plan scenarios were considered at an early stage of the process and through an iterative process with the Development Plan, SEA and AA teams the most appropriate development plan scenario was selected.

Article 5 of the SEA Directive requires the consideration of reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme and the significant environmental effects of the alternatives proposed.

In accordance with SEA guidelines the alternatives put forward should be reasonable, realistic and capable of implementation. They should also be in line with the appropriate strategic level at which the Plan will be implemented within the national planning hierarchy. The Meath County Development

Plan 2013-2019 will be framed within a policy context set by a hierarchy of National and Regional level strategic plans as well as the Irish and European legislative framework. Therefore the options for alternatives are limited, and a scenario such as the 'do nothing' situation has not been included as it is not reasonable nor realistic.

The alternatives proposed have been assessed against the relevant Strategic Environmental Objectives (SEOs) established for the key aspects of the environment likely to be affected by the Plan's implementation. The evaluation process resulted in the identification of potential impacts and informed the selection of the preferred development scenario for the Meath County Development Plan 2013-2019. This determination sought to understand whether each alternative was likely to improve, conflict with, or have a neutral interaction with the environment of the county.

The vision statement of the Meath Development Plan 2013-2019 is for:

Meath to be a county that fosters sustainability throughout its vibrant communities, dynamic economy and unique cultural and natural heritage.

The plan is based on the principles of sustainable development which means that development will be promoted in accordance with the appropriate international, national and regional guidelines.

As stated, at the outset of the Development Plan review process, a number of development scenarios were highlighted based on the current and predicted future needs of the area as well as the statutory and operational requirement of preparing the Plan. In broad terms the scenarios were grouped into three viable but very different approaches. Each scenario has a

differing outcome both in planning terms and in terms of the environmental consequences and these are discussed further below.

The alternatives considered are broadly defined as:

- **Scenario 1** – Dispersed Growth around existing settlements
- **Scenario 2** – Structured Development Strategy
- **Scenario 3** – Centred Development Strategy

6.2 The Settlements

There are over 40 designated settlements within the Meath County Development Plan area, including the environs of Drogheda, Maynooth and Kilcock which fall within the county boundary. These settlements vary

in their size and capacity to absorb future development. The Development Plan outlines a settlement hierarchy which was drawn up based on the Regional Planning Guidelines for the Greater Dublin Area.

Table: 6.1 Settlement Hierarchy of County Meath

Type of Settlement	Centres
Large Growth Town I	Navan, Drogheda Environs
Large Growth Town II	Dunboyne, Maynooth Environs
Moderate Sustainable Growth Towns	Ashbourne, Kells, Trim, Kilcock Environs, Dunshaughlin ²²
Small Towns	Athboy, Bettystown/Laytown/Mornington East, Duleek, Enfield, Oldcastle, Ratoath, Stamullen
Villages	Ballivor, Longwood, Nobber, Slane, Summerhill, Clonee, Carlanstown, Carnaross, Clonard, Crossakiel, Donore, Drumconrath, Gibbstown, Gormonston, Julianstown, Kentstown, Kilbride, Kildalkey, Kilmainwood, Kilmessan, Mornington/Donacarney, Moynalty, Rathcairn, Rathmolyon

Population projections and household allocation for the county up to the year 2022 are set out in the RPGs. (See Table 6.2 below) The Local Authority has a duty to plan for this increase in population and to set out how it can be suitably accommodated within the Plan area. Allied to this is the necessity to provide essential services and appropriate infrastructure to

facilitate both the existing and future population needs and the need to ensure that employment opportunities exist through economic development or activity. The three alternative options will be explored to determine the most sustainable approach to the future development of these settlements.

Table: 6.2 Population and Household Projections for County Meath 2006-2022

	2006	2016	2022
Population	162,831	195,898	210,260
Household Allocation	61,257	79,729	95,458

6.3 Alternatives Scenario 1: Dispersed Growth around Existing Settlements

This scenario is one which places very few restrictions on development throughout the Plan area. The development of critical mass in certain locations is not taken into consideration in this development strategy, and no specific targets or limitations on growth

are set in the settlement or core strategies of the Development Plan. This strategy would not require careful consideration of the environmental impacts of development, either individually or cumulatively.

²² Dunshaughlin will become a Moderate Sustainable Growth Town following the granting of permission of a railway order for the Navan Rail Line Phase II, including a station at Dunshaughlin.

In order to develop under this scenario, the Planning Authority would allow for development to proceed in an ad hoc manner at any location within its functional area. Development would be permitted to follow market forces to a great extent and would take a short-term planning, economic, social and environmental approach. The scenario envisages potentially inappropriate lands around settlements zoned for development without truly assessing the overall need for, or scale of development. As a result development pressure both on the fringes of the towns as well as in the open countryside would result with significant levels of ribbon development between settlements. Consequently development would occur in unserved or in insufficiently served areas. It would most likely lead to a highly dispersed settlement pattern, with continued and growing urban generated development pressure from ribbon development in the areas adjacent to the border of the County with Dublin. This would lead to a weakening of town and village structures throughout the county.

The planning consequences would be severe and while this alternative would allow for development and would provide some short term economic benefits to the settlements in the plan area and their surrounding hinterlands, it is not sustainable and therefore not a viable or acceptable alternative in practice. It would lead to a deterioration in the settlement structures of the county, with a significant shift towards rural rather than urban development. Ultimately it could lead to a loss of population base within key centres and consequently a loss of critical mass for the development of key services and facilities within those centres. Furthermore urban generated housing within the transport corridors would have long term implications for future road development and would compromise re-alignments, or road geometry with adverse risks to road users.

This form of development is essentially uncontrolled and developer led but without adequate provision for necessary physical or social infrastructure. This option would result in the development of the plan area through market forces in an unsustainable manner. The physical and socio-economic characteristics would at best remain as they are, though deterioration is more likely. This scenario takes a short term view of development with

no consideration of the long term negative environmental consequences.

The environmental consequences of this alternative are potentially severe. Aspects of the environment such as surface water and groundwater quality, ecology, cultural heritage and landscape would be negatively affected. The dispersal of rural housing and other non agriculture related development in the countryside would lead to a deterioration in ground water quality through the proliferation of septic tanks; surface water quality would be affected through contaminated ground water and its implications on river base flows; habitats and areas of natural interest would be lost or fragmented; archaeology would be impacted through insensitive design and location of development; and finally a deterioration in landscape quality would inevitably ensue especially in the more vulnerable parts of the county.

In summary this 'Dispersed Growth around Existing Settlements' approach would have the following results:

- A deterioration in the rural landscape and natural environment;
- No clearly definable settlement strategy;
- Serious traffic congestion and disruption to existing residents throughout the settlements;
- Inadequate environmental measures, leading to a sub-standard environmental quality;
- Impact negatively on the visual amenity and potential of the plan area; and
- Domination of market forces resulting in piecemeal development.

This development scenario would result in an unacceptable level of ribbon development throughout the plan area. Consolidation of clusters would not take place. The provision of key services such as water supply and wastewater treatment would become costly in both financial and environmental quality terms. Overall the settlement structure of Meath would be weakened and no part of the County allowed to develop the critical mass to support essential services and infrastructure. There would be a loss in the quality of life for the inhabitants of such clusters and the landscape of the area would undoubtedly suffer.

6.4

Alternatives Scenario 2: Structured Development Strategy

The second alternative 'Structured Development Strategy' would constitute a strong yet flexible approach to development, based on a well developed urban structure supported by diverse rural areas.

This alternative would be based around the planned growth of the county and a sustainable settlement structure based on the Core Strategy which creates balanced and sustainable development throughout the county.

In this scenario the components of sustainable development, i.e. economic development, social well-being, and environmental protection are integrated in the Plan. Meath County Council would facilitate development throughout the county based on the principals of good design, good siting and technical considerations where local need exists and where the applicant would contribute to the rural community and rural economy. The following are key elements of this strategy:

- Emphasis is to be placed on supporting the growth of the polycentric gateway and primary economic growth towns within the county. These areas are linked by multi-modal corridors and focussed on the identified Core Economic Areas within the county in accordance with the Regional Planning Guidelines for the Greater Dublin Area.
- Development will be directed towards the metropolitan area of the country and to key towns and villages along the strategic development corridors throughout the county. This aim of this scenario is to build a critical mass in the metropolitan area and at key towns and villages along the strategic development corridors in accordance with the Settlement and Core Strategies.

- By concentrating development in such a manner and achieving a critical mass in the metropolitan area and at key towns and villages this scenario places an emphasis on improving public and private transport and other service infrastructure along these strategic development corridors.
- This scenario complies with the policies and objectives of the National Spatial Strategy and Regional Planning Guidelines for the Greater Dublin Area as growth is distributed across the County Settlement structure in accordance with adopted settlement and core strategies; i.e. Large Growth Towns I and II, Moderate Sustainable Growth Towns, Small Towns, Villages and Rural Area.
- The metropolitan area and Large Growth Towns I and II and Moderate Sustainable Growth Towns would contain the majority of the population growth, infrastructure and enterprise.
- The rural areas of the county will continue to be supported through a sustainable, flexible approach to maintaining the rural economy and population, balanced against responsible environmental protection.

Under this scenario the following results are envisaged:

- Implementation of Settlement Strategy and promotion of key settlements;
- Key areas for growth will be identified and promoted;
- Strategic or key routes and linkages will be identified and preserved;
- There will be a high level of environmental protection;
- Valuable natural resources such as water quality are protected.

6.5

Alternatives Scenario 3: Centred Development Strategy

The third alternative development scenario considered was the Centred Development Strategy (Strong Urban Centres and Rural Protection) which focuses on building strong urban centres and generating critical mass in the metropolitan area and at key towns i.e. in the Large Growth Towns I and II, Moderate Sustainable Growth Towns and Small Towns. These towns would act as focal points for their rural catchments. Development outside of these centres would be strictly controlled and a strong rural protection policy would be implemented.

The following are the key elements of this development strategy:

- Emphasis on achieving critical mass in the metropolitan area and key towns through the strategic development of this area of the County.
- Strict control of development outside of the Metropolitan area and the key towns.

This development scenario would have significant negative impacts on the viability of the villages and rural areas within Meath. Such areas would experience a decline in population and as a consequence rural based enterprise would be affected.

Under this scenario the following results are envisaged:

- Implementation of Settlement Strategy and promotion of key settlements;
- Key areas for growth will be identified and promoted;
- Strategic or key routes and linkages will be identified and preserved;
- There will be a high level of environmental protection;
- Valuable natural resources such as water quality are protected;
- No allowance for natural growth of Villages or gaiaigs in County Meath;
- Rural populations would not be supported;
- Population decline in unsupported rural areas;
- Negative impact on rural community of Meath;
- Decline in viability of agriculture, horticulture and other rural based enterprises;
- Such an overly constrained strategy would constitute an imbalanced approach to the future development of County Meath.

6.6

Assessment of Alternative Plan Scenarios

On the basis of the analysis (see Table 6.3) Alternative 1 '**Dispersed Growth**' which involves minimal intervention in terms of any planning within the county and essentially allows for developer led growth through a short-term economic, social and environmental approach, would be likely to have negative impacts on the environmental receptors throughout the county. The matrix shows that this option of developing a pattern of dispersed growth around existing settlements, which would allow development of all areas with little control exerted, would present significant environmental problems and would be contrary to the principles of sustainable development. This option would not allow for the orderly and sustainable

development of the county and is therefore not considered as a desirable option for Meath.

Alternative 3 the '**Centred Development Strategy**' perhaps emerges as the most environmentally sustainable alternative as it would place severe restrictions on development in the rural areas of the county. However, this scenario would also be prescriptive and restrictive on social and economic development in the villages and rural areas of Meath and would therefore not be sustainable, as it would fail to account for both the physical and human environment. This scenario would also be contrary to the policies and objectives of the rural and settlement strategies of the

Regional Planning Guidelines for the Greater Dublin Area.

Alternative 2, the **Structured Development Strategy** was the preferred scenario, and is the one which formed the basis of the preparation of the Meath County Development Plan 2013-2019. This option represents a pragmatic recognition and continuation of established patterns of development in the county. They have been modified to have regard to the significant environmental sensitivities that

exist throughout the County with a view to stabilising both environmental conditions and the populations of those communities who continue to sustain these environments. Mitigation measures which attempt to prevent, reduce, and as fully as possible, offset any significant adverse effects on the environment of implementing Alternative 2 as the preferred development strategy are recommended in Chapter 8 following evaluation of the Plan objectives in Chapter 7.

Table 6.3 Assessment Matrix of Alternative Scenarios against Environmental Receptors

	Human Beings	Soil and Geology	Flora and Fauna	Water Quality			Air Quality	Climate Change	Landscape	Noise	Cultural Heritage	Material Assets			
				Surface Water	Groundwater	Flooding						Wastewater Treatment	Water Supplies	Transport	Waste Management
Alternative 1: Dispersed Growth															
Alternative 2: Structured Development Strategy															
Alternative 3: Centred Development Strategy															

Key

	Potential positive impact
	Potential negative impact

7

Strategic Environmental Assessment of the Plan

7.1

Introduction

In its Introduction chapter the Meath County Development Plan states:

The aim of the Meath County Development Plan 2013-2019 is to drive the present day evolution of the county and to establish a framework for the coordinated and sustainable economic, social, cultural and environmental development of County Meath.

The SEA process ensures that the environment is central to all decisions on the future development of the County.

The purpose of this section of the Environmental Report is to highlight the potential conflicts, if they are present, between the stated policies and objectives contained in the Plan with the Strategic Environmental Objectives. Furthermore the assessment examines the potential impact arising from the Plan's implementation of its policies and objectives on sensitive environmental receptors.

It is worth reiterating that the process of SEA and Development Plan formulation is an iterative one and as such environmental

considerations have informed all stages of plan preparation carried out to date in order for the potential for significant adverse effects arising from implementation of the plan to be minimised. Nonetheless, it is possible that some individual plan objectives or policies will create such effects. Where the environmental assessment identifies significant adverse effects, consideration is given in the first instance to preventing such impacts; where this is not possible for stated reasons, to lessening or offsetting those effects through mitigation measures outlined in Chapter 8 of this report.

In accordance with SEA guidelines the assessment identifies 'impact' under three headings. Firstly the quality of impact is addressed using the following terms:

- Potential Positive impact:** A change which improves the quality of the environment.
- Potential Neutral impact:** A change which does not affect the quality of the environment.
- Potential Negative impact:** A change which reduces or lessens the quality of the environment.
- Uncertain impact:** The nature of any impact can not be ascertained at this stage.

Secondly where a potential impact is noted, either positive or negative, the significance of impact is addressed. Significance is assessed in terms of the type/scale of development

envisaged by the plan and the sensitivity/importance of the receiving environment. This is presented using the following terms:

- Profound:** An impact which obliterates sensitive characteristics.
- Moderate:** An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends.
- Imperceptible:** An impact capable of measurement but without noticeable consequences.
- Slight:** An impact which causes noticeable changes in the character of the environment without affecting its sensitivities.

Thirdly the potential duration of identifiable impacts is discussed. The following terms are used:

Short: Impact lasting one to seven years.

Medium: Impact lasting seven to fifteen years.

Long term: Impact lasting fifteen to sixty years.

Permanent: Impact lasting over sixty years.

Temporary: Impact lasting for one year or less.

In some instances there is little or no relationship between the various Plan Policies/ Objectives and the respective environmental receptor. Where this occurs no further discussion is deemed necessary. This has been determined through an initial screening of the Development Plan policies and objectives which ascertains if policies are likely to have a positive, negative or neutral impact on the environment. This screening process allows the

assessment to focus more efficiently on the pertinent issues. A summary table is provided overleaf indicating where the screening process has in the first instance identified an impact which may potentially arise due to the implementation of policy/objective contained within the Plan. Similarly where a conflict exists between a Strategic Environmental Objective and a Policy/Objective this is noted and discussed.

This initial stage aims to ascertain the quality, if any, of the potential impact. Each of the Plan's policies and objectives have been screened for their impact and where a neutral impact is noted no further discussion is provided within this report. This format allows for the ER to focus on the positive and negative impacts and proceed to a discussion on their significance and duration. Thus it is a more robust, more focused approach to understanding the potential impacts associated with the Plan's implementation.

7.2

Environmental Assessment

As stated the preliminary phase of this assessment identifies the quality of the potential impact on the environment as a result of the policies and objectives of the Development Plan. Table 7.1 overleaf highlights where the impact may be either potentially positive (green); neutral (white); potentially negative (yellow); or uncertain (blue). Where a neutral impact is identified no further discussion is deemed necessary. However it is acknowledged localised issues may arise depending on site specific issues and the type of development proposed. The assessment contained herein deals with strategic issues alone, for potential localised impacts the Mitigation section contained in Chapter 8 should be consulted.

It has been determined that there are a number of policies/objectives where the impact is potentially negative. The significant issues are discussed in the following sections. A comprehensive and detailed set of mitigation measures are provided in Chapter 8 effectively reduces or eliminates identified negative impacts. Similarly, monitoring the implementation of the plan, as discussed in Chapter 9, will ensure that if any negative impact becomes a reality it will be identified at an early stage and appropriate actions taken by the relevant authority/agency to remedy the situation.

In general terms the Plan, in its current form will have a positive effect on the environment as a whole.

Table 7.1 SEA Assessment Summary
Environmental Receptors

Dev Plan Chapter	Chapter Subsection	Human Beings	Soil and Geology	Biodiversity	Water Quality			Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater Treatment	Water Supplies	Transport	Waste Management
					Surface Water	Groundwater	Flooding										
Core Strategy																	
Social Strategy																	
Settlement Strategy and Housing																	
Economic Development	Econ Dev Strategy																
	Rural Areas																
	Retail																
	Tourism																
Social Strategy																	
Transportation	Transport Plans																
	Public Transport																
	Walking & Cycling																
	Road																
Water, Drainage & Environmental Services	Water Services																
	Water Quality																
	Flood Risk Management																
	Waste Mgt																
	SUDS																
	Air																
	Noise																
Energy and Communications	Energy																
	Communications																
Cultural and Natural Assets	Cultural Heritage																
	Natural Heritage																
	Landscape																
Rural Development	Strategic Objectives																
	Rural Settlement Strategy																
	Agriculture																
	Forestry																
	Extractive Industry																
	Gaeltacht Areas																
Dev Management																	
Imp and Mon																	

Potential Positive Impact	Neutral Impact	Potential Negative Impact	? Neutral / Uncertain Impact	Uncertain Impact
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Key

7.2.1 Human Beings – Quality of Life

The purpose of the development plan in broad terms is to promote, manage and control development within the County over the lifetime of the plan in order to achieve a balance between social, economic and environmental considerations thereby benefitting the residents of the County both now and in the future. The initial screening aspect of the assessment presented in Table 7.1 indicates that the Plan will impact positively on the County's residents. However the assessment of the Plan's implementation on other receptors fully considers the consequences of the Plan's implementation on Human Beings. For instance where an aspect of the environment relates to or overlaps with the broad issue of human health such as air quality or water quality, this aspect of 'human health' is addressed under that topic.

7.2.2 Soil and Geology

7.2.2.1 Core Strategy

The purpose of the core strategy is to show that the development objectives in the

Development Plan are consistent, as far as practicable, with national and regional development objectives. The Plan outlines the housing requirements within the County over the lifetime of the Plan and beyond and accepts there is currently an over supply of zoned land. Development of greenfield sites will have a permanent and irreversible impact on the soil and geology aspect of the environment. However given the size of the plan area, extending of over 230,000 hectares the level of land proposed for development is a small fraction of the County area and consequently the overall effect on this aspect of the environment is considered minimal.

7.2.2.2 Settlement Strategy & Housing

The assessment reveals a number of the objectives and policies contained within the Settlement Strategy and Housing chapter of the Plan will result in a positive effect at a strategic level on the soil and geology aspect of the environment. The following objectives are cited:

SS OBJ 3	To seek the consolidation of development within the existing built up footprint of urban centres in the Metropolitan Area of County Meath to achieve a more compact urban form and secure the use of rural areas for agricultural, horticultural and equestrian farmlands and amenity facilities, subject to the requirements of ED POL 13.
SS OBJ 5	To encourage the development of compact urban forms by consolidating existing development boundaries and utilising brownfield sites in preference to expanding urban areas into the countryside and adjoining settlements.

The reuse of brownfield sites for development reduces the requirement for greenfield sites thus protecting potentially valuable agricultural resource. The implementation of both these

objectives will contribute to a moderate, long term positive impact on the soil and geology element of the environment.

This is replicated and reinforced in HS POL10.

HS POL 10	To support a sequential approach to residential development in which the first choice location for new housing is within the built up area of towns and villages maximising under-utilised and brownfield lands within and adjoining town and village centres in the first instance and thereafter moving sequentially outwards.
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7.2.2.3 Economic Development

As stated above the development of greenfield lands has a permanent and irreversible negative impact on the soil and geology aspect of the environment. Therefore as is the case with residential development, certain types of economic development also have the potential to have such impacts on this aspect of the environment.

In particular by its very nature, the operation of the extractive industry has a profound and

permanent negative impact on the soil and geology within a localised area. Quarrying will have the effect of removing deposits of usable material within an identified location.

Therefore Policy ED POL 5 which encourages the extractive industry will result in a permanent change to the local environment. However its impact at the county level is less severe and so in broad terms the impact on the soil and geology aspect of the environment is negative, but only slight in its severity.

ED POL 5

To recognise the contribution of rural employment to the continued and sustainable growth of the economy and to promote this continued growth by encouraging rural enterprise generally, especially those activities that are resource dependent, including energy production, extractive industry, small scale industry and tourism in a sustainable manner and at appropriate locations.

Where such developments are proposed an assessment of the impact of such proposals is likely to be dealt with in detail through the Environmental Impact Assessment process.

Therefore, as a result of the mitigation measures proposed within the Plan and in Chapter 8 of this report, this assessment has found a neutral impact in overall terms on the soil and geology of County Meath as a result of the Economic Development policies and objectives contained within the Plan.

7.2.2.4 Social Strategy

The screening assessment identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives in relation to the Social Strategy.

7.2.2.5 Transportation Strategy

The assessment identified a neutral to uncertain impact on this aspect of the environment. This conclusion is based on a review of the Plan at a strategic level and the potential impact of the various policies and objectives is considered at this level to be neutral. However this does not preclude the potential for localised impacts associated with the provision or improvement of transport infrastructure such as road widening, road construction etc and this should be considered on a case by case basis at the planning stage. Where required an assessment of the impact of such proposals will be dealt with in detail through the Environmental Impact Assessment process.

7.2.2.6 Water, Drainage and Environmental Services

The screening assessment identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives in relation to the Water Services and Waste Management Section of the Development Plan.

7.2.2.7 Energy and Communications

The screening assessment identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives in relation to the Energy and Communications.

7.2.2.8 Cultural and Natural Heritage and Landscape

The screening assessment identified a positive impact on this aspect of the environment due to the implementation of the Plan's policies and objectives in relation to the natural environment.

A report entitled **The Geological Heritage of Meath produced in 2007** identified sites of geological importance and recommended their protection as County Geological Sites in the County Development Plan. Some of these sites may be designated in due course, as Natural Heritage Areas (NHAs) because of their geological interest from a national perspective. In the interim the Council will seek to maintain the geological heritage value of these sites through implementation of NH POL12.

NH POL 12

To have regard to the geological and geomorphological heritage values of County Geological Sites listed in Appendix 13 and avoid inappropriate development, through consultation with the Geological Survey of Ireland.

7.2.2.9 Rural Development

The Rural Development section within the Plan contains policy relating to both the exploitation of resources through mining activities or quarrying and also in relation to the protection of resources for the continued use in agriculture. Quarrying will have the effect of

removing deposits of usable material within an identified location. While this will result in a permanent change to the local environment its impact at the county level is less severe and so in broad terms the impact on the soil and geology aspect of the environment is negative, but only slight in its severity.

RUR DEV SO 3

To identify and protect known or potential aggregate resources, where feasible, from development which would prejudice their sustainable future usage.

RD POL 22

To facilitate the exploitation of the county's natural resources and to exercise appropriate control over the types of development taking place in areas containing proven deposits, whilst also ensuring that such developments are carried out in a manner which would not unduly impinge on the visual amenity or environmental quality in the area.

RD POL 23

To support the extractive industry where it would not unduly compromise the environmental quality of the county and where detailed rehabilitation proposals are provided.

This section of the Plan also deals with the protection of agriculture as an industry, one which relies heavily on the quality of the soil environment to maintain and increase yields. Thus RUR DEV SO 7 is supported by the SEA

as consideration is given to the sustainable use of environmental resources including soils. This is considered positive and with long term moderate benefits to the County.

RUR DEV SO 7

To support the continuing viability of agriculture, horticulture and other rural based enterprises within rural areas and to promote investment in facilities supporting rural innovation and enterprise with special emphasis on the green economy, in the context of sustainable development and the management of environmental resources.

7.2.2.10 Development Management Standards and Guidelines

The screening assessment identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives on Development Management and Guidelines.

Core Principle 4

To support the sustainable heritage of the County by safeguarding the cultural, natural and built heritage and natural resources, including biodiversity, of the County.

7.2.3 Biodiversity - Flora and Fauna**7.2.3.1 Core Strategy**

The screening assessment identified a positive impact on this aspect of the environment due to the implementation of Core Principles 4 and 7 of the Core Strategy which states:

Core Principle 7 To protect and support rural areas through careful management of physical and environmental resources and appropriate, sustainable development.

It is considered that these principles will have a positive and long term effect on biodiversity within the County. However at this stage the significance is uncertain due to the potential specifics of individual projects and their siting.

7.2.3.2 Settlement Strategy & Housing

The location of new housing within the County to accommodate predicted population increases is of significance to the natural environment and biodiversity of the Plan area. An increase in population will place increased pressure on both

physical and natural resources. The efficient treatment of wastewater and the capacity of plants to cope with new development is a critical consideration for the Planning Authority and is vital to the long term protection and enhancement of the quality of water in our rivers. These rivers provide a valuable habitat for all manner of flora and fauna and therefore need protection. In this regard SS OBJ 2 is regarded as a likely to have a positive impact which will have a long term profound impact on this aspect of the environment.

SS OBJ 2

To ensure that throughout the county, growth takes place concurrent with the provision of necessary services and infrastructure, including water services. Planning permission shall only be granted where the Planning Authority is satisfied that there is adequate capacity available to serve development.

In addition to the above the preferential development of brownfield sites will alleviate the pressure on greenfield or undeveloped lands thereby protecting trees, hedgerows and

the floral attributes of such sites in general. Thus SS OBJ 5 is considered to have a positive and moderate impact on this aspect of the environment.

SS OBJ 5

To encourage the development of compact urban forms by consolidating existing development boundaries and utilising brownfield sites in preference to expanding urban areas into the countryside and adjoining settlements.

Therefore in overall terms the Settlement Strategy and Housing policy of the Development Plan will have a neutral impact on the biodiversity of the County.

7.2.3.3 Economic Development

The assessment of the likely impact of the implementation of the Economic Development section, with regard to its impact on the biodiversity of County Meath, is considered to be neutral to uncertain. The basis for this conclusion is taken on consideration of the stated policies and objectives and their relationship to the Flora and Fauna aspect of the environment. This conclusion is also based on careful consideration of zoning

objectives outlined and discussed in relation to the Settlement and Housing Strategy whereby a sequential approach to development is proposed and development will not be permitted in the absence of appropriate physical infrastructure such as wastewater treatment.

It has been noted that policies ED POL 9 and ED POL 10 seek to facilitate the sustainable development of a new deep water port and associated land side activities in the East of the County. Such developments would have the potential to have impacts on the environment, including the biodiversity of the area in which it is located.

ED POL 9

To facilitate the sustainable development of a new deep water port in East Meath.

ED POL 10	Pending the outcome of the pre feasibility assessment and the establishment of the requisite planning framework (following Strategic Environmental Assessment / Appropriate Assessment, as required, in relation to ED POL 9) which may include the seeking of a designation of lands as a Strategic Development Zone, to facilitate associated landside activities to support the proposed deep water port, maximizing the economic benefits to nearby communities and minimizing any negative impacts of landside activities on such communities or the environment and heritage of the area.
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It is recognised that the full implementation of ED POL 10 and ED POL 11 will ensure that any potential environmental impacts as a result of a

proposal for such development will be suitably assessed at the appropriate stage of the planning process.

ED POL 11	To ensure any port related development proposals are subject to full environmental assessment including Strategic Environmental Assessment, Environmental Impact Assessment and Appropriate Assessment, as required.
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7.2.3.4 Social Strategy

Generally the effect of the Social Strategy on the biodiversity (flora and fauna) aspect of the environment is neutral. However SOC POL

38 is noted and will allow for the protection of Natura 2000 sites, thereby representing a profound long term positive effect on the environment.

SOC POL 38	To protect the integrity of Natura 2000 sites during the identification of suitable sites for recreation, in particular in terms of their design and use.
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7.2.3.5 Transportation Strategy

Overall this assessment identified a neutral impact on biodiversity as a result of the policies in relation to transportation contained within the Development Plan. However this does not preclude the potential for localised impacts associated with the provision or improvement of transport infrastructure such as road widening, road construction etc and this should be considered on a case by case basis at the planning stage. Detailed mitigation measures are provided in Chapter 8 which discusses tree and hedgerow removal.

7.2.3.6 Water, Drainage and Environmental Services

The screening assessment has identified both potential positive and negative impacts as a result of the policies and objectives of the Plan in relation to Water, Drainage and Environmental Services.

A potential negative impact has been noted as a result of the implementation of the following specific strategic objectives on Natura 2000 sites:

WS SO 7	To undertake Appropriate Assessment of the likely significant effects on Natura 2000 sites in accordance with Article 6(3) of the EC Habitats Directive for proposals for the abstraction of water from Natura 2000 sites.
WS SO 8	To ensure that in so far as is reasonably practicable, waste water treatment plants are operated in compliance with their Waste Water Discharge Licenses / Certificates of Authorisation, in order to protect water quality.

The preference is to avoid any unnecessary impact on the integrity of Natura 2000 sites by protecting critical characteristics that determine their importance. Many such sites are heavily influenced by the hydrological cycle and therefore exploitation of water resources should be avoided. While it is acknowledged a provision is included for Appropriate Assessment into the likely effects of abstraction from such sites, abstraction from

areas close to or connected by groundwater movements should also be afforded the same protection.

The development of key infrastructure prior or at least concurrent with development is critical to ensure the protection of receiving waters. Thus WS POL 9, 10 and 16 are considered to have positive and significant impacts with long term consequences.

WS POL 10	To facilitate the provision of an adequate wastewater collection and treatment systems to all towns and villages in the County to serve existing and planned future populations in accordance with the Settlement and Core Strategies identified in this Plan, the Water Framework Directive 2000, the Water Services Investment Programme and as finances permit, thus improving the quality of Meath's surface, ground, transitional and coastal waters.
WS POL 11	To develop additional treatment capacity at existing plants where required to facilitate planned sustainable growth.
WS POL 17	To ensure that all new developments have access to or are provided with satisfactory drainage systems in the interests of public health and to avoid the pollution of ground and surface waters.

The following policies in relation to flood risk management will have positive implications for the biodiversity of the County:

WS POL 34	To consult, where necessary, with Inland Fisheries Ireland, the National Parks and Wildlife Service and other relevant agencies in the construction of flood alleviation measures in County Meath.
WS OBJ 12	To design flood relief measures to ensure appropriate protection for alluvial woodland (i.e. a qualifying interest) along the Boyne.
WS OBJ 13	To design flood relief measures to protect the conservation objectives of Natura 2000 sites and to avoid indirect impacts of conflict with other qualifying interests or Natura 2000 sites
WS OBJ 14	To promote positive flood relief measures that can enhance habitats in the Boyne floodplain such as swales, constructed wetland basins etc.
WS OBJ 15	To seek to ensure that construction works are designed so as not to result in surface water runoff into cSAC or SPAs either directly or indirectly via a watercourse.

Other aspects relating to the water environment are discussed in more detail in Section 7.2.4.

7.2.3.7 Energy and Communications

Generally the policies and objectives within this section of the Plan will result in a neutral impact

on biodiversity. However, the inclusion of the following policies is supported and will assist in the long term protection of Natura 2000 sites.

EC OBJ 1	To ensure that all plans and projects associated with the generation or supply of energy or telecommunication networks will be subject to an Appropriate Assessment Screening and those plans or projects which could, either individually or in-combination with other plans and projects, have a significant effect on a Natura 2000 site (or sites) undergo a full Appropriate Assessment.
EC POL 3	To encourage the production of energy from renewable sources, such as from biomass, waste material, solar, wave, hydro, geothermal and wind energy, subject to normal proper planning considerations, including in particular, the potential impact on areas of environmental or landscape sensitivity and Natura 2000 sites.

In addition the Plan recognises the potential for hybridisation of native flora through biocrop propagation and provides policy to counteract potential issues which may arise from their use.

This is supported by the SEA and is a positive inclusion with long term implications for the flora of the County.

EC POL 23	To ensure that development proposals which include the growing of biocrops within the Eastern River Basin District in County Meath and the coastal strip consider the potential for spreads or hybridisation of native flora.
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7.2.3.8 Cultural and Natural Heritage and Landscape

The Plan is framed within the concept of sustainability, balancing social, economic and environmental considerations. This section is considered a counterbalance to potential negative aspects of the remainder of the plan and without exception it will result in a positive affect on the biodiversity of the county with long term benefits for the county. This is discussed in more detail in the mitigation section of the Environmental Report.

Meath which includes scenic river valleys and rolling farmland provides a high quality and tranquil setting for the County. Rural areas within Meath are home to a diverse range of uses ranging from agriculture, equine and extractive industries, centres of local food production, recreational and tourist activities, established villages and one-off rural housing. Thus the variation in plan policy and objectives covering all these aspects is significantly broad.

7.2.3.9 Rural Development

As outlined in the Plan the rural landscape of

The implementation of the following policies and objectives (among others) will ensure that the policies and objectives of the Plan regarding rural development will have a neutral to positive impact on the biodiversity of the County.

RUR DEV SO 1	To support the continued vitality and viability of rural areas, environmentally, socially and commercially by promoting sustainable social and economic development.
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RUR DEV SO 9	To ensure that plans and projects associated with rural development will be subject to an Appropriate Assessment Screening and those plans or projects which could, either individually or in-combination with other plans and projects, have a significant effect on a Natura 2000 site (or sites) undergo a full Appropriate Assessment.
RUR DEV SP 2	To ensure that individual house developments in rural areas satisfy the housing requirements of persons who are an intrinsic part of the rural community in which they are proposed, subject to compliance with normal planning criteria. An assessment of individual rural development proposals including one-off houses shall have regard to other policies and objectives in this Development Plan, and in particular Chapter 9 Section 9.6.7 UNESCO World Heritage Site of Brú na Bóinne.

7.2.3.10 Development Management Standards and Guidelines

The screening assessment identified a neutral impact on biodiversity due to the implementation of the Plan's policies and objectives on Development Management and Guidelines. Much of the detail contained within this section clarifies a number of potential issues in relation to design, siting, scale and mass of potential development and therefore aim to contribute to a better standard of development at appropriate locations. Generally therefore the issues addressed within this section are considered positive, with profound long term benefits for the County.

7.2.4 Water Quality

7.2.4.1 Core Strategy

The screening assessment identified a neutral impact water quality due to the implementation of the Plan's policies and objectives in relation to the Core Strategy.

7.2.4.2 Settlement Strategy & Housing

The screening assessment identified a neutral to positive impact on water quality due to the implementation of the Plan's policies and objectives in relation to the Settlement Strategy and Housing. Principally SS OBJ 2 ensures development will only take place where the necessary infrastructure is in place to accommodate the needs of that development. This will therefore result in a positive impact with a long term profound impact on the quality of waters within the County.

SS OBJ 2	To ensure that throughout the county, growth takes place concurrent with the provision of necessary services and infrastructure, including water services. Planning permission shall only be granted where the Planning Authority is satisfied that there is adequate capacity available to serve development.
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7.2.4.3 Economic Development

The assessment of the likely impact of the implementation of the Economic Development section, with regard to its impact on the Water Quality of County Meath, is considered to be neutral to uncertain. The basis for this conclusion is taken on consideration of the stated policies and objectives and their relationship to the Flora and Fauna aspect of the environment. This conclusion is also based

on careful consideration of zoning objectives outlined and discussed in relation to the Settlement and Housing Strategy whereby a sequential approach to development is proposed and development will not be permitted in the absence of appropriate physical infrastructure such as wastewater treatment.

It has been noted that policies ED POL 9 and ED POL 10 seek to facilitate the sustainable

development of a new deep water port and associated land side activities in the East of the County. Such developments would have the

potential to have impacts on the environment, including the biodiversity of the area in which it is located.

ED POL 9	To facilitate the sustainable development of a new deep water port in East Meath.
ED POL 10	Pending the outcome of the pre feasibility assessment and the establishment of the requisite planning framework (following Strategic Environmental Assessment / Appropriate Assessment, as required, in relation to ED POL 9) which may include the seeking of a designation of lands as a Strategic Development Zone, to facilitate associated landside activities to support the proposed deep water port, maximizing the economic benefits to nearby communities and minimizing any negative impacts of landside activities on such communities or the environment and heritage of the area.

It is recognised that the full implementation of ED POL 10 and ED POL 11 will ensure that any potential environmental impacts as a result of a

proposal for such development will be suitably assessed at the appropriate stage of the planning process.

ED POL 11	To ensure any port related development proposals are subject to full environmental assessment including Strategic Environmental Assessment, Environmental Impact Assessment and Appropriate Assessment, as required.
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7.2.4.4 Social Strategy

This assessment has identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives in relation to the Social Strategy.

major road proposal will be required to undergo Environmental Impact Assessment to ensure that any potential impacts are minimised during the planning process.

7.2.4.5 Transportation Strategy

The screening assessment identified a neutral impact on this aspect of the environment. This conclusion is based on a review of the Plan at a strategic level and the potential impact of the various policies and objectives is considered at this level to be neutral.

7.2.4.6 Water, Drainage and Environmental Services

The Plan provides considerable protection of vulnerable and valuable water resources and thus the effect of the Plan's policies and objectives contained within this section of the Plan will result in a profound positive impact on water resources. Of significance are the following:

Road development can have a significant impact on water bodies and on flooding. Any

WS POL 2	To protect and develop, in a sustainable manner, the existing groundwater sources and aquifers in the county and to control development in a manner consistent with the proper management of these resources.
WS POL 4	To continue and further develop the Water Conservation Programme, in order to conserve valuable resources by reducing wastage.

WS POL 12	To consider proposals in line with the Interim and Permanent Water Services Arrangements outlined in this Development Plan for centres lacking in adequate treatment facilities and where the provision of such a facility/system does not affect the quality status of the receiving water as required under the Water Framework Directive. Such temporary provision will generally only be considered in locations which accord with the Regional Planning Guidelines for the Greater Dublin Area as outlined in the settlement, economic and core strategies of this Development Plan.
WS POL 13	To co-operate with the DoECLG, adjoining authorities and other statutory agencies to continue the sustainable development and improvement of the wastewater treatment systems throughout the County to meet the anticipated drainage requirements of the County and to achieve ongoing compliance with the requirements of discharge licenses and certificates of authorisation as granted by the EPA.
WS POL 17	To ensure that all new developments have access to or are provided with satisfactory drainage systems in the interests of public health and to avoid the pollution of ground and surface waters.
WS POL 22	To continue efforts to improve water quality under the Local Government (Water Pollution) Act 1977, as amended and by implementing the measures outlined under the Nitrates Directive (91/676/EEC) and complying with the requirements of the Surface Water Legislation Environment Objectives (Surface Waters) Regulations 2009 and other relevant regulations.

As the sanitary authority with responsibility for the collection and treatment of wastewater implementation of the above policies will contribute to an improvement in the capacity of treatment facilities and ultimately the quality of discharge to surface waters. This will therefore assist in improving water quality and will advance the recommendations of the River Basin Management Plans for catchments within the jurisdiction of the Planning Authority.

In addition to the above, the Council has provided specific policy and objectives relating to water quality, both ground and surface. The following are noted and their implementation will overall provide for the protection and improvement of water. The predicted impact is therefore positive, profound and with long term beneficial consequences for this aspect of the environment.

WS SOBJ 9	To promote compliance with environmental standards and objectives established— <ul style="list-style-type: none"> (i) for bodies of surface water, by the European Communities (Surface Waters) Regulations 2009; (ii) for groundwater, by the European Communities (Groundwater) Regulations 2010; which standards and objectives are included in river basin management plans
WS POL 19	To protect groundwater resources having regard to the County Meath Groundwater Protection Plan.

WS POL 20	To ensure through the implementation of the River Basin Management Plans and their associated programmes of measures, and any other associated legislation, the protection and improvement of all drinking water, surface water and ground waters throughout the county.
WS POL 22	To continue efforts to improve water quality under the Local Government (Water Pollution) Act 1977, as amended and by implementing the measures outlined under the Nitrates Directive (91/676/EEC) and complying with the requirements of the Surface Water Legislation Environment Objectives (Surface Waters) Regulations 2009 and other relevant regulations.
WS POL 25	To protect, maintain and improve the natural character of the watercourses and rivers in the county Meath.
WS POL 26	To seek the continued improvement of water quality, bathing facilities and other recreational opportunities in the coastal, estuarine and surface waters in the County.
WS POL 27	To ensure that proposed septic tanks and proprietary treatment systems, or other waste water treatment and storage systems, and associated percolation areas where required as part of a development, comply with the recommendations of the Environmental Protection Agency and that they are employed only where site conditions are appropriate.

7.2.4.7 Energy and Communications

The assessment has concluded that the policies and objectives regarding energy and communications will generally have a neutral impact on the water aspect of the environment

within Meath. EC POL 15 has been identified as likely to have a positive impact on this aspect of the environment. The effect will be moderately positive of unknown duration. Its inclusion is supported by the SEA process.

EC POL 15	To ensure any proposal for geothermal or other energy subsurface exploration is accompanied by an assessment that addresses the potential impacts on groundwater quality.
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7.2.4.8 Cultural and Natural Heritage and Landscape

The Plan is framed within the concept of sustainability; balancing social, economic and environmental considerations. This section is considered a counterbalance to potential negative aspects of the remainder of the plan and without exception it will result in a positive effect on the water quality within the county with long term benefits for the county as a whole. This is discussed in more detail in the mitigation section of the Environmental Report.

county in terms of land use, with a large rural population. Rural areas within Meath are home to a diverse range of uses ranging from agriculture and equine industries, centres of local food production, recreational and tourist activities, established villages and one-off rural housing. The rural landscape also includes natural resources including scenic river valleys and rolling farmland which provides a tranquil setting. Therefore the policies and objectives provided within this section of the Development Plan cover a diverse range of issues. The findings of the assessment reveal a neutral to positive impact on this aspect of the environment. Considerable safeguards are

7.2.4.9 Rural Development

County Meath is a predominantly rural

provided in relation to groundwater and surface water quality and particularly on-site treatment facilities.

Rural housing is necessary to ensure the continued viability of rural communities. A proliferation of rural housing development can however lead to a potential deterioration in

the quality of the rural environment particularly water quality through the use of proprietary wastewater treatment facilities or their inappropriate siting. However the Planning Authority has provided an objective aimed at protecting this valuable resource from such potential negative environmental impacts:

RUR DEV SO 2

To identify and protect rural resources such as locally and regionally important aquifers and water sources from development which would prejudice their sustainable future usage.

Furthermore, the Planning Authority will apply various criterion when assessing rural housing applications, most notably the Planning Authority will assess the suitability of the site in terms of access, wastewater disposal and house location relative to other policies and objectives of this plan.

In addition to the above, the Planning Authority has provided specific policy in relation to groundwater protection. The policies provided

will provide a high level of protection to this vulnerable aspect of the environment and is therefore considered to have a positive, long term to permanent impact with profound consequences. Specifically Meath County Council has prepared groundwater protection schemes and as progress is made with putting these groundwater protection schemes in place, appropriate policies are provided to facilitate groundwater protection. Specifically the Council proposes:

RD POL 45

To utilise a “Groundwater Protection Response Matrix” to assist in deciding the appropriateness of various categories of development to areas that have different levels of vulnerability in terms of groundwater contamination. This approach will support the proper input of information into planning decision-making processes.

By consulting this matrix, prospective applicants as well as the Planning Authority will be able to get an indication of the likelihood of a proposed development being acceptable on a given site, or whether further investigations or adjustments to the proposals are necessary. For the Planning Authority, this matrix will also be of assistance in determining the nature of any planning and monitoring conditions to be attached to planning permissions.

Wastewater from housing developments in unserved areas is normally dispersed underground. Individual wastewater treatment facilities in rural areas should therefore, be located, constructed and maintained to the highest standards to ensure minimal impacts on water quality and particularly groundwater quality.

RD POL 46

To ensure that new development is guided towards sites where acceptable wastewater treatment and disposal facilities can be provided, avoiding sites where it is inherently difficult to provide and maintain such facilities. Sites prone to extremely high water tables and flooding or where groundwater is particularly vulnerable to contamination shall be avoided.

In order to ensure both public health and environmental protection, it is essential that any new dwelling is served by drainage arrangements that meet the Council’s

requirements and standards. Therefore the following policies are encouraged as they are likely to have profound positive impacts on the water environment of the County.

RD POL 47	To ensure that the site area is large enough to adequately accommodate an on-site treatment plant and percolation area.
RD POL 48	To ensure all septic tank/proprietary treatment plants and polishing filter/percolation areas satisfy the criteria set out in the EPA 'Code of Practice Waste Water Treatment and Disposal Systems Serving Single Houses (p.e. <10)', (2009) (or any other updated code of practice guidelines) in order to safeguard individual and group water schemes.
RD POL 50	To ensure a maintenance agreement or other satisfactory management arrangements are entered into by the applicant to inspect and service the system as required. A copy of this must be submitted to the Planning Authority.
RD POL 51	To ensure that direct discharge of effluent from on site waste water disposal systems to surface water is not permitted.
RD POL 52	To ensure wastewater treatment plants discharging into the Boyne catchment or to coastal Natura 2000 sites are suitably maintained and upgraded in advance of any additional loadings beyond their capacity in order to protect water quality, as required.
RD POL 53	To promote good practice with regard to the siting and design of septic tanks and the maintenance of existing tanks. A high level of scrutiny will be placed on applications within 2km of watercourses in the Boyne catchment. Proposals in this area shall not have an adverse impact on local water quality that could affect the qualifying interests of the cSAC and SPA.

The policies highlighted above will contribute to an improvement in water quality by ensuring rural housing development has adequate provision for the treatment of wastewater and that discharges to ground will not impact negatively on groundwater resources. Furthermore the discharge to surface waters is not permitted therefore contributing to an overall improvement in this aspect of the environment.

In relation to agricultural development there is an inherent potential risk for negative impacts to water courses. Agriculture is a key economic driver within the County and while the Council will facilitate the further development of the industry it is stated policy to ensure that this does not occur to the detriment of natural resources. Any adverse impacts on the water bodies will be mitigated through the implementation of policy RD POL 12, therefore a neutral impact is concluded.

RD POL 12	To facilitate the development of agriculture while ensuring that natural waters, wildlife habitats and conservation areas are protected from pollution.
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Similar to above the promotion of forestry will also not be permitted at the expense of the

natural environment. This is contained within RD POL 16.

RD POL 16

To promote forestry development of appropriate scale and character whilst ensuring that the development does not have a negative visual impact on the countryside or cause pollution or degradation to wildlife habitats, natural waters or areas of ecological importance.

Finally in relation to quarrying and aggregate extraction the Council provides support for this important industry in the Development Plan. As a result of the nature of such industries the potential exists for moderate to profound

negative impacts on surface and ground water bodies. Policy RD POL 23 seeks to ensure that the exploitation of resources will not impact unduly on environmental resources.

RD POL 23

To support the extractive industry where it would not unduly compromise the environmental quality of the county and where detailed rehabilitation proposals are provided.

7.2.4.10 Development Management Standards and Guidelines

The various issues concerning development and its impact on water resources have been discussed in detail throughout the preceding sections. The assessment concludes that the development management standards and guidelines as set out in the Development Plan will have a neutral to positive impact on the hydrological aspects of the environment within Meath.

7.2.5 Material Assets – Transport

7.2.5.1 Core Strategy

The Core Strategy outlining the principles behind the Plan aims to redress some of the issues discussed in the Baseline analysis with detailed policies and objectives contained within the relevant section of the Plan. However broadly speaking the policies and objectives relevant to the Transport (Material Assets) aspect of the environment are positive and will assist in alleviating some of the issues concerning the movement of people and goods throughout the County. The following are noted:

CS OBJ 13

To encourage economic and employment development by encouraging mixed use settlement forms in which employment and residency are located in close proximity to each other and to strategic multi modal transport corridors or corridors served by high quality and high frequency bus services.

CS OBJ 14

To promote the continued economic development of the Dublin–Belfast/M1 Economic Corridor.

CS OBJ 15

To improve the jobs ratio level in Meath and address commuting patterns by building up the local economy to a more sustainable level through:

- (i) fostering employment creation and maximising jobs potential in designated growth centres;
- (ii) seeking to advance the preparation of a new IDA Regional Plan for the Mid East Region in conjunction with the Mid East Regional Authority which would be specifically tailored to concentrate certain types of industries / sectors into certain designated economic growth areas / centres;
- (iii) assisting Enterprise Ireland and other state agencies in the development and growth of indigenous Meath companies and high potential start up companies with an export led business in worldwide markets.

7.2.5.2 Settlement Strategy & Housing

The consolidation of development within the designated towns and villages and the adoption of a sequential approach to development of those settlements will ensure the viability of transport infrastructure and provision of alternatives to the private car. Thus the

inclusion for SS OBJ 1 is supported by the SEA process and is considered a prudent approach towards the development of such centres. Therefore the effect of this aspect of the Plan on the transport infrastructure as a whole is considered moderately positive, with long term beneficial consequences.

<p>SS OBJ 1</p>	<p>To secure the sustainable development of County Meath in accordance with the settlement hierarchy set out in Table 3.2. In doing so, development will be primarily directed towards the identified Large Growth Towns. In towns and villages, development will facilitate in the first instance, the consolidation of settlements and the integration of land use and transport. The expansion of urban areas where it is necessary to facilitate growth as set out in the Development Plan shall promote mixed use development and be guided by the sequential approach to create a compact urban form and facilitate sustainable modes of transport.</p>
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7.2.5.3 Economic Development

This assessment has concluded that there is likely to be a positive impact on the transportation element of the County as a result of the implementation of the policies and

objectives on the Plan in relation to economic development. In particular the following policies were found to have a profound positive impact of long term to permanent duration:

<p>ED POL 1</p>	<p>To promote and support the sustainable growth of the Polycentric Gateway and Primary Economic Growth Towns linked by multi-modal corridors and focused on identified Core Economic Areas.</p>
<p>ED POL 2</p>	<p>To develop primary economic growth towns as regional anchors of enterprises, promoting a mix of employment types and thereby reducing the need for residents of County Meath to commute outside the County for employment.</p>
<p>ED POL 6</p>	<p>To encourage developments which generate significant travel demand to locations on or close to high frequency public transport corridors.</p>
<p>ED POL 7</p>	<p>To encourage developments which rely on proximity to national road infrastructure and which generate significant levels of freight traffic to locate close to the national road network having regard to the Spatial Planning & National Roads Guidelines for Planning Authorities.</p>

In relation to economic development in rural areas, the potential exists for negative impacts on transportation infrastructure depending on the particulars of a specific development. The implementation of policy ED POL 18 will ensure that traffic and transport are given due

consideration during the deliberations for any proposal for industrial or business enterprises in rural areas. Therefore it can be assumed that the policies and objectives of the Plan will have a neutral impact on transportation infrastructure in the County.

ED POL 18	<p>To permit development proposals for industrial or business enterprises in the countryside where generally the following criteria are met:</p> <ul style="list-style-type: none"> (i) the proposed use has locational requirements that can more readily be accommodated in a rural location than an urban setting and this has been demonstrated to the satisfaction of Meath County Council; (ii) the development will enhance the strength of the local rural economy; (iii) the resultant development is of a size and scale which remains appropriate and which does not negatively impact on the character and amenity of the surrounding area; (iv) the proposal demonstrates that it has taken into account traffic, public health, environmental and amenity considerations; (v) the proposal is in accordance with the policies, requirements and guidance contained in this plan; (vi) it is demonstrated to the satisfaction of Meath County Council that the proposal would not generate traffic of a type and amount inappropriate for the character of the access roads or would require improvements which would affect the character of these roads. This policy shall not apply to the National Road Network.
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Adherence to the sequential approach and the stated retail hierarchy of the Development Plan will ensure that any major traffic generating

retail development will be directed towards centres at the top of the hierarchy.

ED POL 22	To promote and encourage the major enhancement of retail floorspace, primarily comparison goods and town centre functions in Navan to sustain its competitiveness and importance as a Primary Growth Centre in the Greater Dublin Area.
ED POL 23	To support the vitality and viability of existing designated centres and facilitate a competitive and healthy environment for the retailing industry into the future by ensuring that future growth in retail floorspace responds to the identified retail hierarchy.
ED POL 24	To support the development of Core Retail Areas as identified within the County Retail Strategy and reinforces the role and function of the Core Retail Areas.
ED POL 25	To adhere to the provisions of the Sequential Approach in the consideration of retail applications located outside of core retail areas.

The implementation policies will have a moderate to profound positive impact on the transportation infrastructure of the County.

7.2.5.4 Social Strategy

This assessment identified a number of positive impacts on the 'Transport' element of the

environment arising from the implementation of the Social Strategy. The inclusion of policy in relation to the clustering of facilities within walking distance of housing is considered to be positive, with moderate to profound significance and of possible long term duration. This is particularly evident in Social Policies 2 and 17.

SOC POL 2	To ensure that, where practicable, community, recreational and open space facilities are clustered, with the community facilities being located in local centres or combined with school facilities as appropriate. Community facilities should be located close to or within walking distance of housing, accessible to all sectors of the community and facilitate multi-use functions through their design and layout.
SOC POL 17	To ensure the provision and implementation of primary and secondary education facilities in conjunction with the planning and development of residential areas in order to maximise the opportunities for use of walking, cycling and use of public transport.

Public facilities such as childcare and health care facilities can generate significant volumes of traffic. It is considered that the inclusion of Social Policies 22 and 27 reflect this actuality

and aims to limit any such impact on existing transport routes. The impact is concluded to be positive, moderate in terms of significance and of long term duration.

SOC POL 22	To permit childcare facilities in existing residential areas provided that they do not have a significant impact on the character or amenities of an area, particularly with regard to car parking, traffic generation and noise disturbance. Where proposed facilities relate to properties which have been designed and built as dwellings, and are surrounded by other houses, a significant residential element should be retained.
SOC POL 27	To encourage the integration of healthcare facilities within new and existing communities and to discourage proposals that would cause unnecessary isolation or other access difficulties, particularly for the disabled, older people and children.

The use of public transport facilities is both beneficial for the transport network and local air quality and on a larger scale on climate change. The use of public transport for accessing large scale trip generators is positive, moderate in significance and will have long term consequences.

7.2.5.5 Transportation Strategy

The SEA welcomes that Meath County Council recognises that the current trends in

transportation are unsustainable, in particular the continual increase in private car traffic.

This assessment indicates that a positive impact will arise from the implementation of the policies and objectives relating to Transportation on this element of the Material Assets of the County. The following policies are highlighted as having positive impacts which range from slight to profound in nature and are long term in duration.

TRAN SP 2	To promote the sustainable development of walking, cycling, public transport and other more sustainable forms of transport as an alternative to the private car, together with the development of the necessary infrastructure and promotion of the initiatives contained within 'Smarter Travel, A Sustainable Transport Future 2009 – 2020'.
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TRAN SP 4	To promote land use planning measures which facilitate transportation efficiency, economic returns on transport investment, minimisation of environmental impacts and a general shift towards the use of public transportation throughout the county.
TRAN SP 8	To facilitate the economic provision of public transport by seeking to ensure that the development of Large Growth Towns I and II and Moderate Sustainable Growth Towns located on strategic transportation corridors, occur in a compact and self sustaining manner.
TRAN POL 7	To support the improvement of existing rail transport infrastructure including the Dublin/Sligo route with increased suburban services to Enfield and Kilcock, the existing Dublin – Drogheda rail service which serves the urban settlements of Laytown and Gormonston and to seek to have the proposed electrification of this rail line extended to Drogheda.
TRAN POL 8	To work with the NTA and Iarnród Éireann to continue to improve facilities at existing stations and to seek the provision of a railway station at Bettystown with associated park and ride facilities.
TRAN POL 10	To co-operate with the NTA and other relevant agencies on reviewing the network of bus services in Meath, and work with public transport operators to provide improved bus services in, and through, the county.
TRAN POL 11	To ensure that new developments in Large Growth Towns I and II and Sustainable Moderate Growth Towns are laid out so as to facilitate the provision of local bus services.
TRAN POL 12	To provide public transport interchange facilities, including facilities for taxis, at appropriate points on the public transport network, particularly in the main urban centres and adjacent to the proposed bus based transport hub in Navan, in co-operation with the NTA.
TRAN POL 13	To promote and support the provision of park and ride facilities which improve public transport accessibility without worsening road congestion, or which cause increased car travel distances, at appropriate locations within the county.
TRAN POL 15	To identify and seek to implement a strategic, coherent and high quality cycle and walking network across the county that is integrated with public transport and interconnected with cultural, recreational, retail, educational and employment destinations and attractions.
TRAN POL 16	To encourage, where appropriate, the incorporation of safe and efficient cycleways, accessible footpaths and pedestrian routes into the design schemes for town centres/neighbourhood centres, residential, educational, employment, recreational developments and other uses.

TRAN POL 18	To require a full range of facilities for cyclists such as convenient and secure bicycle parking, showers and lockers in substantial new commercial / office developments and other people intensive attractors.
TRAN POL 23	To require planning applications for major developments to demonstrate proposals to address accessibility for pedestrians and cyclists.

The development of the national road network is critically important for national inter-urban traffic in order to provide ready access for ports, airports, etc. Although responsibility for National Roads comes under the auspices of the National Roads Authority, Meath County Council is responsible for providing and carrying out major upgrading and improvements to National Roads in the County. The road network will continue to be critical to transport management and the efficient movement of buses, people, goods and other services in the GDA and beyond.

Regional and local roads serve an important economic role and also have valuable social and community functions. These roads are often the sole means of access for local economic activity. The network of non-national roads provides mobility within and between local economies and provides vital links to the strategic national road network and the ports and airports which are our links with the wider European economy.

Meath County Council has responsibility for carrying out of maintenance and improvement works on these roads financed from their own resources and/or supplemented by State grants.

TRAN POL 25	To support major road improvements by reserving the corridors of any such proposed routes free of developments, which would interfere with the provision of such proposals. (See Map 6.3)
TRAN POL 26	To implement a programme of road construction / improvement works and local measures to improve road safety closely integrated with existing and planned land uses.
TRAN POL 28	To safeguard the capacity and safety of the National road network by applying the provisions of the Department of Environment Community and Local Government's – 'Spatial Planning and National Roads-Guidelines for Planning Authorities'
TRAN POL 29	To provide for and carry out improvements to sections of national, regional and county roads that are deficient in respect of alignment, structural condition or capacity, where resources permit, and to maintain that standard thereafter.

Implementation of the above policies and the supporting objectives will contribute to a more sustainable society within the county, with increased access to facilities and services by more energy efficient modes of transport. Therefore it is concluded that this section of the Plan will have a neutral to positive effect

on the transport (Material Assets) aspect of the environment, the consequences will be long term and moderate.

7.2.5.6 Water, Drainage and Environmental Services

An assessment of the policies and objectives

regarding Water, Drainage and Environmental Services is shown to be neutral with respect to their likely impact on transportation within the County.

7.2.5.7 Energy and Communications

An assessment of the policies and objectives regarding Energy and Communications is shown to be neutral with respect to their likely impact on transportation within the County.

7.2.5.8 Cultural and Natural Heritage and Landscape

An assessment of the policies and objectives regarding Cultural and Natural Assets is shown to be neutral with respect to their likely impact on transportation within the County.

7.2.5.9 Rural Development

National policy in relation to development involving access to national roads and development along such roads is set out in the Spatial Planning and National Roads Guidelines published by the Department of Environment,

Community and Local Government in January 2012. The Guidelines state, 'The policy of the Planning Authority will be to avoid the creation of any additional access point from new development or the generation of increased traffic from existing accesses to national roads to which speed limits greater than 60kmh apply. This provision applies to all categories of development, including individual houses in rural areas, regardless of the housing circumstances of the applicant'.

It is vitally important that new housing in rural areas that is located along non national routes is located in such a manner as to avoid endangering public safety by way of a traffic hazard. There are a number of regionally and locally important functions of certain regional and county road type routes that act as particularly important transport links that traverse County Meath. The following policies seek to protect the road network of the County from negative impacts arising from rural development:

RD POL 36	To develop and maximise the opportunities of the county's national primary and secondary roads as key strategic infrastructure vital to the county's continued economic development and to protect this strategically important infrastructure from unplanned ribbon development or random one-off housing development.
RD POL 37	To ensure that future development affecting national primary or secondary roads, shall be assessed in accordance with the guidance given in the document 'Spatial Planning and National Roads - Guidelines for Planning Authorities'.
RD POL 38	To ensure that all development accessing off the county's road network is at a location and carried out in a manner which would not endanger public safety by way of a traffic hazard.
RD POL 39	To identify and protect those non-national roads of regional or local importance from unnecessary and excessive individual access/egress points, which would prejudice the carrying capacity and ultimately the function of the road.
RD POL 40	To restrict new accesses for one-off dwellings where the 80km per hour speed limit currently applies in order to safeguard the specific functions and to avoid the premature obsolescence of identified regional and important county link roads (see Map No. 10.6) through the creation of excessive levels of individual entrances and to secure the investment in non-national roads.

RD POL 43

To ensure that the required standards for sight distances and stopping sight distances are in compliance with current road geometry standards as outlined in the NRA document Design Manual for Roads and Bridges (DMRB) specifically Section TD 41-42/09 when assessing individual planning applications for individual houses in the countryside.

The inclusion of the policies highlighted above will ensure the continued protection of the road infrastructure within the rural areas of the County. Thus their inclusion will ensure a neutral impact as a result of rural development in Meath.

The extractive industry can impose significant pressure on the road network and therefore the inclusion of the following policy is supported by the SEA process, recognising the potential adverse effects which may arise from this industry.

RD POL 25

To ensure that the extractive industry and associated development minimises adverse impacts on the road network in the area and that the full cost of road improvements, including during operations and at time of closure, which are necessary to facilitate those industries are borne by the industry itself.

7.2.5.10 Development Management Standards and Guidelines

The relevant policies/objectives reinforce the sentiments expressed in the Transportation Strategy. Again this policy inclusion is positive, with a moderate to profound significance of long term duration.

Plan are likely to impact on the supply of water and disposal of waste water throughout the County.

7.2.6.1 Core Strategy

The assessment identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives in relation to the Core Strategy.

7.2.6 Material Assets – Water Services

This section of the assessment ascertains how the policies and objectives of the Development

It is a goal of the Core Strategy:

To provide adequate water and sewerage capacity to accommodate the projected needs of the future population as set out in this core strategy, ensuring the sustainable use of water resources.

7.2.6.2 Settlement Strategy & Housing

The baseline analysis revealed deficiencies throughout the County in terms of water supplies and wastewater treatment. The inclusion of SS OBJ 2 addresses this major

concern, principally the promotion of new development with constrained infrastructural capacity. Thus the objective will result in a positive, long term benefit for the county's resources as a whole.

SS OBJ 2

To ensure that throughout the county, growth takes place concurrent with the provision of necessary services and infrastructure, including water services. Planning permission shall only be granted where the Planning Authority is satisfied that there is adequate capacity available to serve development.

Similarly SS OBJ 11 (Moderate Growth Towns) and SS OBJ 12 (Small Towns) ensure the provision of critical infrastructure prior to the commencement of new development.

7.2.6.3 *Economic Development*

The policies and objectives of the Plan in

relation to Economic Development have generally been found likely to have neutral implications for the water services within the County. The principle of clustering development will enable the Council to more efficiently provide such services, and as a result the following policies are noted as being positive.

ED POL 1	To promote and support the sustainable growth of the Polycentric Gateway and Primary Economic Growth Towns linked by multi-modal corridors and focused on identified Core Economic Areas.
ED POL 2	To develop primary economic growth towns as regional anchors of enterprises, promoting a mix of employment types and thereby reducing the need for residents of County Meath to commute outside the County for employment.

The potential exists for individual development to have negative impacts on the water services of the County but this potential will be dealt with on a case by case basis through the planning consent process and through the implementation of the relevant policies and objectives of the Development Plan.

7.2.6.4 *Social Strategy*

This assessment has identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives in relation to the Social Strategy.

7.2.6.5 *Transportation Strategy*

The screening assessment identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives in relation to Transportation.

7.2.6.6 *Water, Drainage and Environmental Services*

Chapter 4 of this Environmental Report has highlighted that significant issues currently exist within Meath in relation to the water

supply, drainage and waste water disposal infrastructure of the County. Thus the provision of adequate water and drainage infrastructure constitutes a significant challenge for the sustainable development of County Meath to meet projected future growth.

This assessment has identified a likely positive impact in this regard through the implementation of policies and objectives contained within the Water Services and Waste Management Section of the Plan. In particular, WS SO4 and WS SO6 are noted. WS SO4 recognises the need to upgrade existing facilities where deficient in the level of treatment in order to achieve compliance with current legislation and regulations. WS SO6 is considered a positive initiative as it supports the development of an agreed protocol between local authorities to optimise the use of resources to deal sufficiently with sanitary services. Both objectives are considered to have a long term positive and moderate to profound impact.

WS SO 4	To upgrade existing water and wastewater facilities, where deficient, in order to meet the Drinking Water Regulations, the Urban Wastewater Directives/Regulations, the discharge license regulations and the EU Water Framework Directive, or any future amendment thereof.
WS SO 6	To support the development of an agreed protocol and/or other arrangements between local authorities in the Greater Dublin Area to ensure the optimum allocation of sanitary and other services for priority investments.

WS OBJ 3	To continue the upgrading and rehabilitation of water main networks and to implement Phases 2 to 5 of the Meath Countywide Water Conservation Project – Meath Countywide Watermains Rehabilitation Strategy.
WS OBJ 4	To continue the commitment to water conservation and reduction of leakage and wastage from the water supply systems to the lowest available level with an objective of reducing waste and leakage to less than 30% unaccounted for water during the life of this Plan in the interest of achieving efficiency and sustainability.
WS OBJ 6	To implement the measures under the Rural Water Programme so as to improve the quality, reliability and efficiency of water supplies for rural dwellers.

7.2.6.7 Energy and Communications

The assessment reveals a neutral impact on this aspect of the environment through implementation of the policies and objectives contained within this section of the Development Plan.

7.2.6.8 Cultural and Natural Heritage and Landscape

The policies and objectives of the Plan in relation to Cultural and Natural Heritage and Landscape are deemed to have a positive impact on the environment of County Meath in general. In particular with regard to water services the following policies are likely to result in positive impacts:

CSA SP 2	To ensure that features of Meath's natural heritage and green infrastructure that provide ecosystem services are protected; that biodiversity is conserved and where possible enhanced, and; that the character of landscapes are maintained and enriched, and that tourist and recreational uses are facilitated in a sensitive manner.
NH POL 2	To promote measures to protect biodiversity in the development management process by creating and improving habitats, where possible.
GI POL 2	To protect existing green infrastructure within the County and to provide additional green infrastructure, where possible.

7.2.6.9 Rural Development

Any rural development outside of serviced areas would have the potential to negatively impact on the water services of the County. Implementation of the policies and objectives

as set out in the rural development Chapter of the Plan will ensure that the impact of any potential development will be neutral.

Strategic Objectives:

RUR DEV SO 2	To identify and protect rural resources such as locally and regionally important aquifers and water sources from development which would prejudice their sustainable future usage.
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The Development Plan will support residential development in rural areas of the County under certain circumstances. Such development has the potential to negatively impact on water services (supply and wastewater). With regard

to the rural settlement strategy the policies and objectives as set out below will ensure that the overall impact on the water services of the County is neutral.

RD POL 6	To accommodate demand for permanent residential development as it arises subject to good practice in matters such as design, location and the protection of important landscapes and any environmentally sensitive areas.
RD POL 45	To utilise a “Groundwater Protection Response Matrix” to assist in deciding the appropriateness of various categories of development to areas that have different levels of vulnerability in terms of groundwater contamination. This approach will support the proper input of information into planning decision-making processes.
RD POL 46	To ensure that new development is guided towards sites where acceptable wastewater treatment and disposal facilities can be provided, avoiding sites where it is inherently difficult to provide and maintain such facilities. Sites prone to extremely high water tables and flooding or where groundwater is particularly vulnerable to contamination shall be avoided.
RD POL 47	To ensure that the site area is large enough to adequately accommodate an on-site treatment plant and percolation area.
RD POL 48	To ensure all septic tank/proprietary treatment plants and polishing filter/percolation areas satisfy the criteria set out in the EPA ‘Code of Practice Waste Water Treatment and Disposal Systems Serving Single Houses (p.e. <10)’, (2009) (or any other updated code of practice guidelines) in order to safeguard individual and group water schemes.
RD POL 51	To ensure that direct discharge of effluent from on site waste water disposal systems to surface water is not permitted.
RD POL 52	To ensure wastewater treatment plants discharging into the Boyne catchment or to coastal Natura 2000 sites are suitably maintained and upgraded in advance of any additional loadings beyond their capacity in order to protect water quality, as required.
RD POL 53	To promote good practice with regard to the siting and design of septic tanks and the maintenance of existing tanks. A high level of scrutiny will be placed on applications within 2km of watercourses in the Boyne catchment. Proposals in this area shall not have an adverse impact on local water quality that could affect the qualifying interests of the cSAC and SPA.

7.2.6.10 Development Management Standards and Guidelines

This assessment has identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives on Development Management and Guidelines.

7.2.7 Noise

In overall terms the policies and objectives of the Plan have been found likely to have a neutral impact on this aspect of the environment. While the enforcement of the guidance set out in the Development Management chapter of the Plan is likely to have a positive impact on noise the potential exists for site specific impacts to occur as a result of development. This of course will be dependant on the nature and specifics of that development and where it will be located. Any potential negative impacts will be mitigated for and will be dealt with on a site specific basis through the development management process.

7.2.7.1 Core Strategy

The assessment concludes the implementation of the policies and objectives presented in the Core Strategy will not impact on this aspect of the environment and therefore a neutral impact is predicted.

7.2.7.2 Settlement Strategy & Housing

The assessment concludes the implementation of the policies and objectives presented in the Settlement Strategy and Housing section will not impact on this aspect of the environment and therefore a neutral impact is predicted.

7.2.7.3 Economic Development

It is not certain what impact the implementation of the policies and objectives of the Plan in relation to Economic Development will have on the noise environment of the County. Development proposals that arise as a result of these policies and objectives will be assessed on a case-by-case basis and any potential negative impact on this aspect of the environment will be mitigated through the development management process.

7.2.7.4 Social Strategy

In general terms the policies and objectives outlined within the plan relating to the Social Strategy will upon implementation have a neutral impact on this aspect of the environment.

7.2.7.5 Transportation Strategy

Transport mechanisms have an impact on the noise environment; however no specific measure is outlined within this section relating to the noise environment. Development proposals that arise as a result of the policies and objectives of the Transportation Strategy will be assessed on a case-by-case basis and any potential negative impacts on this aspect of the environment will be required to comply with policy PC POL 1 (below) which seeks to preserve and maintain noise quality in the County. Therefore a neutral impact is recorded.

7.2.7.6 Water, Drainage and Environmental Services

The implementation of the following policy and objective of the Development Plan will result in positive impacts on noise levels within the County:

PC POL 1	To seek to preserve and maintain air and noise quality in the county in accordance with good practice and relevant legislation.
PC OBJ 1	To update Noise Mapping in accordance with revised or updated thresholds for Noise Mapping.

7.2.7.7 Energy and Communications

It is not certain what impact the implementation of the policies and objectives of the Plan in relation to Energy and Communications will have on the noise environment of the County.

Development proposals that arise as a result of these policies and objectives will be required to comply with PC POL 1 (above), therefore a neutral impact is recorded.

7.2.7.8 Cultural and Natural Heritage and Landscape

The policies and objectives of the Plan in relation to Cultural and Natural Heritage and Landscape will have a neutral impact on the noise environment of the County.

7.2.7.9 Rural Development

The policies and objectives of the Plan in relation to Rural Development will have a neutral impact on the noise environment of the County.

7.2.7.10 Development Management Standards and Guidelines

The screening assessment identified a positive impact on this aspect of the environment due to the implementation of the Plan's policies and objectives on Development Management Standards and Guidelines.

7.2.8 Air Quality

7.2.8.1 Core Strategy

The Core Strategy for County Meath has been formulated in compliance with the National Spatial Strategy and Regional Planning Guidelines for the Greater Dublin Area. Both of these policy documents are underpinned by the fundamental objectives of fostering sustainability and reducing the levels of pollution and emissions caused through development. To this end this assessment has found that the policies and objectives contained within the core strategy of the County will have long term positive impacts on Air Quality.

7.2.8.2 Settlement Strategy & Housing

The assessment identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives on Settlement Strategy and Housing.

7.2.8.3 Economic Development

Certain forms of economic development have the potential to cause an increase in levels of pollution and emissions of green house gases which in turn could have knock on negative

impacts on air quality. The policies and objectives of the Meath County Development Plan 2013-2019 have been framed with the intention of mitigating, in as far as is possible, the potential for such negative impacts. Thus this assessment has deemed that Economic Development within the County as a result of the full implementation of the Development Plan will have a neutral impact on Climate Change.

7.2.8.4 Social Strategy

This assessment has determined that the policies and objectives of the Plan in relation to social strategy will have a neutral impact on air quality in the Plan area.

7.2.8.5 Transportation Strategy

The movement of people and goods is essential to a thriving economy. However the use of motorised vehicles and the emission of exhaust fumes can diminish the quality of air in our surrounding environment. The Plan acknowledges there is an increase in private car use, however it also aims to promote more sustainable modes of transport which will impact positively on air quality. This is most evident in TRAN SP 2 where public transport and other forms of transport such as walking and cycling are promoted. This will have a positive, moderate and long term impact on air quality within the county and also on Climate Change.

The Council is committed to the promotion of sustainable means of travel, and the encouragement of modal change from the private car. The emphasis will be on achieving a situation where the residents of the County are within reasonable walking/cycling distance of local services and public transport. The strategy makes optimum use of existing and proposed transport infrastructure. Furthermore the efficient movement of goods and people will alleviate issues surrounding tailpipe emissions. More efficient movements, even by private car will be beneficial to this aspect of the environment. TRAN SP 3 and 4 are therefore assessed as being positive, with moderate significance and long term consequences.

TRAN SP 2

To promote the sustainable development of walking, cycling, public transport and other more sustainable forms of transport as an alternative to the private car, together with the development of the necessary infrastructure and promotion of the initiatives contained within 'Smarter Travel, A Sustainable Transport Future 2009 – 2020'.

TRAN SP 3	To provide for the efficient movement of goods and people in the interest of commerce and enterprise.
TRAN SP 4	To promote land use planning measures which facilitate transportation efficiency, economic returns on transport investment, minimisation of environmental impacts and a general shift towards the use of public transportation throughout the county.

Maintenance and delivery of an efficient, integrated and coherent transport network in line with national and regional policy is essential to the future economic, social and physical development of Meath. The assessment of this element of the Plan on Air quality is considered neutral to positive.

7.2.8.6 Water, Drainage and Environmental Services

This assessment identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives in relation to the Water Services and Waste Management Section of the Development Plan.

7.2.8.7 Energy and Communications

The burning of fossil fuels leading to emissions to the air environment are considered in detail as to their effects on Climate Change. See section 7.2.9.

The Meath County Development Plan 2013-2019 is committed to pursuing sustainable energy policies which will have a long term positive impact for the air quality of the County. The following policies are examples of those that will result in such positive impacts.

EC POL 2	To support international, national and county initiatives for limiting emissions of greenhouse gases through energy efficiency and the development of renewable energy sources which makes use of the natural resources of the county in an environmentally acceptable manner, where it is consistent with proper planning and sustainable development of the area.
EC POL 3	To encourage the production of energy from renewable sources, such as from biomass, waste material, solar, wave, hydro, geothermal and wind energy, subject to normal proper planning considerations, including in particular, the potential impact on areas of environmental or landscape sensitivity and Natura 2000 sites.
EC POL 10	To facilitate the provision of charging infrastructure for electric vehicles.

7.2.8.8 Cultural and Natural Heritage and Landscape

The implementation of the policies and objectives of the Plan in relation to Cultural Heritage will result in a neutral impact on the air quality aspect of the environment.

With regard to Natural Heritage, trees and other plants actively process and clean the air we breathe. Any policy that supports the

preservation of the plants of County Meath will therefore have a slight positive impact on air quality. Therefore the following policies in relation to Natural Heritage are considered to have a positive impact on air quality:

NH POL 1	To protect, conserve, and seek to enhance the County's biodiversity.
NH POL 8	To seek to ensure that development does not have a significant adverse impact, incapable of satisfactory avoidance or mitigation, on plant, animal or bird species protected by law.
NH POL 17	To encourage the use of native species wherever possible in Meath County Council's own landscaping work, and on Council property.

7.2.8.9 Rural Development

In overall terms this assessment has found the policies and objectives of the Development Plan will have a neutral to positive impact on air quality within the Plan area. Certain types of development in rural areas do have the potential to negatively impact on air quality within the Plan area. However if the policies

and objectives as set out in the Development Plan are implemented in full such impacts will be successfully avoided.

The promotion of sustainable forestry development will have positive long terms implications for air quality and in that regard the following policies are noted:

RD POL 15	To encourage sustainable forestry development, which is planted, managed and harvested in accordance with the Forest Service Guidelines for Landscape, Forest Harvesting and Environmental, Archaeology, Biodiversity and Water Quality.
RD POL 16	To promote forestry development of appropriate scale and character whilst ensuring that the development does not have a negative visual impact on the countryside or cause pollution or degradation to wildlife habitats, natural waters or areas of ecological importance.
RD POL 18	To promote the avoidance of deforestation or commercial afforestation within Natura 2000 sites unless directly relating to the management of the site for its qualifying interests.

7.2.8.10 Development Management Standards and Guidelines

The screening assessment identified a positive impact on this aspect of the environment due to the implementation of the Plan's policies and objectives contained within the Development Management Standards and Guidelines chapter of the Plan.

Spatial Strategy and Regional Planning Guidelines for the Greater Dublin Area. Both of these policy documents are underpinned by the fundamental objectives of fostering sustainability and reducing the levels of pollution and emissions caused through development. Thus the issue of climate change has been central to the formulation of the Core Strategy of the County. To this end this assessment has found that the policies and objectives contained within the core strategy of the County will have long term positive impacts on Climate Change. In particular the following principles, policies and objectives are noted:

7.2.9 Climate Change

7.2.9.1 Core Strategy

The Core Strategy for County Meath has been formulated in compliance with the National

- Core Principle 6** To support the creation of a compact urban form in all settlements in Meath.
- Core Principle 10** To promote and support the integration of land use and transport and a modal shift to greater use of sustainable modes of transport, including public transport, walking and cycling.
- Core Principle 11** To integrate climate change considerations into the policies and objectives of Meath County Council and its key stakeholders.

CS OBJ 7	To promote and facilitate the development of sustainable communities through land use planning, by providing for land uses capable of accommodating employment, community, leisure, recreational and cultural facilities having regard to the quality of the environment, including the natural environment, landscape character and the archaeological and architectural heritage.
CS OBJ 11	<p>To facilitate and encourage the sustainable development of designated core economic areas, such as would allow the creation of a critical mass, in terms of residential population and economic activities, sufficient to service the proposed expanded economic function of such centres. The promotion and facilitation of large scale employment generating developments will occur within the Primary Economic Areas/ Primary Economic Growth Areas and Secondary Economic Growth Areas.</p> <p>From a county Meath perspective, the stated centres are:</p> <ul style="list-style-type: none"> (i) Navan Core Economic Area with Navan as a Primary Economic Growth Town and including the Secondary Economic Growth Town of Kells and the town of Trim; (ii) Drogheda Core Economic Area; (iii) Secondary Economic Growth Towns of Ashbourne / Dunboyne; and; (iv) The Environs of Maynooth and Kilcock located in the administrative area of Meath (in addition to Dunboyne / Pace and Clonee) are included in the Gateway Core Economic Area corresponding with the Metropolitan Area. Maynooth and Leixlip are identified as a Core Economic Area with the towns of Kilcock and Celbridge providing a supporting role.

7.2.9.2 Settlement Strategy & Housing

The need to reduce the amount of energy being generated has been to the fore in the proposed settlement strategy pursued in this Development Plan as discussed in Section 7.2.9.7 Detailed discussion is provided on

energy efficiency in section 7.2.9.7 below however the following policy noted within the Settlement Strategy and Housing Section of the Development Plan will have a positive impact on energy consumption.

HS POL 4	To promote energy efficiency both during the construction phase and during the lifetime of residential development by sensitive design and layout taking into account topography, orientation and surrounding features.
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7.2.9.3 Economic Development

As is the case with respect to Air Quality (discussed above), certain forms of economic development have the potential to cause an increase in levels of pollution and emissions of green house gases which in turn could have knock on negative impacts on climate change. The policies and objectives of the Meath County Development Plan 2013-2019 have been framed with the intention of mitigating, in as far as is possible, the potential for such negative impacts. Thus this assessment has

deemed that Economic Development within the County as a result of the full implementation of the Development Plan will have a neutral impact on Climate Change. Any individual proposal for development must conform to the standards as set out in the Development Plan and their potential impact on climate change will therefore be addressed through the development management process.

The inclusion of the following policies within the plan are welcomed:

ED POL 15	To recognise and develop the full potential of biomass for energy production and manufacturing including the export of green electricity to the national grid. The Development Plan acknowledges that such enterprises are more readily accommodated in rural areas due to the extent of lands required to ensure security of supply of raw materials and that proximity to the medium to high voltage national electricity transmission network for green electricity exportation is a key locational consideration for development proposers. All proposals for biomass energy production and manufacturing will require screening to determine if a full Appropriate Assessment of the likely significant effects on Natura 2000 sites, is required.
ED POL 18	To permit development proposals for industrial or business enterprises in the countryside where generally the following criteria are met: <ul style="list-style-type: none"> (i) the proposed use has locational requirements that can more readily be accommodated in a rural location than an urban setting and this has been demonstrated to the satisfaction of Meath County Council; (ii) the development will enhance the strength of the local rural economy; (iii) the resultant development is of a size and scale which remains appropriate and which does not negatively impact on the character and amenity of the surrounding area; (iv) the proposal demonstrates that it has taken into account traffic, public health, environmental and amenity considerations; (v) the proposal is in accordance with the policies, requirements and guidance contained in this plan; (vi) it is demonstrated to the satisfaction of Meath County Council that the proposal would not generate traffic of a type and amount inappropriate for the character of the access roads or would require improvements which would affect the character of these roads. This policy shall not apply to the National Road Network.

7.2.9.4 Social Strategy

The inclusion of policies and objectives which encourage the location of social amenities and services in areas which minimise the need to utilise private transport will have a

long term positive impact on emission levels and ultimately climate change. The following policies are noted within the Social Strategy of the County Development Plan:

SOC POL 2	To ensure that, where practicable, community, recreational and open space facilities are clustered, with the community facilities being located in local centres or combined with school facilities as appropriate. Community facilities should be located close to or within walking distance of housing, accessible to all sectors of the community and facilitate multi-use functions through their design and layout.
SOC POL 17	To ensure the provision and implementation of primary and secondary education facilities in conjunction with the planning and development of residential areas in order to maximise the opportunities for use of walking, cycling and use of public transport.
SOC POL 37	To ensure that new leisure facilities where possible, are located in proximity to public transportation routes and where they can best meet the needs of the community that the facility is intended to serve.
SOC POL 41	To facilitate the development of children's play areas and playgrounds in proximity to existing and proposed neighbourhood centres, where feasible.

7.2.9.5 Transportation Strategy

The Transportation policy contained in the Plan is influenced by policy including The International Panel on Climate Change Report 2007 and Smarter Travel, A Sustainable Transport Future 2009 – 2020. Thus the need to reduce the amount of energy generated as a result of transportation has been to the fore in the proposed transportation and settlement

strategies pursued in this Development Plan. Therefore this assessment has concluded that the implementation of the policies and objectives of the Development Plan in relation to transportation will have a slight long term positive impact on climate change.

The following policies in particular are noted:

TRAN SP 2	To promote the sustainable development of walking, cycling, public transport and other more sustainable forms of transport as an alternative to the private car, together with the development of the necessary infrastructure and promotion of the initiatives contained within 'Smarter Travel, A Sustainable Transport Future 2009 – 2020'.
TRAN POL 7	To support the improvement of existing rail transport infrastructure including the Dublin/Sligo route with increased suburban services to Enfield and Kilcock, the existing Dublin – Drogheda rail service which serves the urban settlements of Laytown and Gormonston and to seek to have the proposed electrification of this rail line extended to Drogheda.

TRAN POL 14

To co-operate with the NTA on the development of a cycle network for the Greater Dublin Area and to promote, enhance and provide the development of cycling and walking facilities in the County in accordance with relevant national policy and guidelines.

7.2.9.6 Water, Drainage and Environmental Services

The policies of the Development Plan in relation to water services and water quality will have a neutral impact on Climate Change.

Flooding is a natural phenomenon of the hydrological cycle which is predicted to increase as a result of ongoing climatic

changes. An increase in rainfall intensity as a result of climate change could have severe consequences for flooding and in particular the severity of flood events. The policies of the Development Plan in relation to flood risk management will therefore have a positive impact with regard to mitigating the potential impacts of climate change. The following are noted:

WS POL 29

To have regard to the **“Planning System and Flood Risk Management – Guidelines for Planning Authorities”** (DoEHLG/OPW, 2009) through the use of the sequential approach and application of the Justification Tests for Development Management and Development Plans, during the period of this Plan.

WS POL 30

To have regard to the findings and recommendations of the current Strategic Flood Risk Assessment prepared as part of the County Development Plan review. See Appendix 6.

WS OBJ 11

To undertake a review of the ‘Strategic Flood Risk Assessment for County Meath’ following the publication of the flood mapping which is being produced as part of the Catchment Flood Risk Assessment and Management (CFRAM) Studies.

WS OBJ 16

To incorporate and promote the use of Sustainable Urban Drainage Systems within County Council Developments and other infrastructural projects as required in the Greater Dublin Regional Code of Practice for Drainage Works.

With regard to waste management the policies of the Plan which support the reduction of the amount of waste that ends up in landfill / incineration will have long term positive impacts on climate change.

The following policies and objectives are noted as positive:

WM POL 1

To adopt the provisions of the waste management hierarchy and implement policy in relation to the county’s requirements under the current or any subsequent waste management plan. All prospective developments in the county will be expected to take account of the provisions of the regional waste management plan and adhere to the requirements of the Plan. Account shall also be taken of the proximity principle and the inter regional movement of waste as provided for under appropriate Minister Directives from time to time.

WM POL 2	To promote and encourage the education and awareness on all issues associated with waste management, at household, industry and community level. This will include the promotion of waste reduction by encouraging the minimisation, re-use, recycling and recovery of waste within the county.
WM POL 5	To require the provision of bring banks, bottle banks or other appropriate recycling facilities as part of the overall development in the case of new or extended shopping centre developments and commercial neighbourhood centres, educational, sports, recreational facilities and managed residential developments.

7.2.9.7 Energy and Communications

The availability of energy is of critical importance to the continued development and expansion of County Meath. The growth in the national economy has placed considerable strain on the national electricity generating capacity.

Meath is committed to pursuing sustainable energy policies in accordance with the White Paper, 'Towards a Sustainable Energy Future for Ireland 2007-2020'. The White Paper sets out the Government's ambitious target of 33% of electricity being produced from renewable generation by 2020. This goal was subsequently increased to 40%. The Planning Authority recognises the range of new and developing technologies that can contribute to minimising greenhouse gas emissions and to securing a greater proportion of our energy needs from renewable sources.

In addition to promoting renewable energy developments themselves, there is also the issue of energy efficiency, both on macro and micro scale, to be considered. For example, at the macro level, sustainable land use planning will reduce the number of car trips being generated whilst at the micro level, pedestrian

and cycle lanes will encourage people to use alternative forms of development to that of the private car. Improving Ireland's energy efficiency is a key step in a sustainable energy policy. Energy efficiency is internationally recognised as the most cost-effective means of reducing dependence on fossil fuels.

There is now a requirement for all new buildings to become more energy efficient in line with the EU Energy Performance of Buildings Directive 2002/91/EC, which was adopted on 16th December 2002. The new Building Regulations (Part L Amendment) and the European Communities (Energy Performance of Buildings) (Amendment) Regulations 2008 will aid this requirement. The Building regulations contain a range of provisions aimed at improving energy performance in residential and non-residential buildings, both new build and existing. The intention is that this information and advice will help consumers to make informed decisions leading to practical actions to improve energy performance.

The principle objectives in relation to climate change are noted below:

EC OBJ 2	To support the review and implementation of the actions of the Meath County Council Climate Change Strategy and Energy Management Action Plan 2011-2012, 'Think Globally Act Locally'.
EC POL 1	To facilitate energy infrastructure provision, including the development of renewable energy sources at suitable locations, so as to provide for the further physical and economic development of Meath.

EC POL 2	To support international, national and county initiatives for limiting emissions of greenhouse gases through energy efficiency and the development of renewable energy sources which makes use of the natural resources of the county in an environmentally acceptable manner, where it is consistent with proper planning and sustainable development of the area.
EC POL 3	To encourage the production of energy from renewable sources, such as from biomass, waste material, solar, wave, hydro, geothermal and wind energy, subject to normal proper planning considerations, including in particular, the potential impact on areas of environmental or landscape sensitivity and Natura 2000 sites.
EC POL 4	To support the National Climate Change Strategy and, in general, to facilitate measures which seek to reduce emissions of greenhouse gases.
EC POL 5	To seek to improve the energy efficiency of the county's existing building stock in line with good architectural conservation practice and to promote energy efficiency and conservation in the design and development of all new buildings in the County, in accordance with the Building Regulations Part L (Conservation of Fuel and Energy).
EC POL 6	To encourage that development proposals maximise energy efficiency through siting, layout, design or which incorporate best practice in energy technologies, conservation and implementation of smart technology.
EC POL 9	To support the development of innovative energy efficient technologies such as district-heating and combined heat and power.
EC OBJ 3	To investigate the preparation of a renewable energy strategy promoting technologies which are most viable in County Meath.
EC POL 20	To encourage the development of wind energy, in accordance with Government policy and having regard to the Landscape Characterisation Assessment of the County and the Wind Energy Development Guidelines (2006).
EC POL 21	To support the preparation of a study on wind energy potential by local authorities jointly in the GDA.
EC POL 22	To facilitate the development of projects that convert biomass to energy subject to proper planning considerations.

Through implementation of the various policies and objectives and in particular those highlighted above the Planning Authority is demonstrating a commitment to developing a

more diverse range and combination of energy sources including wind energy, micro hydro power, solar energy, biofuels, geothermal (deep and shallow), anaerobic digestion and

combined heat and power in order to deliver on the targets set down in the National Renewable Energy Action Plan.

Furthermore the Planning Authority has demonstrated a commitment to developing sustainable building requirements with regard to a shift to energy efficient, low environmental impact buildings in Co. Meath. The incorporation of good design into developments should be welcomed by all who want to see sustainable building practices being mainstreamed. Good design is the key to achieving the optimum energy performance of buildings. It is therefore concluded the effects of implementing this section of the Plan will have a positive effect on climate change with long term and beneficial consequences in relation to climate change.

7.2.9.8 Cultural and Natural Heritage and Landscape

This assessment has determined that the policies and objectives of the Plan in relation to Cultural and Natural Heritage and Landscape will have a neutral to positive impact on the factors which influence climate change.

The protection of the natural heritage of the County will have positive implications for Climate Change and will assist the County in adapting to the impacts climate change has been predicted to have. The following policies and objectives are highlighted as having positive impacts:

GI POL 2	To protect existing green infrastructure within the County and to provide additional green infrastructure, where possible.
GI OBJ 1	To develop and support the implementation of a Green Infrastructure Strategy for County Meath .
NH POL 16	To seek to maintain the natural heritage and amenity of the county by promoting the preservation and enhancement of native and semi-natural woodlands, groups of trees and individual trees.

7.2.9.9 Rural Development

It is not certain what impact the implementation of the policies and objectives of the Plan in relation to Rural Development will have on Climate Change. Development proposals that arise as a result of these policies and objectives will be assessed on a case by case basis and any potential negative impacts on this aspect of the environment will be mitigated against

during the planning process stage. Thus in overall terms this assessment has concluded that rural development will have an uncertain to neutral impact on climate change.

Policies which support sustainable forestry can be said to have a positive impact on climate change due to the processing of carbon dioxide into oxygen by trees.

RD POL 15	To encourage sustainable forestry development, which is planted, managed and harvested in accordance with the Forest Service Guidelines for Landscape, Forest Harvesting and Environmental, Archaeology, Biodiversity and Water Quality.
RD POL 16	To promote forestry development of appropriate scale and character whilst ensuring that the development does not have a negative visual impact on the countryside or cause pollution or degradation to wildlife habitats, natural waters or areas of ecological importance.

RD POL 18

To promote the avoidance of deforestation or commercial afforestation within Natura 2000 sites unless directly relating to the management of the site for its qualifying interests.

7.2.9.10 *Development Management Standards and Guidelines*

The principles relating to energy efficiency are discussed above in Section 7.2.8. The effect of these specific policies and objectives have been shown to have a positive impact on the environment, implementation of the associated development management standards and guidelines to support the stated policy and objectives will similarly have a positive effect on this aspect of the environment.

7.2.10 Cultural Heritage

7.2.10.1 *Core Strategy*

The identity of Meath is intrinsically linked to its heritage and many of the cultural sites in Meath, such as Tara and the Brú na Bóinne, are synonymous with Ireland and are of international importance. County Meath's character and culture are vital assets for the residents and tourists alike.

The Core Strategy presents the goals of the Development Plan in relation to ensuring the long term protection of cultural assets within the County. They are:

To ensure that the unique cultural heritage of Meath is protected, conserved, enhanced and sensitively integrated into the sustainable development of the county for the benefit of present and future generations.

To ensure that features of Meath's natural heritage and green infrastructure that provide ecosystem services are protected and that tourist and recreational uses are facilitated in a sustainable manner.

To protect the landscape character, quality and local distinctiveness of County Meath.

Meath is designated and marketed as the 'Heritage Capital of Ireland' and has a large number of visitor attractions associated with heritage. The UNESCO World Heritage site Brú na Bóinne ranks among the most visited tourist sites in the country. Other tourist attractions based on Meath's archaeological and historical heritage include the Royal site of Tara, Kells, Trim castle, Loughcrew, Tailteann, the Hill of Ward, the Christian sites at Slane, Donaghmore, Killeen, Dunsany and Duleek, monastic ruins at Bective and Trim and stately homes throughout the County. Therefore there are significant economic benefits to promoting the value of the built heritage and investing in its protection, management and improvement.

The impact of the Core Strategy is to further protect valuable cultural assets while utilising

them for educational and tourism purposes. The assessment therefore concludes that the positive recognition of the heritage assets within the county as a potential economic focus will have a positive and permanent effect on the long term conservation of these sites.

7.2.10.2 *Settlement Strategy & Housing*

The designation and marketing of Meath as the Heritage Capital of Ireland is dependent on maintaining the intrinsic character of important built settlements. This includes a number of towns and villages within the county for example Kells, Trim, Slane, Moynalty, Longwood and Summerhill.

Development (i.e. residential, commercial etc.) therefore should be in keeping with the

character of the village in question. This is considered vital to protecting the heritage of the County. Maintaining the quality of the urban environment is key to protect this heritage and maximise its potential for tourism.

The Settlement Strategy and Housing Section does not deal specifically with the issue of heritage protection and conservation of the quality of the urban environment. However it does recognise this fact and on balance there are significant safeguards in place within the Cultural and Natural Heritage and Landscape Section to protect the heritage value of such settlements.

7.2.10.3 Economic Development

The Meath County Development Plan has set out a comprehensive range of policies, objectives and standards that seek to protect the County's valuable cultural heritage assets. Development which would endanger this asset would be contrary to the Plan and would not be permitted to proceed. Therefore this assessment has concluded that overall, the policies and objectives of the Plan in relation to Economic Development would have a neutral impact on the cultural heritage of the County.

The following policies are found to be positive in that they ensure the protection of the cultural heritage features of the county:

ED POL 29	To protect and conserve those natural, built and cultural heritage features that form the basis of the county's tourism attraction and to seek to restrict development which would be detrimental to scenic and identified natural and cultural heritage assets.
ED POL 42	To encourage and support sensitive development which provides for the appreciation, interpretation, upgrade and provision of access to natural habitats, scenic vistas and heritage features for the benefit of rural tourism subject to normal planning and nature conservation considerations.

7.2.10.4 Social Strategy

This assessment has identified in general a neutral to positive impact arising from the implementation of the Plan's policies and objectives in relation to its Social Strategy on this aspect of the environment. However, a

number of positive impacts were also noted. It is considered these will have a moderate to profound impact over a long term duration. Specifically the inclusion of Policies 45 and 50 are noted.

SOC POL 45	To protect the cultural heritage of historical burial grounds within County Meath and encourage their management and maintenance in accordance with best conservation practice.
SOC POL 50	To continue to recognise the importance of the arts in areas of personal development, community development, employment and tourism and to endeavour to create opportunities in each of these areas.

7.2.10.5 Transportation Strategy

This assessment identified a neutral impact on the cultural heritage of the environment due to the implementation of the Plan's policies and objectives in relation to transportation infrastructure provision. This conclusion is based on a review of the Plan at a strategic level as well as the potential impact of

the various policies and objectives of the Plan. However this does not preclude the potential for localised impacts associated with the provision or improvement of transport infrastructure such as road widening, road construction etc and this should be considered on a case by case basis at the planning stage. This is particularly relevant for the Slane

by-pass. Where required an assessment of the impact of such proposals will be dealt with in detail through the Environmental Impact Assessment process.

7.2.10.6 Water, Drainage and Environmental Services

In general terms implementation of policies and objectives relating to Water, Drainage and Environmental Services will have a neutral impact on this aspect of the environment.

Policies in relation to flood risk management have potential positive impacts in protecting the cultural heritage sites of the County from flooding.

7.2.10.7 Energy and Communications

The implementation of policies and objectives relating to Energy and Communications will have a neutral impact on this aspect of the environment.

7.2.10.8 Cultural and Natural Heritage and Landscape

7.2.10.8.1 UNESCO World Heritage Site of Brú na Bóinne

In December 1993 the United Nations Educational, Scientific and Cultural Organisation

(UNESCO) inscribed Brú na Bóinne as a World Heritage Site. This recognises the universal importance of this cultural landscape to the whole of humanity, and obliges the State to protect the Outstanding Universal Value (OUV) of the area to the highest international standards.

To adhere to the requirements of the World Heritage Site designation, a Management Plan was published in December 2002 by the Department of the Environment and Local Government, following a detailed process of public consultation. The aim of the plan is to provide a clear strategy for managing the area so that priorities may be set that are achievable within given resources.

The Brú na Bóinne World Heritage Site Management Plan of 2002 is contained in Appendix 10 of this Plan.

The World Heritage Site is very sensitive to all categories of new development. While development within the site is not precluded it is restricted and an evaluation of applications for development will be conducted on a case-by-case basis. The relevant policies in this regard are CH POL 2 and 3.

CH POL 1	To work in partnership with the relevant agencies/organisations and the public to promote, understand, conserve and sustainably manage the UNESCO World Heritage Site of Brú na Bóinne.
CH POL 2	To consider individual housing within the UNESCO World Heritage Site of Brú na Bóinne, as shown on Map No. 9.1, only for those involved locally in full time agriculture, and who do not own land outside of the UNESCO World Heritage Site of Brú na Bóinne and subject to compliance with all other relevant provisions contained in this Development Plan.
CH POL 3	To require that all development within the UNESCO World Heritage Site of Brú na Bóinne shall be subject to the Development Assessment Criteria set out in Volume 1, Chapter 9, Section 9.6.7, and elsewhere in the Development Plan.
CH POL 4	To refer all planning applications within the UNESCO World Heritage Site of Brú na Bóinne to the Department of Arts, Heritage and the Gaeltacht for comment. These comments will be considered in the making of decisions on all such planning applications.

CH OBJ 1	To protect and enhance the Outstanding Universal Value of the cultural landscape in the UNESCO World Heritage Site of Brú na Bóinne in accordance with the relevant guidelines and national legislation, so that its integrity, authenticity and significance is not adversely affected by cumulative inappropriate change and development, and to enhance views within and adjacent to the site.
CH OBJ 2	To protect the ridgelines which frame views within and from the UNESCO World Heritage Site of Brú na Bóinne from inappropriate or visually intrusive development.
CH OBJ 3	To encourage and facilitate pre-planning consultation with applicants regarding the siting and design of developments affecting the UNESCO World Heritage Site of Brú na Bóinne, and the scope of any necessary impact assessments.
CH OBJ 4	To encourage the retention, conservation, and appropriate re-use of vernacular and traditional buildings within the UNESCO World Heritage Site of Brú na Bóinne in preference to either their replacement, or the construction of new buildings on green field sites.
CH OBJ 5	To utilise available LiDAR ²³ imagery data and viewshed analysis derived from it as a tool to guide and inform development management of the UNESCO World Heritage Site of Brú na Bóinne.

The assessment reveals some conflicting results through implementation of the above policies and objectives. Every effort must be made to maintain and preserve the integrity of the site. Permitting development within the UNESCO World Heritage Site of Brú na Bóinne site can lead to a deterioration in the quality of the site. However the Council proposes a strict set of criteria for development proposals within the site. Principally all new development, including extensions to existing buildings, and uses of land within the World Heritage Site, must respect local character and distinctiveness, and demonstrate high quality sustainable design and construction. Furthermore the assessment of development proposals must also adhere to other policies contained in the Development Plan including the protection of views, prospects, monuments, protected structures and their setting. In terms of the assessment this

appears a balanced and reasoned approach to future development within the confines of the UNESCO World Heritage Site of Brú na Bóinne.

In addition to the UNESCO World Heritage Site of Brú na Bóinne site there is a World Heritage Tentative List. The chosen sites, including these within County Meath, are:

- The Royal Sites of Ireland (Cashel, Dún Ailinne, Hill of Uisneach, Rathcroghan Complex and Tara Complex)
- Early Medieval Monastic Sites (Clonmacnoise, Durrow, Glendalough, Inis Cealtra, Kells and Monasterboice)

There is a need to protect and conserve these sites and the Council has provided suitable policy in this regard. The assessment therefore is positive and on implementation will have a long term effect.

²³ LiDAR (Light Detection and Ranging) Survey (2007)

7.2.10.8.2 *Archaeological Heritage*

Meath has a considerable wealth of archaeological heritage which stretches throughout the County and includes sites of national and International importance.

The policies/objectives noted below are noted as like to have positive impacts in ensuring the long term protection of this aspect of the county's cultural heritage.

CH POL 7	To ensure that development in the immediate vicinity of a recorded monument is sensitively sited and designed so that it does not significantly detract from the monument. Where upstanding remains exist, a visual impact assessment may be required.
CH POL 8	To retain surviving medieval plots and street patterns in the villages and towns of Meath, where practicable, and in the course of development to record evidence of ancient boundaries, layouts, etc.
CH OBJ 7	To protect archaeological sites and monuments, underwater archaeology, and archaeological objects, which are listed in the Record of Monuments and Places, and to seek their preservation in situ (or at a minimum, preservation by record) through the planning process.
CH OBJ 10	To establish in-house training programmes for Council staff carrying out repair and maintenance works to historic structures, subject to the availability of resources.

7.2.10.8.3 *Architectural Heritage*

In general the approach by the Local Authority with regard to Architectural Heritage is

considered to have a positive and long term impact on this element of the cultural heritage.

CH POL 10	To conserve and protect the architectural heritage of Meath.
CH POL 11	To require that all planning applications relating to Protected Structures contain the appropriate accompanying documentation in accordance with the Architectural Heritage Protection Guidelines for Planning Authorities (2011) or any variation thereof, to enable the proper assessment of the proposed works.
CH OBJ 13	To protect all structures (or, where appropriate, parts of structures) within the county which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest and which are included in the Record of Protected Structures (See Appendix 8).
CH OBJ 16	To make available and distribute detailed guidance notes and provide advice on architectural heritage to the public, developers, public bodies, groups and associations.
CH POL 16	To protect the industrial heritage of Meath, including the Royal Canal and Boyne Navigation, historic bridges, roadside features and street furniture.

CH OBJ 19	To carry out phase two of the Industrial Heritage Survey, which will comprise a more detailed site inventory and assessment of surviving structures and sites.
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The stated policies and objectives relating to Architectural Conservation Areas (ACAs) are considered to be a positive approach to their protection and therefore the assessment concludes that the policies and objectives set

out in the Development Plan in relation to ACAs are positive and will have long term beneficial consequences for this aspect of the cultural heritage environment.

CH POL 18	To require that all development proposals within an ACA should be appropriate to the character of the area, inclusive of its general scale and materials, and are appropriately sited and sensitively designed having regard to the advice given in the Statements of Character ²⁴ for each area.
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CH OBJ 20	To prohibit the demolition of a structure that positively contributes to the character of an ACA, except in exceptional circumstances. Meath County Council will require such applications to be accompanied by a measured and photographic survey, condition report and architectural heritage assessment of the structure. Where permission for demolition is granted within an ACA, an assessment of the impact of the replacement building on the character of the ACA will be required.
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CH OBJ 21	To ensure that any new development within or contiguous to an ACA is sympathetic to the character of the area and that the design is appropriate in terms of scale, height, plot density, layout, materials and finishes.
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7.2.10.8.4 Vernacular Heritage

CH POL 20 and CH OBJ 24 are considered a sensible approach to the protection of

vernacular heritage within the County and will have a moderately positive impact for the long term.

CH POL 20	<ul style="list-style-type: none"> (a) To encourage the retention, sympathetic maintenance, and appropriate re-use of the vernacular heritage of Meath, in both the towns and rural areas of the County, including the retention of the original fabric, such as windows, renders, shop fronts, gates, yards, boundary walls and other significant features where possible. (b) To discourage the replacement of good quality vernacular buildings with modern structures. (c) To ensure that new build adjoining, and extensions to, vernacular buildings are of an appropriate design and do not detract from the building's character.
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CH OBJ 24	To assist the retention and development of traditional building skills in Meath subject to the availability of resources.
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²⁴ <http://www.meath.ie/LocalAuthorities/Heritage/ArchitecturalHeritage/ArchitecturalConservationAreas/>

In conclusion it is the aim of Meath County Council to protect, conserve and enhance buildings, areas, structures, sites and features of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. Overall the implementation of the stated policies and objectives discussed within the Chapter and highlighted above will lead to a positive impact which will be moderate to profound and of long term to permanent duration.

7.2.10.9 Rural Development

Development within rural areas can impact negatively on features of conservation, preservation or protection value within the County. There are a number of policies within this section which seek to ensure that such negative impacts do not occur. The following, in particular are noted:

RUR DEV SP 2	To ensure that individual house developments in rural areas satisfy the housing requirements of persons who are an intrinsic part of the rural community in which they are proposed, subject to compliance with normal planning criteria. An assessment of individual rural development proposals including one-off houses shall have regard to other policies and objectives in this Development Plan, and in particular Chapter 9 Section 9.6.7 UNESCO World Heritage Site of Brú na Bóinne.
RD POL 15	To encourage sustainable forestry development, which is planted, managed and harvested in accordance with the Forest Service Guidelines for Landscape, Forest Harvesting and Environmental, Archaeology, Biodiversity and Water Quality.
RD POL 27	To ensure that development for aggregates / mineral extraction, processing and associated processes does not significantly impact in the following areas: <ul style="list-style-type: none"> (i) Existing & Proposed Special Areas of Conservation (SACs); (ii) Special Protection Areas (SPAs); (iii) Natural Heritage Areas and Proposed Natural Heritage Areas; (iv) Other areas of importance for the conservation of flora and fauna; (v) Areas of significant archaeological potential; (vi) In the vicinity of a recorded monument, and; (vii) Sensitive landscapes (viii) World Heritage Sites
RD POL 28	To ensure that all new development in the Gaeltachts have a positive impact upon the use of Irish in the area and the cultural heritage of the area, whilst seeking to realise their economic and development potential in a balanced and sustainable manner over the lifetime of the Plan.
RD POL 30	To promote the viable re-use of vernacular dwellings without losing their character and to support applications for the sensitive restoration of disused vernacular or traditional dwellings.
RD POL 32	To oppose the demolition and replacement of traditional or vernacular rural houses in order to protect the varied types of housing stock in rural areas of the County and to preserve the rural built heritage.

RD POL 35

To actively promote the retention and restoration of thatched dwellings as a key component of the built heritage of County Meath.

The assessment indicates the implementation of these policies will impact positively on this aspect of cultural heritage. The impact will be moderate but with long term consequences.

7.2.10.10 Development Management Standards and Guidelines

The screening assessment identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives on Development Management and Guidelines.

7.2.11 Landscape and Visual

7.2.11.1 Core Strategy

The screening assessment identified in general a neutral impact arising from the

implementation of the Plan's policies and objectives on this aspect of the environment.

7.2.11.2 Settlement Strategy & Housing

The landscape is vulnerable to change and the inclusion of HS POL 2 is seen as recognition of this fact. The assessment supports the inclusion of this policy as development should be appropriate to its setting in both its style and scale. The implementation of this policy will ensure that the policies and objectives in the settlement and housing strategy will have a neutral impact on the landscape element of the environment.

HS POL 2

To require a high standard of design in all new residential schemes that are built in a style and scale that is appropriate to the landscape setting.

SS OBJ 5

To encourage the development of compact urban forms by consolidating existing development boundaries and utilising brownfield sites in preference to expanding urban areas into the countryside and adjoining settlements.

7.2.11.3 Economic Development

It is not certain what impact the implementation of the policies and objectives of the Plan in relation to Economic Development will have on the landscape of County Meath. Development proposals that arise as a result of these policies and objectives will be assessed on a case by case basis and any potential negative impacts on this aspect of the environment will be assessed during the planning process.

7.2.11.4 Social Strategy

Public open space is a critical element to the creation of a high quality and distinctive urban environment. By offering opportunities for both passive and active recreation it contributes to the quality of life of residents and visitors alike and offers environmental and ecological benefits. The inclusion of the policies highlighted below will have long term to permanent positive effects on this element of the environment.

SOC POL 39

To resist the loss of existing public open space, unless alternative recreational facilities are provided in a suitable location.

SOC POL 40

To encourage where possible local community involvement in the upgrading and improvement of open spaces.

SOC POL 41	To facilitate the development of children's play areas and playgrounds in proximity to existing and proposed neighbourhood centres, where feasible.
SOC POL 42	To maintain free from development lands that are subject of a deed of dedication or identified in a planning permission as open space to ensure the availability of community and recreational facilities for the residents of the area.

7.2.11.5 *Transportation Strategy*

Generally the assessment identified a neutral impact on this aspect of the environment. However the Plan supports the development of an outer orbital route (Leinster Outer Orbital Route) extending from Drogheda to the Naas/Newbridge area with intermediate links to Navan and other towns. The Plan states that the full development of the proposal is unlikely to be required during the Draft 2030 Strategy period and, accordingly, it is recommended that an incremental approach to its delivery

is adopted. TRAN POL 22 supports this development. No proposed route is as yet available, but the development of such a route has the potential to have a significant profound and permanent effect on the landscape through which it traverses. This policy is in compliance with the Regional Planning Guidelines and the draft NTA Strategy and any potential adverse impacts will be effectively mitigated through the preparation of an Environmental Impact Assessment that will accompany any proposal.

TRAN POL 27	To co-operate with the NRA, NTA and other Local Authorities to provide the Leinster Outer Orbital Route as proposed in the Regional Planning Guidelines and the NTA's draft Transport Strategy.
TRAN POL 30	To regulate, control and improve signage throughout the county and avoid proliferation of roadside signage, especially outside the 50-60kmh speed limit areas in a manner that would reduce the effectiveness of essential signage such as directional and other authorised road traffic signs, create visual clutter and distractions for road users and/or reduce visibility at junctions, interchanges and bends.

7.2.11.6 *Water, Drainage and Environmental Services*

This assessment identified a neutral impact on this aspect of the environment due to the implementation of the Plan's policies and objectives in relation to the Water, Drainage and Environmental Section of the Development Plan.

7.2.11.7 *Energy and Communications*

Energy and communications infrastructure can and do have a significant impact on the

landscape. While eliminating such impacts is not impossible it can be costly; the avoidance of developing such infrastructure in such sensitive areas limits the level of impact. The highlighted policies below will assist in reducing the impact on the landscape element of the environment; however it cannot be eliminated altogether. Thus the assessment indicates a potential negative impact through the provision of energy and communications infrastructure, though this can be limited by careful design and siting as indicated in EC POL 13.

EC POL 13	To ensure that energy transmission infrastructure follows best practice with regard to siting and design particularly to ensure the protection of all important recognised landscapes.
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EC POL 18	To generally avoid the location of overhead lines in Natura 2000 sites unless it can be proven that they will not affect the integrity of the site in view of its conservation objectives i.e. by carrying out an appropriate assessment in accordance with Article 6(3) of the E.U. Habitats Directive.
EC POL 19	To promote the undergrounding of existing overhead cables and associated equipment where appropriate.
EC POL 38	To assess proposals for the location of structures in sensitive landscapes in accordance with the policies set down in Chapter 9 of this Development Plan.

7.2.11.8 Cultural and Natural Heritage and Landscape

The policies and objectives of the plan in relation to Cultural and Natural Heritage and

Landscape will have profound positive long term impacts on the landscape of the County. The following in particular are noted:

CSA SP 2	To ensure that features of Meath's natural heritage and green infrastructure that provide ecosystem services are protected; that biodiversity is conserved and where possible enhanced, and; that the character of landscapes are maintained and enriched, and that tourist and recreational uses are facilitated in a sensitive manner.
CSA SP 3	To promote the understanding of County Meath's landscape in terms of its inherent and unique character and to recognise what elements should be preserved, conserved or enhanced.
CH OBJ 1	To protect and enhance the Outstanding Universal Value of the cultural landscape in the UNESCO World Heritage Site of Brú na Bóinne in accordance with the relevant guidelines and national legislation, so that its integrity, authenticity and significance are not adversely affected by cumulative inappropriate change and development, and to enhance views within and adjacent to the site.
CH OBJ 2	To protect the ridgelines which frame views within and from the UNESCO World Heritage Site of Brú na Bóinne from inappropriate or visually intrusive development.
CH OBJ 3	To encourage and facilitate pre-planning consultation with applicants regarding the siting and design of developments affecting the UNESCO World Heritage Site of Brú na Bóinne, and the scope of any necessary impact assessments.
CH POL 7	To ensure that development in the immediate vicinity of a recorded monument is sensitively sited and designed so that it does not significantly detract from the monument. Where upstanding remains exist, a visual impact assessment may be required.

CH POL 18	To require that all development proposals within an ACA should be appropriate to the character of the area, inclusive of its general scale and materials, and are appropriately sited and sensitively designed having regard to the advice given in the Statements of Character ²⁵ for each area.
CH POL 19	To encourage the protection, promotion and enhancement of heritage gardens and parks in the county and support public awareness, enjoyment of and access to these sites.
CH OBJ 22	To discourage development that would lead to a loss of, or cause damage to, the character, the principal components of, or the setting of historic parks, gardens and demesnes of heritage significance.
CH OBJ 23	To require that proposals for development in designed landscapes and demesnes include an appraisal of the landscape, designed views and vistas, and an assessment of significant trees or groups of trees, as appropriate.
NH POL 22	To have regard to the character, visual, recreational, environmental and amenity value of the coast and provisions for public access in assessing proposals for development.
LC POL 1	To support and implement the provisions of the National Landscape Strategy.
LC SP 1	To protect the landscape character, quality, and local distinctiveness of County Meath in accordance with relevant government policy and guidelines and the recommendations included in Meath Landscape Character Assessment (2007) in Appendix 7.
LC POL 2	To require that any necessary assessments, including landscape and visual impact assessments, are provided when undertaking, authorising, or approving development.

7.2.11.9 Rural Development

This assessment has concluded that there will be a neutral impact on the landscape of Meath as a result of the implementation of the policies and objectives of the Plan in relation to Rural Development. While it is true that

unsympathetic development in rural areas can have a very negative impact on the landscape of an area the following policies as set out in the Rural Development Chapter of the Plan will ensure that such negative impacts do not occur.

RUR DEV SO 6	To protect and enhance the visual qualities of rural areas through sensitive design.
RD POL 3	To protect areas falling within the environs of urban centres in this Area Type from urban generated and unsightly ribbon development and to maintain the identity of these urban centres.

²⁵ <http://www.meath.ie/localAuthorities/Heritage/ArchitecturalConservationAreas>

RD POL 9	To require all applications for rural houses to comply with the 'Meath Rural House Design Guide'.
RD POL 16	To promote forestry development of appropriate scale and character whilst ensuring that the development does not have a negative visual impact on the countryside or cause pollution or degradation to wildlife habitats, natural waters or areas of ecological importance.
RD POL 19	To consider the preservation of any tree, trees or groups of trees or woodland of special amenity or environmental value by use of Tree Preservation Orders.
RD POL 20	To require the submission of landscape plans where appropriate to accompany planning applications for rural development prepared by competent professionals and to promote the use of native trees for boundary treatment and shelter belts.
RD POL 41	To avoid the removal of existing roadside boundaries where they are more than 3 m from the road edge (edge of carriageway), except to the extent that this is needed for a new entrance, and where required for traffic safety reasons. (Please refer to policies contained in Section 9.7.8 Woodlands, Hedgerows and Trees in this regard).

7.2.11.10 Development Management Standards and Guidelines

The implementation of the Development

Management Standards and Guidelines as set out in the Development Plan will have a positive impact on the landscape of County Meath.

8

Mitigation Measures

8.1

Introduction

The quality of the environment within County Meath is an important issue for consideration by Meath County Council. To achieve a sustainable society it must be protected, preserved and enhanced where necessary. Meath contains a rich and varied landscape of international repute, as well as a wealth of natural and man-made heritage assets. These form the basis for a high level of amenity and tourism potential in the area. This has been recognised throughout the SEA and Development Plan process and the Plan is framed within ideals of sustainability throughout its vibrant communities, dynamic economy and unique cultural and natural heritage.

Article 5 of the SEA Directive requires that mitigation measures be proposed for all significant adverse effects on the environment as a result of the implementation of the Development Plan. The SEA is an iterative process prepared in tandem with the formulation of the policies and objectives of the Development Plan. While not always possible to achieve, it is the aim of the process to ensure that sensitive environmental receptors are given adequate and appropriate consideration throughout.

As environmental considerations have informed all stages of the preparation of the Development Plan, the policies and objectives of the Plan have been framed to ensure that potential adverse impacts are avoided, eliminated or lessened to an acceptable level. As a result of this informed iterative process, it is the finding of the assessment of the Development Plan as presented in Chapter 7 of this SEA Report, that the full implementation of the Plan, will have a neutral to positive impact on the environment as a whole.

Given this finding, the requirement for specific mitigation measures is largely unnecessary; and therefore this section of the Environmental Report will instead focus on and discuss how the specific environmental receptors will be protected.

In addition, within the Plan there are numerous references to the requirement for an Appropriate Assessment (AA) where a proposal for development may impact on the integrity or long-term conservation status of a protected Natura 2000 site. This has been discussed throughout Chapter 7 of this SEA Report and is thus not repeated at each occurrence in the following sections.

8.2

Zoning

The County Development Plan is the 'parent' document guiding development within the County and informing the direction and content of lower level plans. Thus the environmental protection policies and objectives will apply in a 'trickle down' manner to those lower level Plans.

The Development Plan acknowledges that at a countywide level, there are generally adequate lands, if released and serviced, to cater for the projected growth in households and population for the Plan period. In order to ensure towns

and villages grow at a suitable and sustainable scale, appropriate to their position in the settlement hierarchy, measures must be put in place to ensure that the quantum and scale of residential development that will take place in urban centres complies with the Plan.

The County Development Plan identifies the quantum of land required for zoning in order to accommodate the predicted increase in population up to 2022 as outlined in the Regional Planning Guidelines for the Greater Dublin Area 2010-2022. The zoned land

requirements have been based on land use zoning objectives that relate solely to residential use and on mixed use zoning objectives, which permit residential use. The density assigned to each centre has had regard to the place of the settlement in the county settlement hierarchy, existing and planned public transport investment in each centre and the 'Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas' (Department of the Environment, Heritage and Local Government, 2009). Based on this information, the shortfall or excess in zoning is also indicated.

Meath County Council proposes to review and amend where necessary the quantum of residentially zoned lands in the County in order to ensure consistency between the household allocations, residential zoned land requirements and Local Area Plans. This will be done to ensure that the urban settlements in Meath develop in a planned and orderly manner according to the stated core strategy and settlement strategy for the County. It is a legal requirement that LAPs are progressed in accordance with the planning legislation and to this end are placed on public display within one year from the adoption of the new Development Plan. Similarly, the Development Plans for Navan, Trim and Kells will need to be reviewed and amended where necessary to be consistent with this Development Plan.

Significantly for this SEA process, applications for residential development on greenfield lands (i.e. 'A' zonings) in all centres shall be considered premature until such time as the variation/amendment of a Development

Plan/Local Area Plan or adoption of a new plan, required to ensure consistency with the settlement strategy and core strategy in this Plan, is made. This is consistent with the sequential approach and the principle of consolidation, which support the development of centre sites prior to greenfield lands.

Given the extent of overzoning in some centres and in light of the assessment of employment zoned land in Section 4.2 of this Plan, which identified over provision of same in some centres, and the findings of the Strategic Flood Risk Assessment, it is likely that an approach combining phasing with de-zoning will be required in some centres.

The timeframe for the release of lands shall specify the first phase of development as corresponding to the period of this Development Plan, i.e. 2013-2019. This phase shall only identify the quantity of land indicated in Table 2.4 of the Development Plan. This is important given that headroom has already been included in the household allocations and therefore there is no justification for the release of any additional lands over and above those specified in Table 2.4 during the period of this Development Plan.

In order to ensure that growth occurs in line with the household allocations it will be necessary for the Planning Authority to monitor development management decisions on a countywide basis and this will be incorporated into the ongoing management functions of the planning department. It will also be included in the progress report to be prepared two years after the adoption of the Development Plan.

8.3

Planning

Meath County Council in its role as Planning Authority is responsible for the management of development within its functional area. The planning process is the principal mechanism available to the Local Authority to control development, and ultimately, to prevent adverse environment impacts.

Any application for planning permission for a new development, extension to existing development or intensification or change of use

will be assessed in terms of its potential impact on existing adjacent developments, existing land uses and/or the surrounding environment/landscape. Meath County Council will operate the statutory planning system in a balanced and fair manner, ensuring that the policies and objectives presented within the Plan are fully adhered to. Proposals for development contravening the Plan will not proceed outside of the material contravention process.

8.4

Enforcement

The primary responsibility for ensuring compliance with the terms of a planning permission rests with the person carrying out the development pursuant to a planning permission. In the normal course of carrying out developments, there will also be parallel requirements to comply with other codes such as the national Building Regulations made under the Building Control Act 1990 or water pollution legislation, to mention but two examples.

The Department of Environment, Community and Local Government has published the Water Services (Amendment) Act 2012 to regulate waste water discharges from all homes that are not connected to the public sewerage network. It provides for registration and inspection

arrangements for on-site septic tank systems or domestic wastewater treatment systems. The Local Authorities are required to establish and maintain a registration system for same.

The Planning and Development Act 2000 (as amended) gives power to the Council to take enforcement action where development proceeds without the necessary consent from the Local Authority, or if conditions attached to a grant of permission are not complied with and when other breaches of planning control have occurred. The Council will take enforcement action whenever it is expedient to do so, having regard to the provisions of the Planning and Development Act 2000 (as amended), and associated guidelines.

8.5

Cooperation with other authorities

The Council will continue to liaise with state agencies/departments whose remit is the protection of the environment or aspects thereof. To this end the Local Authority will continue to work closely with the Environmental Protection Agency, The National Parks and Wildlife Service, the relevant Fisheries Board and others with responsibilities for the various aspects of the environment.

To this end the Council will continue to work with and assist the EPA in carrying out its functions within the plan area. The Environment Section within Meath County Council monitors and controls industries and waste activities that fall outside the EPA's remit and provide an array of essential environmental services, including:

- Water pollution monitoring & control
- Air pollution monitoring & control
- Waste management plan implementation
- Waste management permitting & enforcement
- Control of hazardous waste movements
- Pollution incident response
- Environmental awareness & education
- Burial grounds
- Animal control, litter control & tidy towns

These activities will continue throughout the lifetime of this Development Plan and key indicators will be monitored on an ongoing basis.

8.6

Environmental Awareness

There are obvious environmental benefits in creating an awareness of the environment generally and the contributions individuals, as well as sectors/industries, can make to its enhancement. Meath County Council will be

proactive in promoting environmental issues and sustainable practices in the various sectors that have potential to cause deterioration in the quality of the natural or built resources within County Meath.

8.7

Green Infrastructure

Green infrastructure refers to strategically planned and interconnected networks of green space and water capable of delivering ecosystem services and quality of life benefits to people. It can include parks, open spaces, rivers, farmland, playing fields, woodlands allotments and private gardens that surround and intersperse our towns and villages. Green infrastructure should be provided as an integral

part of sustainable development alongside other infrastructure such as utilities and transport networks if the maximum benefit from natural assets is to be obtained. In this regard Meath County Council has commenced the preparation of a Green Infrastructure Strategy for the county and in so doing recognises its economic, social, environmental and physical value to people of the county.

8.8

Mitigation Measures – Specific Topics

8.8.1 Biodiversity and Natural Heritage

8.8.1.1 Designated Areas

Biodiversity and natural heritage are of central importance to County Meath and in accordance with Article 6(3) of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive) an Appropriate Assessment of the effect of the County Development Plan on Natura 2000 Sites has been undertaken.

Meath County Council will be proactive in the protection of such sites designated in National and European legislation, and in other relevant International Conventions, Agreements and Processes. The Council will work with the relevant statutory authorities, such as the National Parks and Wildlife Service to identify, protect and conserve vulnerable, rare and threatened species of wild fauna and flora and their habitats.

Any proposed development not directly connected with or necessary to the management of the Natura 2000 sites and likely to have a significant effect in a Natura 2000 site(s) either individually or in-combination with other plans or projects will require proponents to conduct an Appropriate Assessment (AA), in accordance with Article 6(3) and 6(4) of the Habitats Directive (Council Directive 92/43/EEC), regarding the potential impact that the proposed development may have on the conservation status of the site. Proposed developments within these areas will be

referred to the Department of the Environment, Community and Local Government for review.

If the Appropriate Assessment concludes that the project will have a negative impact on the site, it may only proceed, and be carried out, for imperative reasons of overriding public interest (IROPI) as outlined in the Directive and the Member State concerned shall take all necessary compensatory measures to ensure that the overall coherence of the Natura 2000 Site is protected. The European Commission must be informed where this occurs.

The Appropriate Assessment (AA) has issued a list of general biodiversity mitigation measures that apply to the different habitat types in the Plan area.

8.8.1.1.1 General Mitigation Measures

- An Appropriate Assessment will be required of any proposed developments likely to have an impact on the Natura 2000 Site network.
- The Appropriate Assessment and mitigation will ensure that proposed developments will not have an impact and take full account of the habitats and species, water quality, ecology, risk of disturbance and flood risk areas.
- Shall provide for appropriate site-specific sufficient buffer zones along the Natura 2000 Site to maintain the integrity of the site and will not encroach onto the Natura 2000 Site and associated habitats.
- It is important where feasible to ensure the provision and maintenance of appropriate

ecological buffer zones and protect the integrity of the site.

In addition to the above the Council has put in place policies that seek to:

- Avoid significant impact on plant animal or bird species protected by law;
- Conserve the ecological, archaeological cultural and educational significance of designated peatlands;
- Have regard to the geological and geomorphological heritage values of identified geological sites;
- Promote the best practice in the control of invasive species; and
- Raise public awareness and understanding and to increase public participation in the county's biodiversity and natural heritage.

8.8.2 Woodlands, Hedgerows and Trees

Woodlands and individual trees contribute positively to the biodiversity, landscape character and scenic quality of County Meath. However, with only 3% woodland cover, County Meath is one of the least wooded counties in the country. Woodlands tend to be small and highly fragmented for the most part and improving the connectivity of these woodlands, as well as that of woodlands along other river corridors, through new woodland planting would be likely to yield significant biodiversity benefits at local and county levels.

The Council will encourage and promote the retention of woodlands, hedgerows and trees, together with stone walls or other distinctive boundaries. Replacement with the same type of boundary is required where impact is unavoidable. In addition the Council will promote the preservation and enhancement of native and semi-native woodlands, trees and groups of trees and the use of native species in new plantings.

There will be a presumption against removal of significant hedgerows during the course of developments. Under the Wildlife (Amendment) Act 2000 the cutting of hedges (and uncultivated vegetation) during the bird-nesting season (March 1st to September 1st) is prohibited, except in certain legally defined circumstances.

8.8.3 Soil and Geology

The soil and geological environment plays a significant role in land uses, and its appropriateness for differing activities is not solely confined to agricultural practices. Land use change will have a significant local impact and the Plan outlines the need to reduce the existing level of zoned land for residential purposes. Furthermore, the Plan emphasises the desire to develop brownfield sites in advance of greenfield sites. This will have a positive outcome on land use and the soil environment.

As stated in 8.8.1 above Meath County Council will have regard to the geological and geomorphological heritage values of identified geological sites in the county and avoid inappropriate development through consultation with the Geological Survey of Ireland.

8.8.4 Water

The water environment is sensitive to most forms of development. It can be affected both directly, for example through river engineering works and water extraction for consumption, and indirectly, for example through pollution from surface water run-off, and agricultural and industrial processes. Meath County Council is responsible for the protection of all waters in the County and the planning system has a major role to play in ensuring the protection, maintenance and improvement of water quality through the location and management of development.

The Council is currently implementing the 2009-2015 River Basin Management Plans and associated programme of measures as detailed within each plan. To date, Meath County Council has successfully adhered to the programme as defined by the EU. Meath County Council is committed to reaching the necessary water quality standards by 2015 as required under the Water Framework Directive. River Basin Management Plans, prepared pursuant to the Water Framework Directive, are now in place.

Importantly under Section 34(2)(a) of the Planning and Development Act 2000 (as amended), when making its decision in relation to an application, Planning Authorities are restricted to considering the proper planning

and sustainable development of the area, regard being had to the provisions of the development plan as well as other provisions. These other provisions include, where relevant, the policy of the Government, the Minister for the Environment, Community and Local Government, or any other Minister of the Government, etc.

The assessment of site conditions is critical to ensuring that new development does not adversely affect water quality generally and groundwater quality specifically. The Planning Authority proposes to use a standard site characterisation form along the lines of the model included at Annex C in the EPA 'Code of Practice Waste Water Treatment and Disposal Systems Serving Single Houses (p.e. <10)', (2009) and insist upon the use of such qualified personnel in carrying out site assessments.

8.8.4.1 Surface Waters

In total 25 rivers are sampled at 85 river sampling locations by Meath County Council for the purposes of the Water Framework Directive. Based on the results attained from the monitoring programme, which became operational in 2006, a number of applications for the extension of timeframes were made where it was considered that the original objectives of the Water Framework Directive could not be achieved. A number of extensions were granted primarily on the grounds that it was not technically feasible to achieve the 2015 deadline. In total, 14 water management units were granted extensions of timeframes, wherein timeframes were extended to 2021 and 2027 respectively.

In 2011 the Environmental Protection Agency (EPA) published a Water Framework Status Update based on monitoring results for the period (2007-2009). The Water Framework Status Update details the quality of all waters within each River Basin District. Of the total 144 river water-bodies in County Meath, the 2011 EPA Report states that 28 of these water bodies are at good status, 71 are at moderate status, 33 at poor status and 12 at bad status.

Further work is required if the objectives of the Directive are to be achieved within the given timeframes. However, the Plan provides a specific policy framework in relation to the

implementation of measures contained within the River Basin Management Plans and as part of the monitoring process the review of the Plan 2 years after implementation will assess the number of recommendations achieved.

There are 2 lakes within County Meath that are designated Water Framework Directive operational monitoring lakes, namely Lough Bane and Annagh or White Lake. Water quality within both lakes for the monitoring period was found to be at good status and comply with the objectives of the Directive.

8.8.4.2 Groundwater

The EPA report on 46 groundwater bodies in County Meath found overall groundwater quality within the county is very good with 45 groundwater bodies meeting with the standards as set out in the Directive. Meath County Council is engaged in consultation with the EPA with regard to the one groundwater body failing to meet the standards.

All existing groundwater water-bodies of good status are to be protected. Groundwater may be also subject to hydrological pressures and a balance between groundwater abstraction and recharge must be achieved.

It will be the policy of the Council when assessing development proposals to have regard to any significant negative impact caused on groundwater resources within the Plan area, having regard to the Environmental Protection Agency guidelines applicable at the time. The Council will use statutory powers under relevant Planning and Environmental legislation to protect groundwater, including Environmental Impact Assessment, Integrated Pollution Control and/or Water Pollution legislation in balancing the need to protect the environment with the need for development.

Specifically in relation to the protection of water resources in the Plan area, the following will be undertaken:

- It will be Council policy not to allow any development that would have an unacceptable impact on the water resource of the area, including surface water, and groundwater quality and quantity, river corridors and associated wetlands.

- The Council will protect and enhance surface water and groundwater resources which are essential as part of an integrated approach to the management of water resources, necessary to ensure the highest water quality into the future, as set out in the Water Framework Directive (Directive 2000/60/EC establishing a framework for Community action in the field of water policy).
- It will be Council policy to promote the implementation of Water Quality Management Plans for ground, surface, coastal, and estuarine waters in the plan area as part of the implementation of the European Water Framework Directive (European Communities (Water Policy) Regulations 2003).

8.8.4.3 Coastal Waters

The Meath coastline comprises approximately 10 km of long beachfront, which stretches from Mornington at the River Boyne, bordering County Louth to Gormanston at the River Delvin, bordering County Dublin. Within this 10 km of long beachfront, Laytown/Bettystown is the only designated Bathing Area that is consequently subject to the requirements of the Bathing Water Quality Regulations, 2008 (S.I. No. 79 of 2008).

Meath's coastline is also part of a designated Shellfish Area namely 'the Balbriggan/Skerries shellfish area'. Article 5 of the Shellfish Directive (2006/113/EC) and Section 6 of the Quality of Shellfish Waters Regulations (S.I. No. 268 of 2006) requires the development of Pollution Reduction Plans (PRPs) for designated shellfish areas in order to support shellfish life and growth and to contribute to the high quality of directly edible shellfish products.

Mornington Beach along the east coast has attained a Green Coast Award in 2011. The Green Coast Award is a symbol of environmental excellence and has been established to acknowledge, promote and protect the environment of rural Beaches in Ireland, Northern Ireland and Wales. The award is for beaches which meet EC bathing water quality standards, but which are also prized for their natural, unspoilt environment.

In 2011, Meath County Council adopted pollution reduction plans for the purposes of protecting the quality of our shellfish waters, particularly with the view to establishing the potential risk of microbial contamination to the quality of Shellfish Waters from both on site wastewater treatment systems and agricultural sources.

8.8.4.4 Flooding

The Office of Public Works (OPW) is lead agency for flood risk management in Ireland and is responsible for overall implementation of the Floods Directive. The 'Planning System and Flood Risk Management – Guidelines for Planning Authorities' were published in 2009. The guidelines aim to ensure a rigorous assessment of flood risk at all levels to provide a consistency of approach throughout the country. Development at all levels will be required to comply with the recommendations of these Guidelines. In achieving the aims and objectives of the Guidelines, Planning Authorities must:

- Ensure that development is not permitted in areas of flood risk, particularly floodplains and coastal areas subject to flooding, except where there are no suitable alternative sites available in areas at lower risk that are consistent with the objectives of proper planning and sustainable development.
- Adopt a sequential approach to spatial planning which aims to avoid flood risk, where possible, substitute less vulnerable uses where avoidance is not possible, and mitigate and manage the risk where avoidance and substitution are not possible.
- A precautionary approach should also be applied to flood risk management to reflect uncertainties in flooding datasets and risk assessment techniques and the ability to predict the future climate, the performance of existing flood defences and the extent of future coastal erosion.
- A series of urban detail maps showing lands subject to flood risk is included in this Development Plan in Appendix 6 and said maps will inform the Local Area Plan review process in due course.

Meath County Council will assess planning

applications for development in accordance with the provisions of these Guidelines. It will ensure that only developments consistent with the overall policy and technical approaches of these Guidelines will be approved and permission may be refused where flood issues have not been, or cannot be, addressed successfully and where the presence of unacceptable residual flood risks to the development, its occupants or users and adjoining property remains.

The Greater Dublin Strategic Drainage Study documents focused on the design approach and criteria for new drainage with the objective of ensuring that any future development did not continue the trend towards increasing flooding and the pollution of rivers. Proposals for significant or large scale development within zoned and serviced areas will be required to apply the principles of the SUDS strategy, including:

- The installation of rainwater retention tanks.
- The use of porous paving to filter water to permeable layers of ground underneath, which will reduce/eliminate the need for piped solutions and also remove pollutants from the water.
- Infiltration trenches/basins to dissipate rainfall into the ground located in landscaped areas.
- Basins/ponds/wetlands to store water temporarily and release the water gradually.

8.8.5 Material Assets – Water Supplies/Wastewater

8.8.5.1 Water Supplies

Water supply and wastewater treatment and disposal are critical infrastructural requirements for any development, in particular those of an urban nature. The provision of such services should compliment and facilitate the sustainable development of the County in line with the Council's adopted settlement, economic and core strategies.

The delivery of supporting services for development, particularly water services, is critical. Meath County Council has sought to direct growth towards centres where capacity is available and will strive to seek the

expansion of services necessary to support the development strategy in this Plan, in accordance with the sustainable management of water resources.

Water Conservation through active leakage control, demand management and pressure management has played and will continue to play a major role in reducing the demand for potable water. This will facilitate additional development and improve the level of service to existing consumers in the county through the existing networks of watermains.

The Meath Water Services Assessment of Needs identified 31 individual water services projects totalling an estimated €250.2 million (at 2009 prices) which was required to facilitate the upgrade/replacement of existing deficient infrastructure over the coming years. These projects were ranked in order of priority by areas of greatest need having regard to the National Spatial Strategy, the Regional Planning Guidelines for the Greater Dublin Area, the County Development Plan 2007-2013, the EU Water Framework Directive, existing water services capacity and condition, development demand, availability of zoned lands and environmental considerations.

8.8.5.2 Wastewater Treatment

Wastewater treatment is essential to ensure public health and to ensure that the quality of receiving waters, either ground or surface, are not diminished by the discharge. Meath County Council is proposing the following measures that should ensure that the water quality is not adversely affected by such discharges:

- To advance the wastewater collection and treatment infrastructural requirements of the County and to improve these services to serve planned levels of growth.
- To ensure that wastewater treatment plants discharging into the Boyne catchment or to coastal Natura 2000 sites are operated in compliance with their wastewater discharge licenses / certificates of authorisation.
- To work with other local authorities within the Greater Dublin Area to ensure optimum allocation of sanitary and other services for priority investments.

- All applications for residential developments in areas where public sewerage mains are not present shall comply with the recommendations of the Environmental Protection Agency (EPA) and that they are employed only where appropriate.

The development and expansion of the County's wastewater and surface water drainage system is essential to the future sustainable development of the County and to the improvement of water quality in the area. The Council, together with the other Local Authorities in the Greater Dublin Area, have completed a major study of the drainage requirements for the entire Dublin region for the period to 2031 and beyond. This study, the Greater Dublin Strategic Drainage Study (GSDSDS) was commenced in 2001 to analyse the existing drainage system in the Greater Dublin Area, which includes South East Meath (Ashbourne, Ratoath, Kilbride, Dunboyne and Clonee) and to make recommendations on future drainage policies and needs. One of the key deliverables of the project is recommendations for regional drainage infrastructure to cater for development up to 2031.

Fingal County Council as lead authority on behalf of the seven greater Dublin authorities (including Meath) is currently progressing the planning and preliminary design of the new regional wastewater treatment plant and orbital sewer with a view to realising same by 2020, the date by which it is projected that the ultimate capacity of the existing Greater Dublin Treatment Plant at Ringsend will be fully utilised.

The absence, or inadequacy, of water and wastewater services may curtail the development of some settlement centres in County Meath. Meath County Council proposes the introduction of a number of initiatives that will allow flexibility in the provision of small scale sewage treatment and water works in towns and villages, where appropriate that are lacking in adequate treatment facilities.

Meath County Council shall only consider such provision where capital funding to provide a permanent solution has been included in the

Water Services Investment Programme or where in the opinion of the Council, such capital funding will be included in subsequent Water Services Investment Programme(s) within the life span of this County Development Plan, subject to environmental considerations being respected. Such temporary provision will only be considered in locations which accord with the Regional Planning Guidelines as outlined in the settlement, economic and core strategies of this Development Plan.

Where capital funding to provide a permanent solution has not been included in the Water Services Investment Programme or in the opinion of Meath County Council, it is unlikely to be included in subsequent Water Services Investment Programme(s) within the lifetime of this County Development Plan, Meath County Council will consider proposals to provide permanent solutions. The consideration of such solutions will be restricted to where they facilitate significant population and / or economic growth in accordance with the objectives of this County Development Plan and where the scale and location of such growth is such that high quality, sustainable, permanent solutions can be feasibly and affordably delivered to the satisfaction of the Council.

In all instances:

- Developers to bear full cost of interim solutions, with no offset of levies.
- Solutions shall not impinge on the delivery of the objectives of the Water Framework Directive.
- Area based rather than site based solutions preferred; and
- In relation to water supply solutions:
 - the adequacy and sustainability of proposed water source must be proven;
 - source protection is required;
 - water produced must consistently meet the requirements of the Drinking Water Regulations;
 - provision for security of supply and fire fighting needs is essential; and
 - operational and maintenance agreements, bonds etc. will be required.

8.8.6 Material Assets - Transport

An efficient transport/access network is essential to the economic performance of the

County. It is essential that the road and rail networks in the area are maximised in order to strengthen accessibility both within the Plan area and between the Plan area and the wider region. Strengthening economic activity is of the utmost importance and needs to be supported by a good quality road network.

Maintenance and delivery of an efficient, integrated and coherent transport network in line with national and regional policy is essential to the future economic, social and physical development of Meath. The emphasis will be on achieving a situation where an increased proportion of residents of the County are within reasonable walking/cycling distance of local services and public transport. There will also be a focus on making the optimum use of existing and proposed transport infrastructure.

The Council is committed to the promotion of sustainable means of travel including public transport, walking and cycling, and the encouragement of modal change from private car, where possible. The Council is also committed as outlined in the Economic Development Strategy, to reduce the level of commuting in the first instance by promoting the creation of additional jobs within the county for the resident population.

It is a strategic aim of this Development Plan to co-ordinate transport and land use planning. This places a requirement on both the transport strategy and settlement strategy to be consistent, not only with each other, but with national policy and guidance as per the National Spatial Strategy, the Smarter Travel policy and the NTA's Transport Strategy. Decisions on land use and development must take account of existing and public transport networks and support the emergence and development of new integrated transport systems. The effective integration of land-use and transportation will generate and reinforce sustainable settlement patterns that make the most efficient use of land, and that minimise the need for travel by car.

The following mitigation measures are also proposed:

8.8.6.1 Transportation General

- The Council will safeguard route corridors

as detailed in the Plan, in order to facilitate their delivery in the interests of the long-term sustainable development of the area.

- The Council will implement traffic calming measures, where appropriate, in residential areas, within defined settlement boundaries.
- The Council will during the design and improvement of roads have a primary consideration for the safety of road users, including motorists, cyclists and pedestrians.
- The Council will promote walking as a viable alternative to the car for local, short distance trips through well managed footpaths, clear signage and where appropriate, well maintained crossings.

8.8.6.2 Public Transport

- The Council will support the improvement of existing rail transport infrastructure and promote, facilitate and advance the development of Phase II of the Navan railway line project.
- The Council will work in partnership with public transport providers to facilitate the provision of other, more modest, improvements to the public transport system such as the provision of bus lanes, bus bays, shelters and other facilities.
- The Council will seek to secure contributions from developers towards the capital costs of providing and / or upgrading of strategic public transport infrastructure services.
- The Council will seek to ensure that new developments in Large Growth Towns I & II and Sustainable Growth Towns are laid out in a manner that facilitates the provision of local bus services.

8.8.6.3 Walking and Cycling

- The Council will co-operate with the National Transport Agency (NTA) on the development of a cycle network for the Greater Dublin Area and promote, enhance and provide for the development of safe and efficient cycling and walking facilities in the county.
- The Council will seek to prioritise the movement of pedestrians and cyclists in proximity to public transport nodes, to improve facilities for people with special needs and to require that applications

for major developments demonstrate proposals to address accessibility for pedestrians and cyclists.

8.8.6.4 Road Network

- The Council will seek to promote road and traffic safety and to improve existing roads where necessary.
- The Council will continue to work closely with the National Roads Authority, National Transport Agency and other local authorities as appropriate in the delivery of road improvements, new roads, improved road safety and better road and transport management.

8.8.7 Material Assets - Waste Management

In accordance with the requirements of the Waste Management (Framework Directive) Regulations 2011, an evaluation of the current Waste Management Plan is due for completion by the end of 2012. This evaluation will inform any future plan for this or any region incorporating County Meath. The replacement WMP will reflect changes in both legislation and policy direction, regional changes and cross border opportunities and challenges since the original WMP was adopted. It will also identify current progress on waste management, the policy vision for future development and the means to implement and monitor future progress.

Progress to date shows that a significant increase in recycling rates for numerous waste streams and the expansion of integrated waste management infrastructure throughout the North East Region has occurred. Education and awareness of waste management issues has intensified throughout the region following the appointment of Environmental Awareness Officers in each Local Authority and waste awareness initiatives have progressed from primarily focussing on diverting waste from landfill to focusing on higher order waste management techniques such as prevention, minimisation and resource efficiency measures. The waste infrastructure in the Region has also grown significantly.

Meath County Council will seek to implement the provisions of the Replacement Regional Waste Management Plan. The main objectives

of the plan focus on the prevention, minimisation, reuse and recycling of waste, the provision of a framework for the development and operation of waste infrastructure within the region and the application of the polluter pays principle.

Meath County Council will promote effective waste management through the avoidance and/or reduction of waste within the Plan area. The main strategies that will be implemented include:

- Waste prevention and minimisation will be a priority and there will be increased focus on the schools, community and business sectors to reduce waste generation.
- The region will deliver an effective system meeting the polluter pays principle that meets high standards of environmental performance and all legislative obligations.
- The region will strive to give access to waste management services across the region, particularly in rural areas.
- The region will strive to improve collection coverage and participation for households and businesses, reducing uncollected waste.
- The region will continue to improve the infrastructure for recycling and recovery of waste.
- The region will maximise positive input of the private sector to help meet plan objectives.
- The North East Local Authorities will if necessary and/or appropriate for environmental or other reasons, direct that certain waste streams must be delivered to a certain tier in the waste hierarchy (e.g. reuse, recycling, biological treatment, energy recovery). This will be achieved by means of the Waste Collection Permit system or other appropriate regulatory or enforcement measures.

8.8.8 Landscape and Visual Amenity

The purpose of strategic landscape mitigation measures are to ensure that adverse visual impacts of any proposed development are mitigated against and that a better fit of development is achieved within the landscape. For any development of significant scale, visual impacts are inevitable. However with high quality building and landscape design, these impacts can be minimised.

It is the policy of Meath County Council to protect the landscape character, quality and local distinctiveness of the county. In this regard, Meath County Council has prepared a Landscape Character Assessment of the landscape of the County Meath. The Meath Landscape Character Assessment provides for a detailed understanding of the landscapes of County Meath and provides guidance for the protection of visually sensitive areas, landscapes of intrinsic value and those unique to the County in general. In addition, the assessment sets out guidance and recommendations to assist the development of related planning policies, development of strategies and development management in County Meath.

Meath County Council notes the importance that the past has made to the present day landscape. In recognition of this contribution, the Council has initiated a pilot project on Historic Landscape Characterisation of the UNESCO Brú na Bóinne World Heritage Site with the School of Archaeology in UCD in accordance with the Heritage Council guidance on **Historic Landscape Characterisation (HLC) in Ireland: Policy and Best Practise Guidance (2010)**.

It is the policy of Meath County Council to protect the archaeological heritage, rural character, setting and amenity of particular areas of the county. In this regard it is an objective of the Council to progress the national pilot study towards the designation of a Landscape Conservation Area for the Tara/Skyrne Landscape in conjunction with the Heritage Council and the Department of the Environment, Community and Local Government. Meath County Council will further explore the designation of a Landscape Conservation Area for the Loughcrew and Slieve na Callaigh Hills.

The Council will also preserve views and prospects that are of great natural beauty.

In addition to the above, the Council will implement the following measures in order to protect the landscape and visual quality of County Meath:

- To support and implement the provisions of the National Landscape Strategy.
- To seek to preserve the uniqueness of the Meath's landscape character and to maintain the visual integrity of areas of exceptional value and high sensitivity.
- The Meath Landscape Character Assessment identifies areas of the County that are sensitive to wind energy developments. All applications for wind energy developments with Natura 2000 sites will require an Appropriate Assessment.
- The Council is committed to assessing the existing public open spaces in the settlements of the plan area. Any deficiencies in public open space and areas where this deficiency may be addressed, will be identified at the Plan stage and provision facilitated through the zoning and development management process.
- Developers of residential schemes may be required, as a condition on any grant of Planning Permission, to locate open spaces in such a way as to provide links to or consolidation of, areas of public open space within a settlement. This requirement may be over and above the minimum required open space provision as set out in the Plan.

8.8.9 Cultural Heritage

Cultural Heritage is a broad issue encompassing monuments, groups of buildings and sites that are the work of nature and man, constituting the historic or built environment. All such aspects are non renewable and are an important asset to the area, the County and indeed the Nation. Ultimately they are part of our identity.

The safe-guarding of the cultural heritage of Meath is a priority for Meath County Council and it is the intention of the council to actively support the protection, conservation and enhancement of the cultural heritage to benefit the people of Meath and in order to target cultural tourism as a major economic driver in the county. In this regard the Council proposes specific strategic policy aimed at ensuring heritage; both natural and man-made are preserved for future generations.

The following measures are divided by category and the breadth of measures proposed is reflective of the importance that cultural heritage plays in our modern society.

8.8.9.1 General

- The Council will promote the protection and conservation of heritage sites, artefacts and monuments, including underwater archaeology and archaeological landscapes.
- The Council will ensure that development in the vicinity of a recorded monument is sensitively sited and designed and that it does not significantly detract from the monument.
- Any proposed development which may impact on the integrity of any monuments, sites, objects or areas of archaeological, cultural, architectural, historical or heritage importance under the protection of Meath County Council and/or the DoAHG shall be referred to the relevant section of the department for their observation and / or comment prior to a determination of permission.
- In securing the preservation of the archaeological heritage, the Planning Authority will have regard to the recommendations of the DoAHG, both in respect of whether or not to grant Planning Permission and in respect of the conditions to which permission would, if granted, be subject.

Where necessary, Meath County Council may impose, through the development management process, conditions to ensure that adequate measures are taken to identify and mitigate the archaeological impacts of any development, including where required, the completion of a licensed excavation.

In addition to the above general measures, the Council has also included positive objectives or policies:

- To encourage the protection, promotion and enhancement of heritage gardens and parks in the county.
- To encourage the retention, sympathetic maintenance and appropriate re-use of the vernacular heritage of Meath and to ensure that new build and extensions adjoining such heritage buildings are of an appropriate design and do not detract from the buildings character.
- To support proposals from local communities and community organisations

which seek to have a village Design Statement prepared for a particular village.

8.8.9.2 Brú na Bóinne UNESCO World Heritage Site

The World Heritage Site of the Archaeological Ensemble of the Bend of the Boyne is commonly known as Brú na Bóinne, which means the 'palace' or the 'mansion' of the Boyne. It refers to the area within the bend of the river Boyne around Newgrange, Knowth and Dowth, and is one of the world's most important archaeological complexes. The international significance of Brú na Bóinne lead to its inscription on the UNESCO World Heritage List in 1993.

Meath County Council is committed to the protection and conservation of the Brú na Bóinne UNESCO World Heritage Site. This protection will also underpin the tourism aspects of the wider Boyne Valley region as a generator of local employment.

The protection, conservation and preservation of Brú na Bóinne is provided by a range of international guidelines, national legislation, statutory and non statutory guidance:

- EU Directives, UNESCO Operational Guidelines, and International Charters, in particular – Convention Concerning the Protection of the World Cultural and Natural Heritage (The World Heritage Convention 1972), and the European Landscape Convention 2000.
- The National Monuments Acts 1930 – 2004 which protect the recorded monuments, and areas of archaeological potential.
- EU Habitats and Birds Directive and The Wildlife Acts 1976 – 2000.
- The Planning and Development Act 2000 (as amended) and Regulations, National and Regional Planning guidelines, and the provisions of this Development Plan.
- ICOMOS charters and guidelines, in particular - **Guidance on Heritage Impact Assessments for Cultural World Heritage Properties. 2011.**
- UNESCO World Heritage Site Brú na Bóinne Management Plan (2002).

Meath County Council has included policies to facilitate co-operation with relevant agencies/

organisations and the public to promote, understand, conserve and sustainably managed Brú na Bóinne World Heritage Site. In this regard all planning applications within the World Heritage Site shall be referred to Department of Arts, Heritage and the Gaeltacht for comment and shall be subject to the Development Assessment Criteria set out in Volume 1, Chapter 9, and elsewhere in the Development Plan.

8.8.9.3 Protected Structures

As part of the Meath County Development Plan, the Council has prepared a record of Protected Structures based on the recommendations of the National Inventory of Architectural Heritage for Co. Meath. The Council will insist on the protection of structures included in the Record of Protected Structures generally and in particular by:

- Controlling development which would alter the character of protected structures and proposed protected structures.
- Require that all planning applications relating to Protected Structures contain the appropriate accompanying documentation in accordance with the Architectural Heritage Protection Guidelines for Planning Authorities (2004).
- Operate a flexible change of use policy through the development management process to ensure preservation through inter alia change of use where appropriate.
- Monitoring the condition of protected structures and proposed protected structures to identify those endangered by neglect, vandalism or unauthorized development and taking appropriate action.
- Promote the preservation and protection of the architectural heritage of Meath.

8.8.9.4 Architectural Conservation Areas (ACAs)

- Proposals for developments of a modern design within an ACA will be considered on a case-by-case basis and only designs of the highest quality will be accepted.
- Development proposals for sites immediately adjacent to ACAs will only be acceptable when it can be clearly demonstrated that the development will not adversely affect the character or integrity or setting of the area.

- Proposals for the demolition of a structure that positively contributes to the character of an ACA, will not be acceptable except in exceptional circumstances.
- Artificial or inappropriate materials will not normally be permitted for use on traditional buildings within an ACA.
- The refurbishment and re-use of derelict and under used buildings and sites within ACAs will be encouraged.

8.8.9.5 Archaeology

- There is a rich cultural heritage within County Meath. The council seeks to ensure that the unique cultural heritage of Meath is protected, conserved and sensitively integrated into the sustainable development of the county for the benefit of present and future generations.
- The Council also seeks to ensure that features of Meath's natural heritage and green infrastructure that provide ecosystem services are protected; that biodiversity is conserved and where possible enhanced, and; that the character of landscapes are maintained and enriched, and that tourist and recreational uses are facilitated in a sensitive manner.
- The Council will seek to safeguard archaeological sites of value and monuments as listed in the Record of Monuments and Places. In assessing proposals for development the Council will have due regard to national policies, guidelines and comments of Department of Environment, Community and Local Government in respect of the preservation of all sites of archaeological value. The Council will seek to ensure that all archaeological monuments in the Plan area will be recorded, surveyed and conserved so that any future development schemes will be designed to minimise their impact upon the archaeological heritage of the area.
- The Council will require that any new development proposals have regard to the archaeological survey and the Record of Monuments and Places published by the National Monuments Service.
- Where significant archaeological remains are found through excavation, the Council will require a plan for their recording and conservation (either in-situ or ex-situ).

- The Council will have regard to the recommendations of the DoAHG, both in respect of whether or not to grant planning permission and in respect of the conditions to be attached to such permission.

8.8.10 Quality

Fossil fuels, which affect air quality and contribute to the greenhouse effect, are used in transport and general energy consumption. While considerable advances have been made in engine design and fuel efficiency, Meath County Council will seek to ensure that all potential development will clearly demonstrate that traffic management is a key consideration. This relates particularly to proposed large scale residential, industrial or commercial development.

While public transport is strongly supported by Meath County Council this is not always a viable option for people to access work, education or other facilities. However the Council will require developers to give consideration to the transport implications of any proposed development which the Council as Planning Authority must adjudicate on.

It is the policy of Meath County Council to seek to preserve and maintain air and noise quality in the County in accordance with good practice and relevant legislation and to update Noise Mapping in accordance with revised or updated thresholds for such mapping.

9

Development Plan Monitoring

9.1

Introduction

Under the Planning and Development Act 2000 (as amended) the County Manager is required to prepare a progress report on the implementation of the Plan. Given the environment is a significant consideration then the progress report will include the key findings of the environmental monitoring programme as outlined in this chapter of the Environmental Report.

Monitoring of the County Development Plan and its implications on the environment is paramount to ensure that the environment is not adversely affected through the implementation of the Plan. Under Article 10 of the SEA Directive monitoring must be carried out of the significant environmental effects directly related to the implementation of the Plan **“in order to, inter alia, identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action.”** The Department of the Environment, Community and Local Government Guidelines

on SEA recommends that monitoring does not require new research activity; existing sources of information can be used and the task of data collection can be shared.

While considerable environmental data is directly available to the Council such as water quality, recycling rates etc, other sources of information will be accessed to provide a comprehensive view of the impact of the Plan. In this regard the Local Authority will work with other agencies with environmental mandates to gather data for the purposes of monitoring the implementation of the Plan. Therefore, while monitoring specific elements of the environment is not strictly the preserve of the Council, the Council will continue to liaise and work with the Environmental Protection Agency, The National Parks and Wildlife Service, The Fisheries Board, as well as others in the pursuit of environmental conservation and protection through existing environmental monitoring procedures.

9.2

Monitoring Indicators

It is proposed to base monitoring on a series of indicators which measure changes in the environment, especially changes which are critical in terms of environmental quality, for example water or air pollution levels. The indicators aim to simplify complex interrelationships and provide information about environmental issues which is easy to understand. A list of environmental indicators is provided in the table overleaf. The indicators are based on the Strategic Environmental Objectives presented in Chapter 5 and have been derived from knowledge of the existing environmental issues within the Plan area and also from legislation, guidelines and higher level Plans.

Furthermore it is proposed to use a Geographical Information System (GIS) based monitoring system to monitor and assess the implementation of the Plan. This GIS based system will attempt to overcome

any limitations in spatial analysis, to achieve an improved and better informed decision-making process, and provide data for future Development Plan reviews and the associated SEA process requirements.

Environmental indicator assessment during monitoring can show positive/neutral impacts or negative impacts on the environment. Where an indicator value highlights a positive/neutral impact on the environment, it is likely that the policies and objectives of the Plan are well defined with regard to the environment. Conversely where the objectives of the Plan have a negative impact on the environment, it may be necessary to review the objectives of the Plan or to take some other form of intervention. For example, if an objective or policy is having a significant adverse impact, a variation may be considered during the lifetime of the Plan.

Table 9.1 Monitoring

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)
Biodiversity - Flora and Fauna	No loss of important and/or designated habitats	Number of sites.	Meath County Council/National Parks and Wildlife Service/Fisheries Board (depending on available information from relevant statutory authorities).
	No deterioration in the quality of protected areas	Number of sites containing rare or threatened species.	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress (subject to available resources).
	No loss of protected species	Number of rare or threatened species.	
	No fish kills during the lifetime of the plan	Details of major fish kills	
	All actions contained within the Biodiversity Plan to be achieved during the lifetime of the County Development Plan.	Number of actions achieved.	
	No net loss of green linkages established under the Green Infrastructure Strategy.	Net area of new green infrastructure established through the development management process.	
	No spread of invasive species within the County	Numbers of new cases identified.	Establish baseline, location and extent of invasive species in the county, to commence within two years of adoption as part of the County Manager's Report on progress (subject to available resources).
Population	Decrease in journey times to work, education and recreation.	Distance and mode of transport to work	Meath County Council - Housing, Planning and Roads sections.
	Applications for new developments in excess of fifteen residential units or over 0.02 Ha to be accompanied by Design Statement.	Number of design statements.	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress (subject to available resources).
	Rural housing to accord with Rural Housing Design Guidelines	Number of planning permissions granted in the countryside.	
Soil	No incidences of soil contamination	Number/severity of recorded pollution incidences	Meath County Council and EPA
	Limited and controlled development of greenfield sites	Area of land lost through greenfield development as per Development Plan process	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress (subject to available resources).

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)
Water	Implement fully the recommendations of the three relevant River Basin Districts River Basin Management Plans.	Number of recommendations achieved.	Meath County Council - Planning Department, Water Services Department. Also the Environmental Protection Agency.
	Achieve 'good' quality status of surface waters in line with WFD	Percentage increase in the overall quality of surface waters.	
	Comply and implement fully the most recent EPA guidelines on Septic Tank use and siting as well as other on-site treatment facilities.	Number of permissions granted complying with the guidelines..	
	Maintain and upgrade where necessary all Local Authority operated WWT plants to comply with the relevant legislation.	Compliance with discharge parameters.	
	Improvement in bathing water quality	Achieve and maintain Green Flag status on all beaches.	
Air Quality	Improvement in the concentrations of measured parameters such as Particulate Matter, Sulphur Dioxide and nitrogen oxides.	Measurable reductions in concentrations.	EPA
			Review of EPA standards and data to commence within two years of adoption as part of the County Manager's Report on progress (subject to available resources).
Climate change	Increase in permissions granted for residential development within acceptable distance of public transport hubs.	Percentage of housing developments within specified distance to transport hubs.	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress (subject to available resources).

The County Development Plan for County Meath, 2013-2019 its policies and supporting objectives are key to the future sustainable development of the County. The Plan aims to balance the needs of the future population with the preservation and conservation of environment as prescribed in the County Development Plan. The Plan has a strong focus towards sustainability.

The Strategic Environmental Assessment process has been carried out in conjunction with the Appropriate Assessment of the Plan and the preparation of the Plan itself. This allows for an early indication of the potential environmental effects likely to occur as a result of the implementation of the Plan. As a result changes or alterations to the Plan are made throughout the course of its preparation. Through this process of assessment and re-assessment, it was identified that particular objectives or policies could potentially have a negative environmental impact on particular environmental receptors or indeed on a number of them simultaneously. The benefit therefore of preparing the Plan, the Appropriate Assessment, and the Environment Report ensures that these issues are highlighted at an early stage in the process. This allows the potential negative impacts of the Plan to be addressed early on and effectively eliminated from the Draft and Final Plans.

The chosen development strategy as set out in the Plan and summarised in Chapter 1, has been assessed in terms of its overall sustainability and its potential to impact on the environment. The policies/objectives contained within the Plan were assessed against the Strategic Environmental Objectives and indicate that the full implementation of the Plan will not result in a significant negative or adverse impact on the environmental resources within the Plan area. It has been shown in this report that the Plan's policies and objectives are generally consistent with this summary and as a result the Plan will have a neutral to positive impact on the environment as a whole.

Where the SEA has found potential for negative impacts on the environment as a result of the Plan's implementation, mitigation as well as enhancement measures have been proposed. The implementation of these measures, coupled with the monitoring procedures will ensure the Development Plan is acceptable from an environmental perspective.

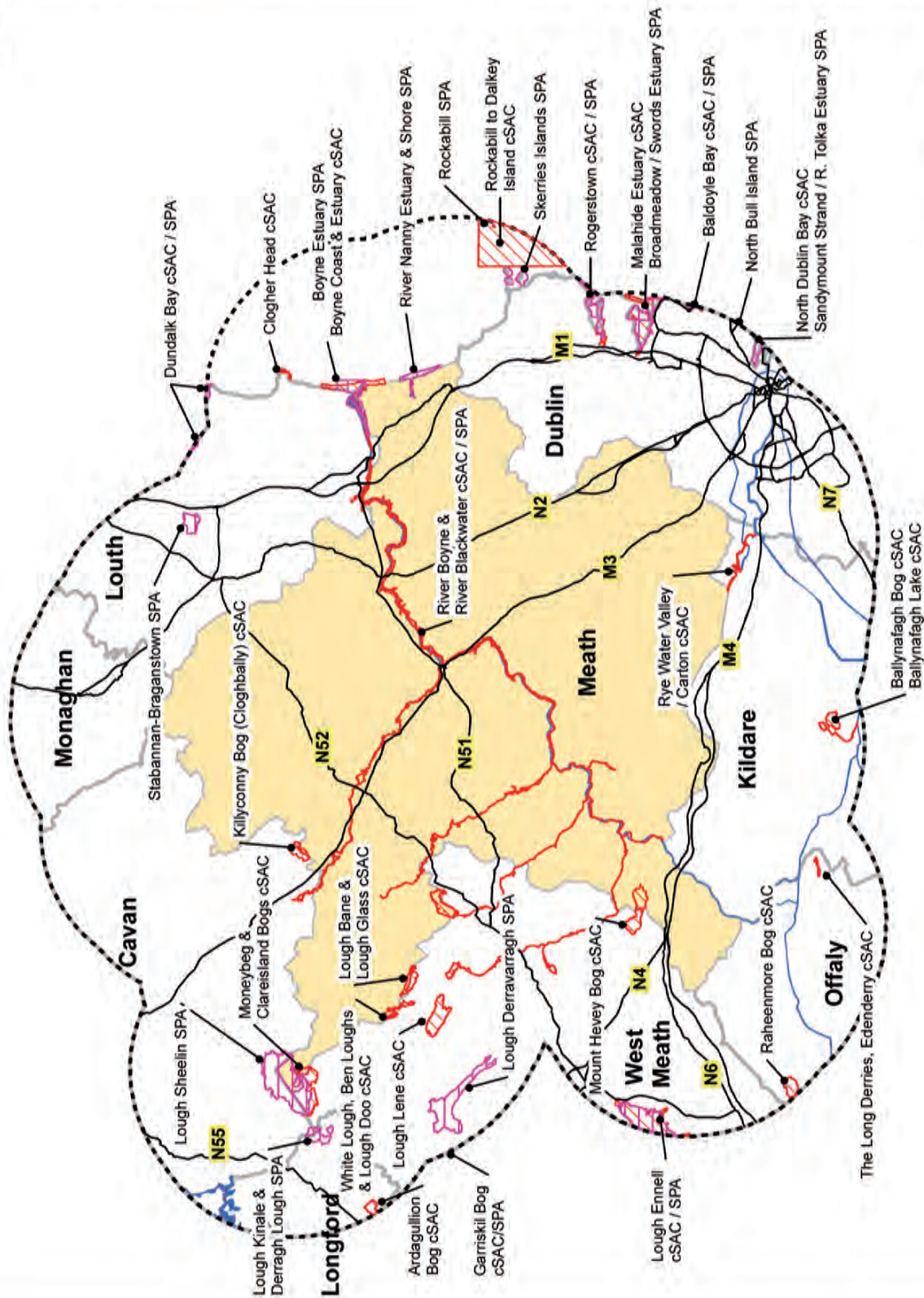
In addition the Appropriate Assessment of the Meath County Development Plan was prepared to give information on and assess the potential of the Development Plan to impact on sites of European-scale ecological importance. The Appropriate Assessment has concluded that assuming the successful implementation of the policies and objectives of the Plan in its current state, there will be no likely significant effects on Natura 2000 sites in County Meath and its environs, either by the Plan in isolation or in combination with other Plans and Projects pertaining to the same area.

Finally at the outset of the assessment process, a number of environmental issues were identified. While these are and remain the key environmental challenges facing the Council over the lifetime of the plan, they also have complex interrelationships with other environmental receptors. Therefore, the imperative is to promote a holistic, all inclusive response towards the protection of the natural assets within the Plan area. For example groundwater for human consumption can be improved if restrictions on inappropriate land uses and surface based activities are applied. Subsequently, efforts made to improve water quality also have beneficial impacts on soil quality, habitat conservation, landscape and visual quality etc. The potential synergies at play, if appropriately addressed, will lead to an improvement in the quality of life for the residents of the plan area.

In summary, the assessment of the Plan has concluded that its policies and objectives are acceptable and represent a balanced and fair approach to the sustainable development of the County. Monitoring of the Plan throughout its

lifetime will ensure that any potential adverse environmental impacts, unforeseen at this stage will be identified early, so as to prevent any deterioration of the environment. This

Plan, as currently presented, balances growth with environmental protection and can deliver a sustainable future for the inhabitants of the area.



Legend

- Roads
- 15km Buffer Zones
- SPAs
- cSACs
- Major Rivers
- Meath
- Bordering Counties

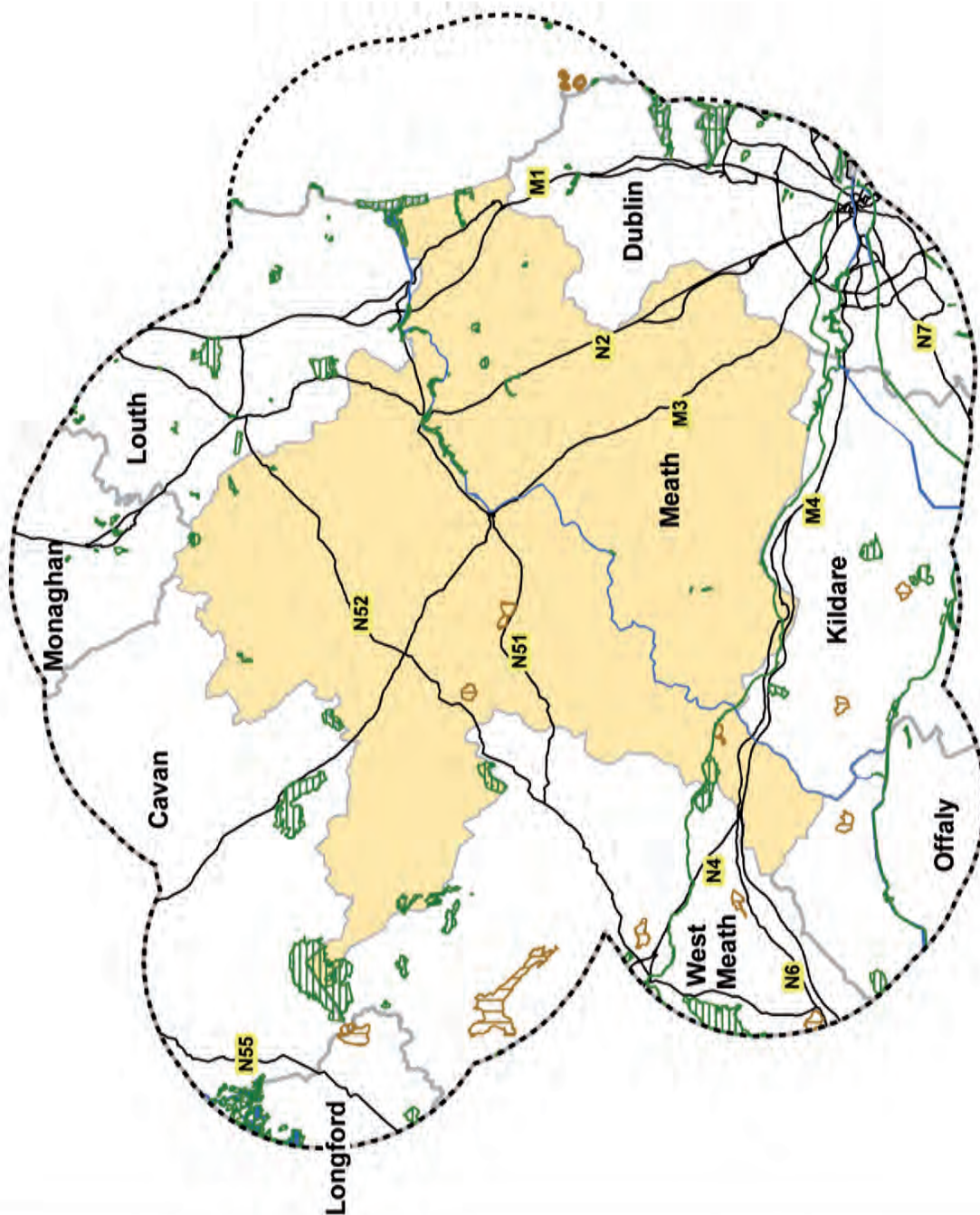
Legend Note

Rivers with a corresponding conservation designation are coloured accordingly

Title	Figure 2a: Natura 2000 Network Co. Meath
Project	AA Stage 2
Project No.	110180
Client	Meath Co. Co.
Revision	2
Date	January 2013

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Legend

- Roads
- 15km Buffer Zones
- pNHA
- NHA
- Major Rivers
- Meath
- Bording Counties

Legend Note

Rivers with a corresponding conservation designation are coloured accordingly

Title	Figure 2b:pNHAs & NHAs Co. Meath
Project	AA Stage 2
Project No.	110180
Client	Meath Co. Co.
Revision	1
Date	December 2011

Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Prepared by	Checked by
01	00	Adopted Plan Stage	22/01/2013	PS	TB

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1

Introduction

1.1

Legal Requirement for Appropriate Assessment

This Natura Impact Report (NIR) was prepared by Scott Cawley Ltd. on behalf of Meath County Council. It provides information on and assesses the potential for the proposed development plan to impact on sites of European-scale ecological importance. This is the final version of the NIR and is published alongside the adopted Meath County Development Plan 2013-2019 and serves as a documented record of the process of the Appropriate Assessment of the Plan throughout its preparation.

The preparation of the County Development Plan has regard to Article 6 of the **Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora** (as amended) (hereafter referred to as the Habitats Directive). This is transposed in Ireland by the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. 477) (hereafter referred to as the Habitats Regulations) and Part XAB of the Planning and Development (Amendment) Act 2010.

Articles 6(3) and 6(4) of the Habitats Directive set out the requirement for an assessment of proposed plans and projects likely to affect Natura 2000 sites (Annex 1.1).

Article 6(3) establishes the requirement to screen all plans and projects and to carry out a further assessment if required (Appropriate Assessment (AA)):

Article 6(3): **“Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected**

to an appropriate assessment of its implications for the site in view of the site’s conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.”

The subsequent paragraph allows proposed plans and projects to be approved in certain conditions.

Article 6(4): **“If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of the Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to the beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.”**

This Natura Impact Report is a documentary record of the Appropriate Assessment process for the Meath County Development Plan 2013-2019.

1.2

Appropriate Assessment: Purpose and Process

Meath County Council has prepared the Meath County Development Plan 2013-2019. This Plan sets out objectives and policies which will be used to guide the development of the area.

All land use plans, such as the Meath County Development Plan 2013-2019, must be prepared and examined to ensure that there will not be any significant adverse effects on sites that are designated for their special habitats and wildlife. These particular sites are regarded to be of European importance and are part of the European Commission's Natura 2000 network of sites. They are termed candidate Special Areas of Conservation (cSAC) under the E.C. Habitats Directive and Special Protection Areas (SPA) under the E.C. Birds Directive. The Irish Government and local planning authorities have a legal obligation to protect these sites.

The process of assessing the Plan was a structured exercise with a series of steps. The overall purpose of the process was to ensure that the Plan, when implemented, does not result in adverse effects on the "integrity" of these Natura 2000 sites. The overall process is termed "Appropriate Assessment", using the terms set out in the EC Habitats Directive Article 6(3).

The first step was to look at the overall Plan in principle and to answer the questions: is it likely that the implementation of this Plan could result in likely significant effects on Natura 2000 sites? It does not matter where these sites may be – impacts can occur across administrative boundaries. This step is known as Screening for Appropriate Assessment. The Screening Stage is described in more detail in Section 2.

If the screening stage results in a judgement that likely significant effects may occur or cannot be ruled out, then a more detailed 'Appropriate Assessment' (AA) is required. Whilst the structure of this assessment process is not specified in the legislation, there are guidance documents that are used to provide an indication of how this assessment may be carried out.

In order to ensure that the County Development Plan complied fully with the requirements

of Article 6 of the Habitats Directive and all relevant Irish transposing legislation, Scott Cawley Ltd on behalf of Meath County Council carried out the screening of the Plan to see if it required an AA. Section 2 records the output of the Screening Stage.

The outcome of this Screening Stage was that it was determined that due to the types of development that could arise as a result of implementing the County Development Plan, that significant effects were likely and that the Plan would need further assessment. The Appropriate Assessment process then moved to Stage 2- (also confusingly referred to as Appropriate Assessment).

To inform the preparation of the Draft County Development Plan, a Policy Guidance Note (included in Appendix B) was prepared by the Appropriate Assessment Team. This Note highlighted the ways in which the Plan may result in impacts on the individual cSACs and SPAs and provided recommended Policies and Objectives to be included in the Draft Plan.

Stage 2 involved analysing the relationship between the proposed policies and objectives in the Draft County Development Plan and the sensitivities of the Natura 2000 sites. Where there was the potential for an impact to occur, then the assessment team recommended changes to elements of the Draft Plan to avoid or mitigate the potential impact. These recommendations were integrated into the Draft Plan so that the implementation of the Final Plan will not result in any significant effects on Natura 2000 sites. In accordance with best practice a hierarchy of mitigation was followed i.e. avoidance of impacts by removing policies/objectives, followed by caveats/ changes to policies/objectives to mitigate any likely significant impacts.

Meath County Council provided the Appropriate Assessment team with draft Chapters during their process of preparing the Draft Plan. These Chapters were reviewed and revised by the Council in an iterative process of reviewing. A summary of the results of this iterative review of the Draft Plan are provided in Section 3.4.

The Draft Plan was then published for a period of public consultation from Friday 25th May 2012 to Friday 3rd August 2012, during which a number of submissions were made by members of the public and statutory agencies/prescribed bodies. These submissions were scrutinised by the AA team and the Council were alerted as to any submissions that may have implications for Natura 2000 sites – this is discussed in Section 3.5. A Manager's Report on the Draft Plan was published on 14th September 2012, based on submissions received on the Draft and contained the Manager's Recommendations for Amendments. These were screened by the AA team to see if there were any recommendations that would be likely to pose significant impacts on the European Sites.

Consultation on the proposed amendments to the Draft Development Plan took place between Friday 12th October and Thursday 8th November 2012 during which time a total of 26

written submissions were received. After taking these submissions into account, the County Manager issued the Report on Submissions Received on the Proposed Amendments on 3rd December 2012 made by members of the public and statutory agencies/prescribed bodies. These recommendations were also screened by Scott Cawley Ltd to determine if they would give rise to any likely significant effects on European sites. This stage is described in Section 3.6.

The Council Members adopted the amendments and made the changes to specific Policies and Objectives within the Draft Plan. The final version of the Plan was adopted by Council Members on 17th December 2012.

Figure 1 overleaf shows the process of the Appropriate Assessment, in relation to the preparation of the Meath County Development Plan 2013-2019.

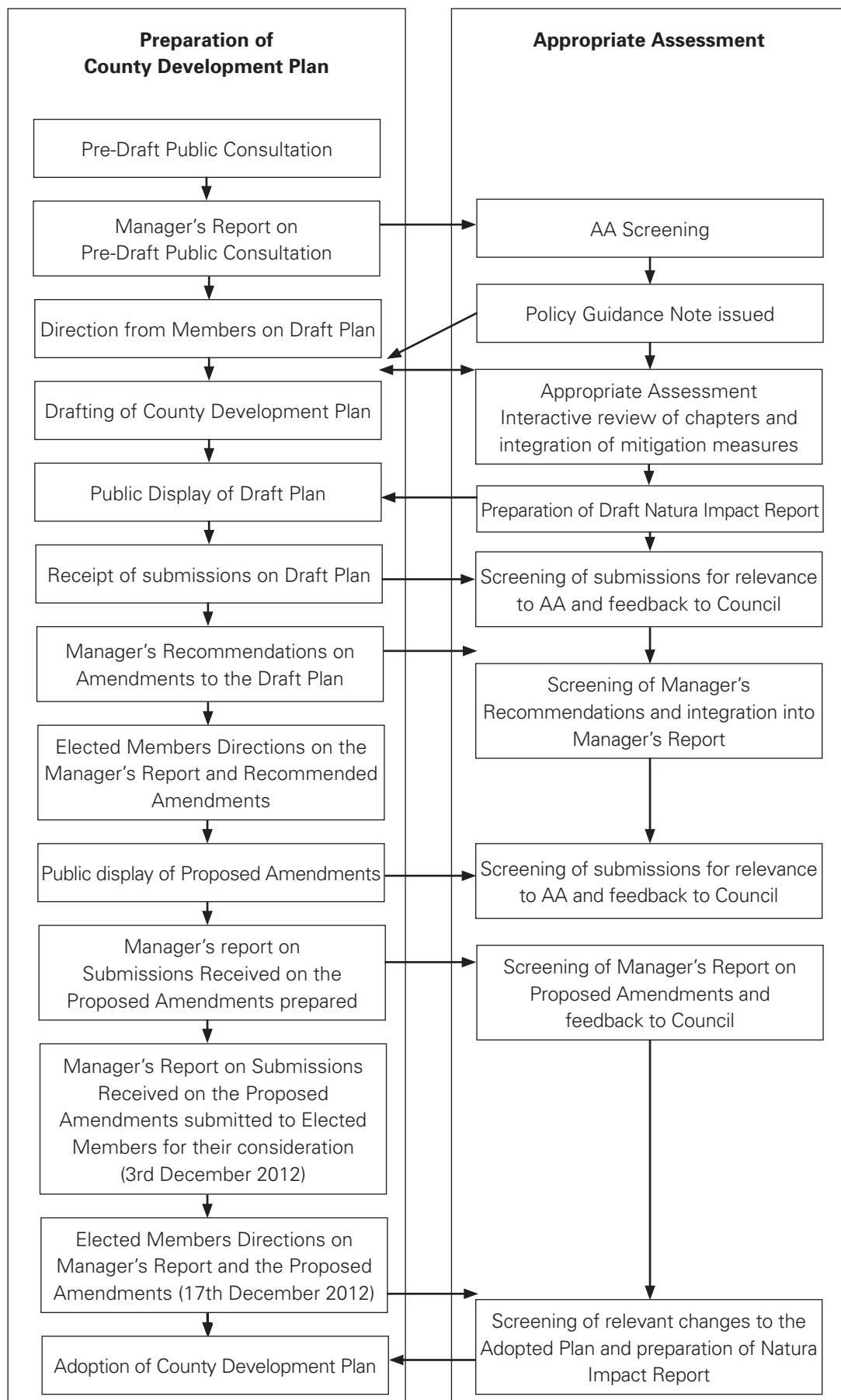


Figure 1: Relationship between the Appropriate Assessment and Development Plan Preparation process.

1.3

Overlap with the Strategic Environmental Assessment of the Draft County Development Plan

The Strategic Environmental Assessment of the Draft County Development Plan was carried out concurrently with the Appropriate Assessment. There were several areas of overlap and in accordance with good practice in terms of data gathering and sharing, data on Natura 2000 sites and potential sensitivities and threats was provided to the SEA team. Iterative reviews of the Chapters of the Draft County Development Plan were sent to the SEA Team for their integration into their assessment.

Combined responses were also provided to the Council on SEA and AA issues at the stages of analysing the submissions received on the Draft Plan (refer to Section 3.5) and the proposed amendments to the Draft Plan (see Section 3.6) as well as the directions from the Elected Members.

1.4

Formal Guidance

The AA took account of guidance contained in the following documents:

- **Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities.** (Department of Environment, Heritage and Local Government, 2010 revision).
- **Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.** Circular NPW 1/10 & PSSP 2/10.
- **Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC** (European Commission Environment Directorate-General, 2001); hereafter referred to as the EC Article 6 Guidance Document. The guidance within this document provides a non-mandatory methodology for carrying
- out assessments required under Article 6(3) and (4) of the Habitats Directive.
- **Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC** (EC Environment Directorate-General, 2000); hereafter referred to as MN2000.
- **Guidance Document on Article 6(4) of the 'Habitats Directive' 92/43/EEC. Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence.** Opinion of the European Commission (European Commission, January 2007).
- **Guidelines for Good Practice Appropriate Assessment of Plans Under Article 6(3) Habitats Directive** (International Workshop on Assessment of Plans under the Habitats Directive, 2011)

1.5

Data Sources

Sources of information that were used to collect data on the Natura 2000 network of sites relied upon are listed below:

- Ordnance Survey of Ireland mapping
- and aerial photography available from www.osi.ie and Google Earth (accessed on dates from October 2011 to April 2012).
- Online data available on Natura 2000 sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie
 - Natura 2000 network Data Form
 - Online database of rare, threatened and protected species
 - Publicly accessible biodiversity datasets
- Biodiversity Data for County Meath including that collated through the implementation of the Meath County Heritage Plan

- Information on water quality in the area available from www.epa.ie
- Information on the River Basin Districts from www.wfdireland.ie
- Information on soils, geology and hydrogeology in the area available from www.gsi.ie
- **Status of EU Protected Habitats in Ireland.** (National Parks & Wildlife Service, 2008)
- **The Status of Birds in Ireland: An Analysis of Conservation Concern 2008-2013** (Lynas et al, 2007)
- Relevant Development Plans and Local Area Plans in neighbouring areas
- Navan Railway Screening Report & Natura Impact Statement Sept 2011 (unpublished)
- Meath County Development Plan 2013-2019 Strategic Issues Paper
- Submissions made on the Pre-Draft Consultation Report
- County Meath Tree, Woodland & Hedgerow Survey 2011
- County Meath Wetlands and Coastal Habitats Survey, August 2010
- Coastal Monitoring Project 2004-2006. (2009) Report for NPWS. http://www.npws.ie/publications/archive/Ryle_et_al_2009_Coastal_Monitoring_Project-1.pdf

1.6

Consultation and Public Participation

The Council held a consultation meeting with the National Parks and Wildlife Service in summer 2011 where the views on the potential issues to be covered in the Draft County Development Plan were informally discussed. These have been taken into account in this assessment.

An informal consultation meeting was held with regional staff of the National Parks and Wildlife Service and consultants from Scott Cawley Ltd- Appropriate Assessment Consultants, on 9th January 2012. The purpose of this meeting was to discuss the status of the Natura 2000 network of sites in Meath, their sensitivities and threats and how the County Development Plan can be prepared to avoid impacts on these

sites. The comments made at this meeting were integrated into the AA process as far as possible.

Scott Cawley staff attended an SEA Workshop in Meath County Council on November 15th 2011 with Meath County Council Internal Advisory Team for the County Development Plan and the EPA, NPWS and consultants engaged to complete the Strategic Flood Relief Assessment.

The Natura Impact Report was published alongside the Draft County Development Plan during the period of public consultation. This final version of the Natura Impact Report is also available to the public alongside the adopted Plan.

2

Stage 1 – Screening for Appropriate Assessment

2.1

Overview of Meath County Development Plan 2013-2019

This Natura Impact Report forms an Appendix to the Meath County Development Plan 2013-2019. The various Chapters of the Plan are referred to throughout Section 3 (Stage 2- Appropriate Assessment). The Plan establishes a framework for the coordinated and sustainable economic, social, cultural and environmental development of County Meath. It acts as a guide to the requirements and policies of the Authority for those interested in pursuing development as well as informing the general public as to how these development proposals are likely to be assessed. The Plan also sets out the Council's vision for the spatial and sectoral development of Meath over the lifetime of the Plan.

The Plan is divided into 12 Chapters. After the Introduction (Chapter 1), Chapter 2 details the Core Strategy, which demonstrates how

the Development Plan is consistent with the Regional Planning Guidelines for the Greater Dublin Area 2010-2022. Chapters 3 to 10 outline the development strategy for the county on a thematic basis. Each of these chapters includes a written statement in which strategic themes, policies and objectives for each planning topic are provided. The written document is accompanied by a series of maps supporting the text. Chapter 11 provides detailed development management guidelines and standards and Chapter 12 focuses on the implementation and monitoring of the County Development Plan. The latter guidelines and standards give general guidance to applicants on the criteria which will be used by the Planning Authority in assessing planning applications. These supplement the various policies and objectives which are provided throughout the Plan.

2.2

Timing of Screening in the Development Plan Process

There is no legal requirement as to when the screening of any plan for likely significant effects should take place. Good practice agreed amongst AA professionals is that it should be a relatively brief stage at the beginning of the plan review process. Its aim is to decide if the plan needs to be taken forward to a more detailed level of assessment (Stage 2: Appropriate Assessment or AA) and which Natura 2000 sites may be potentially affected. Screening is not the same as an AA – it only requires sufficient information to decide if a

significant effect is likely. An AA goes into more detail to test whether those effects could result in damage to the European site.

The Screening stage was undertaken at the stage prior to the preparation of detailed policies in the Draft County Development Plan. This was an ideal stage to start as the Screening process was able to highlight particular sensitivities of Natura 2000 sites and hence help to avoid drafting policies that would have a direct conflict with these sensitivities.

2.3

Screening Steps

Best practice in AA Screening promotes a site-led approach to the process. The site-led approach puts the environmental conditions that maintain site integrity- first. So the first steps in the screening stage are identifying the Natura 2000 sites within the “zone of

influence” of the Plan area and then collecting as much information as possible on the “Qualifying Interests” and how site integrity may be defined for each Natura 2000 site. The site-led approach focuses on how the site integrity can be maintained by avoiding impacts

on key environmental conditions. This approach allows issues such as cumulative impacts to be identified.

The site-led approach is summarised as follows:

1. Which Natura 2000 sites lie within County Meath and within a 15km buffer zone? (sometimes referred to as pre-screening)
2. What are the Qualifying Interests for each Natura site?
3. What are the underpinning ecological and environmental conditions to maintain

these Qualifying Interests at Favourable Conservation Status?

4. What are the threats – actual or potential – that could affect the underpinning factors?
5. Are there aspects of the CDP that could give rise to these threats?

If, based upon the currently available information, there are aspects of the Plan that could affect the Natura 2000 sites then they will require further analysis in the form of a Stage 2: Appropriate Assessment.

2.4

Pre-Screening of Sites

In accordance with the Department of Environment, Heritage and Local Government guidance (DoEHLG, 2010), an initial distance of 15km from the County boundary was selected for consideration of Natura 2000 sites. This distance was deemed to be sufficient to cover all likely significant effects which may arise from the implementation of the Plan on Natura 2000 sites. It is noted that Government guidance also mentions the possible need for a longer distance or catchment basis in the case of rivers. Spatial boundary data on the Natura 2000 network was extracted from the NPWS website on 7th November 2011.

In addition to examining Natura 2000 sites, Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHA) which fall within 15km of the County boundary have also been examined. Although NHAs and pNHAs do not form part of the Natura 2000 Network, they often provide an important supporting role to the network, particularly when it comes to fauna species which often do not obey site boundaries. For example, a pNHA/ NHA that provides regular feeding grounds

for a population of Golden Plover for which a separate site is designated as an SPA plays a role in the maintenance of the species at favourable conservation status for that SPA. In other words, in that example, in order to protect the Natura 2000 network it may also be important to protect the pNHA /NHA which provides a supporting role to it. There are however, NHAs and pNHAs that are designated for features that are not important at an international level and may not interact with the Natura 2000 network.

All Natura 2000 sites which fall within 15km of the County boundary are listed in Table 1 below. Table 2 lists the non-Natura 2000 sites.

On 3rd December 2012 the Minister for Arts, Heritage and the Gaeltacht proposed a new marine Candidate Special Areas of Conservation including the Rockabill to Dalkey Island cSAC which lies within 15km of the Meath county boundary. It was not possible to take this area into account in the screening stage but it has since been integrated into this final version of the NIR that accompanies the adopted version of the Plan.

Table 1: Natura 2000 sites found in County Meath and within 15km buffer zone.

Sites within County Meath	
Candidate Special Areas of Conservation	Special Protection Areas
Boyne Coast and Estuary	Boyne Estuary
River Boyne and Blackwater	River Nanny Estuary and Shore
Rye Water Valley / Carton	Lough Sheelin
Mount Hevey Bog	River Boyne and Blackwater
White Lough, Ben Loughs and Lough Doo	
Lough Bane and Lough Glass	
Killyconny Bog (Cloughbally)	
Monybeg and Clareisland Bogs	
Within 15km Buffer Zone	
Candidate Special Areas of Conservation	Special Protection Areas
Ardagullion Bog	Stabannan Braganstown
Garriskil Bog	North Bull Island
Lough Lene	(South Dublin Bay) Sandymount Strand / River Tolka Estuary
Lough Ennell	Baldoyle Bay
Raheenmore Bog	Rogerstown Estuary
The Long Derries, Edenderry	Skerries Islands
Ballynafagh Bog	(Malahide Estuary) Broadmeadow / Swords Estuary
Ballynafagh Lake	Dundalk Bay
North Dublin Bay	Lough Kinale and Derragh Lough
Baldoyle Bay	Garriskill Bog
Malahide Estuary	Lough Derraghvarragh
Rogerstown Estuary	Lough Ennell
Clogher Head	Rockabill
Dundalk Bay	
Rockabill to Dalkey Island	

All of these sites are presented on Figure 2a.

Table 2: Natural Heritage Areas and Proposed Natural Heritage Areas found in County Meath and within 15km buffer zone.

Sites within County Meath	
Proposed Natural Heritage Areas	Natural Heritage Areas
Ballyhoe Lough	Girley Bog
Ballynabarny Fen	Jamestown Bog
Balrath Woods	Molerick Bog
Boyne Coast and Estuary	
Boyne River Islands	
Boyne Woods	
Breaky Loughs	
Corstown Loughs	
Crewbane Marsh	
Cromwells Bush Fen	
Dowth Wetland	
Duleek Commons	
Kilconny Bog (Cloghbally)	
Laytown Dunes / Nanny Estuary	
Lough Naneagh	
Lough Sheelin	
Lough Shesk	
Mentrim Lough	
Mount Hevey Bog	
Rathmoylan Esker	
Rossnaree Riverbank	
Royal Canal	
Rye Water Valley / Carton	
Slane Riverbank	
Thomastown Bog	
Trim Wetlands	
White Lough, Ben Loughs and Lough Doo	

Within 15km Buffer Zone	
Proposed Natural Heritage Areas	Natural Heritage Areas
Aghalasty Fen	Black Castle Bog
Ardagullion Bog NHA	Carbury Bog
Ardee Cutaway Bog	Cloncrow Bog (New Forest)
Baldoyle Bay	Hodgestown Bog
Baldoyle Bay	Lough Derravaragh
Ballina Bog	Lough Kinale and Derragh Lough
Ballynafagh Bog	Milltownpass Bog
Ballynafagh Lake	Skerries Islands
Barmeath Woods	Wooddown Bog
Blackhall Woods	
Bog of the Ring	
Castlecoo Hill	
Clogher Head	
Creevy Lough	
Darver Castle Woods	
Dodder Valley	
Donadea Wood	
Drumcah, Toprass and Cortial Loughs	
Dunany Point	
Dundalk Bay	
Feltrim Hill	
Garriskil Bog	
Grand Canal	
Hill of Mael and Rock of Curry	
Kildemock Marsh	
King William's Glen	
Knock Lake	
Liffey Valley	
Lough Bane	
Lough Ennell	
Lough Fea Demesne	

Within 15km Buffer Zone	
Proposed Natural Heritage Areas	Natural Heritage Areas
Lough Glore	
Lough Gowna	
Lough Naglack	
Lough Ramor	
Lough Sheever Fen / Slevin's Lough Complex	
Loughshinny Coast	
Louth Hall and Ardee Woods	
Lugmore Glen	
Malahide Estuary	
Mellifont Abbey Woods	
Monalty Lough	
Mount Hevey Bog	
Nafarty Fen	
North Dublin Bay	
Portrane Shore	
Raheenmore Bog	
Reaghstown Marsh	
Rockabill Island	
Rogerstown Estuary	
Santry Demense	
Slade of Saggart and Crooksling Glen	
Sluice River Marsh	
Spring and Corcrin Loughs	
Stabbanan-Braganstown	
Stephenstown Pond	
The Long Derries, Edenderry	

All of these sites are presented on Figure 2b.

Table 3 below lists the settlements in County Meath that are located close to Natura 2000 sites.

Table 3: Settlements in County Meath located close to Natura 2000 sites.

Settlement	Natura 2000 site
Kilcock & Maynooth Environs	Rye Water/Carton cSAC
Drogheda (Environs)	Boyne Estuary SPA, Boyne Coast and Estuary cSAC
Navan	River Boyne and Blackwater cSAC and SPA
Kells	River Boyne and Blackwater cSAC and SPA
Trim	River Boyne and Blackwater cSAC and SPA
Athboy	River Boyne and Blackwater cSAC and SPA
Laytown	River Nanny Estuary and Shore SPA
Bettystown	River Boyne and Blackwater cSAC and SPA
Mornington East	Boyne Estuary SPA, Boyne Coast and Estuary cSAC
Stamullen	close to River Nanny Estuary and Shore SPA
Ballivor	River Boyne and Blackwater cSAC and SPA
Longwood	>5km upstream of River Boyne and Blackwater cSAC and SPA
Slane	River Boyne and Blackwater cSAC and SPA
Carnaross	River Boyne and Blackwater cSAC and SPA
Carlanstown	>5km upstream of River Boyne and Blackwater cSAC and SPA
Donacarney	near Boyne Estuary SPA, Boyne Coast and Estuary cSAC
Donore	near River Boyne and Blackwater cSAC and SPA
Gormanston	close to River Nanny Estuary and Shore SPA
Julianstown	close to River Nanny Estuary and Shore SPA
Mornington	Boyne Estuary SPA, Boyne Coast and Estuary cSAC
Moynalty	>5km upstream of River Boyne and Blackwater cSAC and SPA

2.5

Reasons for Designation, Site Sensitivities and Threats

In order to identify those sites that could be potentially affected, it was necessary to describe the Natura 2000 site in the context of why it has been designated (i.e. its “Qualifying Interests”) and the environmental and ecological conditions that maintain the condition of these features. The Qualifying Interests and threats to the sites were extracted from the NPWS website database (www.npws.ie). Threats to sites were also scoped during

informal consultation with regional NPWS staff in January 2012.

The results of this desktop exercise are presented in Appendix A and summarised below in Table 4. This presents the full list of qualifying interests that are contained within Natura 2000 sites in Meath. The underpinning conditions that are required to maintain the ‘health’ of these features are listed in this table.

Table 4: Qualifying Interests in County Meath and the underpinning environmental conditions.

Qualifying Interests	Key environmental conditions supporting site integrity
Active raised bog	Surface water supply. Low nutrient, acidic conditions to support growth of <i>Sphagnum</i> spp. Restricted drainage at perimeter.
Alkaline fens	High water table. Ground surface water supply. Calcium-rich conditions.
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, <i>Alnion incanae</i> , <i>Salicion albae</i>)	Riparian/lacustrine habitat prone to flooding.
Annual vegetation of drift lines	Sandy substrate. Physical impact and nutrient supply from tidal flow.
Arctic Tern (<i>Sterna paradisaea</i>)	Sea level. Natural/artificial nest site availability. Undisturbed breeding sites. Regularity of extreme weather events. Marine prey availability (sand eel). Predation.
Atlantic Salmon <i>Salmo salar</i>	Riverine habitat. Water quality (Q4-5). Riverbed breeding gravels. Quality riparian vegetation. Unhindered migratory routes.
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	Frequency of tidal submergence.
Bar-tailed Godwit (<i>Limosa lapponica</i>)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Food availability (intertidal fauna/pasture/sewage). Coastal water quality.
Black-tailed Godwit (<i>Limosa limosa</i>)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.

Qualifying Interests	Key environmental conditions supporting site integrity
Common Gull (Larus canus)	Marine prey availability. Wetland foraging area. Undisturbed roost site availability.
Common Scoter (Melanitta nigra)	Fish/crustacean/vegetation availability in shallow inshore/ freshwaters. Undisturbed, ice-free marine/freshwater feeding grounds.
Common Tern (Sterna hirundo)	Sea level. Natural/artificial nest site availability. Undisturbed breeding sites. Regularity of extreme weather events. Marine prey availability (sand eel).
Coot (Fulica atra)	Food availability (aquatic flora and fauna). Undisturbed freshwater roosting sites close to feeding sites.
Curlew (Numenius arquata)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
Degraded raised bogs still capable of natural regeneration	Dessication from drainage. Low moss cover.
Depressions on peat substrates of the Rhynchosporion	Peat cutting. Surface water supply.
Dunlin (Calidris alpina)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
Embryonic shifting dunes	Dune-building grasses Elytrigia juncea and Leymus arenarius . Supply of windblown sand.
Estuaries	Supply of riverine freshwater. Unimpeded tidal flow. Shelter from open coasts. Diverse invertebrate communities.
European dry heaths	Free-draining nutrient poor acid soils. Grazing and burning.
Fixed coastal dunes with herbaceous vegetation (grey dunes)	Low wind, weakly saline conditions in shelter of Ammophila arenaria dunes. Grazing.
Golden Plover (Pluvialis apricaria)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
Goldeneye (Bucephala clangula)	Food availability (intertidal flora and fauna/pasture/cereal). Undisturbed coastal roosting sites close to feeding sites.
Great Crested Grebe (Podiceps cristatus)	Fish/crustacean/vegetation availability in shallow inshore/ freshwaters. Undisturbed, ice-free marine/freshwater feeding grounds.
Grey Plover (Pluvialis squatarola)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
Greylag Goose (Anser anser)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.

Qualifying Interests	Key environmental conditions supporting site integrity
Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	Calcium rich, shallow, low nutrient waters.
Herring Gull (Larus argentatus)	Coastal water quality.
Humid dune slacks	High water maintained by groundwater and impermeable soils. Grazing. Salinity.
Kingfisher (Alcedo atthis)	Marine/freshwater food availability. Undisturbed soft substrate riparian nest sites. Regularity of extreme weather. Water quality.
Lapwing (Vanellus vanellus)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
Light-bellied Brent Goose (Branta bernicla hrota)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.
Little Tern (Sterna albifrons)	Sea level. Natural/artificial nest site availability. Undisturbed breeding sites. Regularity of extreme weather events. Marine prey availability (sand eel).
Mallard (Anas platyrhynchos)	Sea level. Natural/artificial nest site availability. Undisturbed breeding sites. Regularity of extreme weather events. Marine prey availability (sand eel). Predation.
Marsh Fritillary Euphydryas aurinia	Larval foodplant Succisia pratensis . Grassland sward structure. Water supply for damp conditions.
Mediterranean salt meadows (Juncetalia maritimi)	Frequency of tidal submergence.
Merlin (Falco columbarius)	Moorland Prey availability. Undisturbed forested/moorland nest sites. Regularity of extreme weather. Water quality.
Mudflats and sandflats not covered by seawater at low tide	Silt deposits in sheltered estuaries.
Otter Lutra lutra	Prey availability. Water Quality. Riparian vegetation for breeding sites. Unhindered passage along waterways.
Oystercatcher (Haematopus ostralegus)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
Perennial vegetation of stony banks	Cobble substrate. Tidal levels. Sediment supply from wind and waves.
Petalwort Petalophyllum ralfsii	Lime-rich sandy habitat. Overgrazing. Fluctuating water table for damp conditions.
Petrifying springs with tufa formation (Cratoneurion)	Calcium-rich, nutrient-poor groundwater/surface water supply.

Qualifying Interests	Key environmental conditions supporting site integrity
Pintail (Anas acuta)	Food availability (intertidal flora and fauna/pasture/cereal). Undisturbed freshwater/coastal roosting sites close to feeding sites.
Pochard (Aythya ferina)	Fish/crustacean/vegetation availability in shallow inshore/ freshwaters. Undisturbed, ice-free marine/freshwater feeding grounds.
Purple Sandpiper (Calidris maritima)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
Red-breasted Merganser (Mergus serrator)	Fish/crustacean prey availability in shallow inshore waters. Undisturbed, ice-free marine/freshwater feeding grounds.
Redshank (Tringa totanus)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
Ringed Plover (Charadrius hiaticula)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
River Lamprey Lampetra fluviatilis	Riverine habitat. Water quality. Riverbed breeding gravels and silt nursery substrate. Unhindered migratory channels.
Roseate Tern (Sterna dougallii)	Sea level. Natural/artificial nest site availability. Undisturbed breeding sites. Regularity of extreme weather events. Marine prey availability (sand eel). Predation.
Salicornia and other annuals colonizing mud and sand	Frequency of tidal submergence. Absence of erosion.
Sanderling (Calidris alba)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia) (*important orchid sites)	Dry, shallow, calcium-rich nutrient-poor soils. Light grazing.
Shag (Phalacrocorax aristotelis)	Fish/crustacean/vegetation availability in shallow inshore/ freshwaters. Undisturbed, ice-free marine/freshwater feeding grounds and roosting sites.
Shelduck (Tadorna tadorna)	Food availability (intertidal flora and fauna/pasture/cereal). Undisturbed coastal roosting sites close to feeding sites.
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Supply of wind-blown sand.
Shoveler (Anas clypeata)	Food availability (interidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.

Qualifying Interests	Key environmental conditions supporting site integrity
Snipe (Gallinago gallinago)	Frequency of tidal submergence. Supply of mud sediment on seaward edge of saltmarsh.
Spartina swards (Spartinion maritimae)	Food availability (intertidal flora and fauna/pasture/cereal). Undisturbed freshwater/coastal roosting sites close to feeding sites.
Teal (Anas crecca)	Food availability (intertidal flora and fauna/pasture/cereal). Undisturbed freshwater/coastal roosting sites close to feeding sites.
Tufted Duck (Aythya fuligula)	Fish/crustacean/vegetation availability in shallow inshore/ freshwaters. Undisturbed, ice-free marine/freshwater feeding grounds.
Turnstone (Arenaria interpres)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.
Vegetated sea cliffs of the Atlantic and Baltic coasts	Flat topography on coastal cliff bedrock. High pH influence of sands and seabird guano.
Vertigo angustior	Stable wetland water table. Emergent vegetation. Groundwater supply. Lime-rich conditions.
Vertigo moulinsiana	Stable wetland water table. Emergent vegetation. Groundwater supply. Lime-rich conditions.
White clawed Crayfish Austropotamobius pallipes	Well oxygenated lakes/rivers with high pH. Riparian/ lacustrine substrate of cobbles/submerged vegetation.
Whooper Swan (Cygnus cygnus)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.

The key output of this stage was the identification of the types of threats to the integrity of the Natura 2000 sites. These can then be related to the consequences of implementing the CDP 2013-2019 to see if there is a risk of any likely significant effects.

The following generic threats were identified:

Rural/Agricultural activities

- Agricultural Intensification;
- Fertilisation;
- Grazing, (undergrazing /overgrazing);
- Restructuring agricultural land holdings;
- Forestry (afforestation/deforestation);
- Stock Feeding;
- Drainage/flooding;
- Offshore/onshore aquaculture;
- Pesticides, and;
- Peat Extraction.

Economic and Infrastructural Development

- Golf Courses;
- Roads, motorways;
- Coastal protection works;
- Sewage outflows;
- Housing developments;
- Communications Networks;
- Quarries;
- Canalisation;
- Landfill land reclamation;
- Disposal of household waste;
- River Channel Maintenance, and;
- Invasive Alien Species.

Recreation and Leisure

- Walking, horse riding and non-motorised vehicles;
- Offshore motorised vehicles;
- Bait Digging, and;
- New Paths and Tracks.

These were generic threats and did not take account of specific sensitivities at each Natura 2000 site. Consultation of the NPWS Natura 2000 data forms and liaison with regional

staff allowed site-specific sensitivities to be identified. These site-specific sensitivities are presented in the following sections.

2.6

Identification of Potential Likely Significant Effects

This section documents the final stage of the screening process. It used the information collected on the sensitivity of each Natura 2000 site and describes any likely significant effects of implementation of the Draft Plan (as far as it could be predicted at the early stages of preparation). This assumes the absence of any controls, conditions or assumption mitigation measures. "Avoidance" of impacting on certain locations can be taken into account during screening but since there were no agreed spatial policies at this early stage of the plan

process, this type of mitigation could not be assumed.

In Table 5, likely significant effects of the Draft Plan were presented both in isolation and potentially in combination with other plans. These impacts were described in more detail and addressed in Stage 2: Appropriate Assessment.

The sites highlighted in green are those located within County Meath.

Table 5: Likely Significant Effects of implementing the Meath County Development Plan 2013-2019 (in absence of mitigation).

Site	Potential Impacts arising from the Draft Plan	Is there a likely risk of a Significant Effect?	Other plans to be considered in Combination?1	Is there a risk of Significant Impact in combination?
CANDIDATE SPECIAL AREAS OF CONSERVATION				
Boyne Coast and Estuary	Coastal developments can threaten local water quality especially during construction. Coastal works can affect embryonic dunes which are sensitive to changes in coastal geomorphology. Any changes in the Boyne catchment leading to changes in water quality could affect condition of the habitats.	YES	Louth County Development Plan, River Basin Management Plan. FEMFRAMS.	YES
River Boyne and Blackwater	Water abstraction for potable water supply within catchment of alkaline fens. Direct and indirect impacts on alluvial forests, disturbance of otter holts from riverside development including active and passive recreation. Bridges, aquaculture and other developments have potential to affect Salmon migration and spawning success.	YES	Westmeath, Cavan, Louth, County Development Plans and Local Area Plans, River Basin Management Plan, FEMFRAMS.	YES

Site	Potential Impacts arising from the Draft Plan	Is there a likely risk of a Significant Effect?	Other plans to be considered in Combination?1	Is there a risk of Significant Impact in combination?
Rye Water Valley / Carton	Water abstraction for potable water supply within catchment of springs. Species affected by changes to catchment including water quality and changes to flood regime.	YES	Kildare County Development Plan, Maynooth and Leixlip Local Area Plans, River Basin Management Plan.	YES
Mount Hevey Bog	Water abstraction, peat cutting, afforestation and drainage within the catchment of the bog could affect the local groundwater levels.	YES	Westmeath County Development Plan. River Basin Management Plan.	YES
White Lough, Ben Loughs and Lough Doo	Developments causing run-off of silt and nutrients or toxic spillages. Invasive species introduction by unregulated water activities. Changes in natural water levels by abstraction or changes to outflows can affect habitat extents.	YES	Westmeath County Development Plan. River Basin Management Plan.	YES
Lough Bane and Lough Glass	Developments causing run-off of silt and nutrients or toxic spillages. Invasive species introduction by unregulated water activities. Changes in natural water levels by abstraction or changes to outflows can affect habitat extents.	YES	Westmeath County Development Plan. River Basin Management Plan.	YES
Killyconny Bog (Cloughbally)	Water abstraction, peat cutting, afforestation and drainage within the catchment of the bog could affect the local groundwater levels.	YES	Westmeath, Cavan County Development Plan. River Basin Management Plan.	YES
Monybeg and Clareisland Bogs	Water abstraction, peat cutting, afforestation and drainage within the catchment of the bog could affect the local groundwater levels.	YES	Cavan County and Local Plans. River Basin Management Plan.	YES
Ardagullion Bog	Too distant for any groundwater impacts to be likely as a result of the Plan.	No	Longford County and Local Plans.	No

Site	Potential Impacts arising from the Draft Plan	Is there a likely risk of a Significant Effect?	Other plans to be considered in Combination? ¹	Is there a risk of Significant Impact in combination?
Garriskil Bog	Too distant for any groundwater impacts to be likely as a result of the Plan.	No	Westmeath County and Local Plans.	No
Lough Lene	Possible effects from development at County boundary including invasive species introduction, eutrophication.	YES	Westmeath County Development Plan.	YES
Lough Ennell	Too distant for any ground or surface water impacts to be likely as a result of the Plan.	No	-	No
Raheenmore Bog	Too distant for any groundwater impacts to be likely as a result of the Plan.	No	-	No
The Long Derries, Edenderry	Too distant for any impacts to be likely as a result of the Plan.	No	-	No
Ballynafagh Bog	Too distant for any groundwater impacts to be likely as a result of the Plan.	No	-	No
Ballynafagh Lake	Too distant for any ground/ surface water impacts to be likely as a result of the Plan.	No	-	No
North Dublin Bay cSAC	Possible impacts of inadequate capacity of Ringsend Wastewater Treatment Plant on local water quality and condition of habitats. However the contribution of the eastern settlements in Meath to the overall loading of the Treatment Plant is not deemed to be significant.	No	-	No
Baldoyle Bay cSAC	Impacts due to increased levels of recreational activities from nearby growth towns.	YES	Fingal and other regional plans and strategies.	YES
Malahide Estuary cSAC	Impacts due to increased levels of recreational activities from nearby growth towns.	YES	Fingal and other regional plans and strategies.	YES

Site	Potential Impacts arising from the Draft Plan	Is there a likely risk of a Significant Effect?	Other plans to be considered in Combination?1	Is there a risk of Significant Impact in combination?
Rogerstown Estuary cSAC	Impacts due to increased levels of recreational activities from nearby growth towns.	YES	Fingal and other regional plans and strategies.	YES
Clogher Head cSAC	Impacts due to increased levels of recreational activities from nearby growth towns.	YES	-	YES
Dundalk Bay cSAC	Considered too distant for any impacts to be likely as a result of the Plan.	No	-	No
Rockabill to Dalkey Island cSAC	Considered too distant for any impacts to be likely as a result of the Plan.	No	-	No
SPECIAL PROTECTION AREA				
Boyne Estuary	Impacts due to increased levels of recreational activities from nearby growth towns. Developments in Boyne catchment leading to cumulative changes in water quality.	YES	Louth County Development Plan, Drogheda & Environs Town Plan, River Basin Management Plan. FEMFRAMS.	YES
River Nanny Estuary and Shore	Impacts due to increased levels of recreational activities from nearby growth towns. Developments in River Nanny catchment leading to cumulative changes in water quality.	YES	Fingal County Development Plan, River Basin Management Plan.	YES
Lough Sheelin	Impacts due to increased levels of recreational activities (angling, water/shore based activities) from nearby growth towns. Developments in catchment giving rise to increased levels of sediment and nutrients in runoff.	YES	Cavan, Longford Development Plans, Granard Local Area Plan, River Basin Management Plan.	YES
River Boyne and Blackwater	Kingfisher nesting sites may be affected by increased levels of active and passive recreation, construction of riverside boardwalks, removal of riparian woodland and alteration of watercourses and flooding regime.	YES	Westmeath, Cavan, Louth, County Development Plans and Local Area Plans, River Basin Management Plan, FEMFRAMS.	YES

Site	Potential Impacts arising from the Draft Plan	Is there a likely risk of a Significant Effect?	Other plans to be considered in Combination? ¹	Is there a risk of Significant Impact in combination?
Stabannan Braganstown SPA	Greylag Geese are not a conservation interest of any site within the County that might be affected, so no impacts likely on this population as a result of the Meath CDP.	No	-	No
North Bull Island SPA	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Shelduck, Black-tailed Godwit, Golden Plover and others). No direct impacts likely.	YES	Dublin City, Fingal and other regional/county plans and strategies.	YES
(South Dublin Bay) Sandymount Strand / River Tolka Estuary	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Golden Plover and others). No direct impacts likely.	YES	Dublin City, Fingal and other regional plans and strategies.	YES
Baldoyle Bay	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Golden Plover and others). Impacts due to increased levels of recreational activities from nearby growth towns. No direct impacts likely.	YES	Fingal County Development Plan. River Basin Management Plans.	YES
Rogerstown Estuary	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Shelduck, Black-tailed Godwit and others). Delvin Catchment is outside of Co. Meath. No direct impacts likely.	YES	Fingal County Development Plan. River Basin Management Plans.	YES

Site	Potential Impacts arising from the Draft Plan	Is there a likely risk of a Significant Effect?	Other plans to be considered in Combination? ¹	Is there a risk of Significant Impact in combination?
Skerries Islands	Birds that form conservation interests at this site are not a conservation interest of any site within the County that might be affected so no impacts likely on this population as a result of the Meath CDP.	No	-	No
(Malahide Estuary) Broadmeadow / Swords Estuary SPA	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Great Crested Grebe, Shelduck, Golden Plover, Black-tailed Godwit) and others. Impacts due to increased levels of recreational activities from nearby growth towns in the Metropolitan area of the County. No direct impacts likely.	YES	Dublin City and Fingal County Development Plan. River Basin Management Plans.	YES
Dundalk Bay SPA	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Great Crested Grebe, Shelduck, Golden Plover, Black-tailed Godwit) and others. No direct impacts likely.	YES	Louth County Development Plan. River Basin Management Plans.	YES
Lough Kinale and Derragh Lough SPA	Likely to be sharing populations with Lough Sheelin (within Meath). Population dynamics of some species may be affected indirectly by impacts on Lough Sheelin that also supports these species (Pochard, Tufted Duck). No direct impacts likely.	YES	Longford County Development Plan. River Basin Management Plans.	YES
Garriskil Bog SPA	Population dynamics of Redshank may be affected indirectly by direct impacts on other sites within Meath that also support this species. No direct impacts likely.	YES	Longford County Development Plan. River Basin Management Plans.	YES

Site	Potential Impacts arising from the Draft Plan	Is there a likely risk of a Significant Effect?	Other plans to be considered in Combination? ¹	Is there a risk of Significant Impact in combination?
Lough Derragh-varragh SPA	Likely to be sharing populations with Lough Sheelin (within Meath). Population dynamics of some species may be affected indirectly by impacts on Lough Sheelin that also supports these species (Pochard, Tufted Duck). No direct impacts likely.	YES	Longford County Development Plan. River Basin Management Plans.	YES
Lough Ennell SPA	Likely to be sharing populations with Lough Sheelin (within Meath). Population dynamics of some species may be affected indirectly by impacts on Lough Sheelin that also supports these species (Pochard, Tufted Duck). No direct impacts likely.	YES	Westmeath County Development Plan. River Basin Management Plans.	YES
Rockabill SPA	Birds that form conservation interests at this site are not a conservation interest of any site within the County that might be affected so no impacts likely on this population as a result of the Meath CDP.	No	-	No

2.7

Ecological Network Supporting Natura 2000 Site Integrity

An analysis of the proposed Natural Heritage Areas and designated Natural Heritage Areas in terms of their role in supporting the species using Natura 2000 sites was undertaken. It was assumed that these supporting roles mainly related to mobile fauna such as mammals and birds which may use pNHAs and NHAs as “stepping stones” between Natura 2000 sites.

Article 10 of the Habitats Directive and the Habitats Regulations 2011 place a high degree of importance on such non-Natura 2000 areas as features that connect the Natura 2000 network. Features such as ponds, woodlands and important hedgerows were taken into account during the rest of the AA process.

Their locations are shown in Figure 2b.

Table 6. Other Ecological designations that may support the Natura 2000 network.

Name of Proposed Natural Heritage Area/ Natural Heritage Area.	Feature and Habitat Used by Feature	Natura 2000 Site potentially linked to the pNHA/NHA Supported
Within Co. Meath		
Ballyhoe Lough (001594)	Whooper Swan (45) using lake and wet grassland.	Lough Derravaragh SPA (004043).
	Lapwing (13) and wet grassland.	River Boyne & River Blackwater cSAC (004232) & Dundalk Bay (004026).
Breakey Loughs (001558)	Whooper Swan (14) and lake/grassland.	Lough Derravaragh SPA (004043).
Royal Canal (002103)	Narrow-mouthed and Desmoulin's Whorl Snails and emergent vegetation.	Rye Water cSAC (001398).
Trim wetlands (001357)	Otter, Salmon and River Lamprey and wetlands/ streams.	River Boyne & River Blackwater cSAC (004232).
Within 15km buffer zone		
Knock Lake (001203)	Lapwing (70), Curlew (67), Whooper Swan (4), Black-tailed Godwit (9), Black-headed Gull (111), Coot (54), Tufted Duck (58)	Numerous coastal SPAs and Lough Derravaragh SPA (004043) & Lough Ennel SPA & Lough Sheelin SPA (004065) & Lough Kinale & Deggagh Lough SPA (004061)
Bog of the Ring (001204)	Whooper Swan and lake/bog	Lough Derravaragh SPA (004043)
	Golden Plover and bog	South Dublin Bay and River Tolka Estuary SPA (004024) & Broadmeadow/Swords Estuary SPA (004025) & Baldoyle SPA (004016)
Lough Glore (000686)	Golden Plover (150) and cutover bog	South Dublin Bay and River Tolka Estuary SPA (004024) & Broadmeadow/Swords Estuary SPA (004025) & Baldoyle SPA (004016)
Lough Ramor (000008)	Otter and Lake	River Boyne & River Blackwater cSAC (004232)
Lough Fea Demense pNHA (000560)	Whooper Swan (12) and lake	Lough Derravaragh SPA (004043)
Monalty Lough (001608)	Whooper Swan (65) and grassland	Lough Derravaragh SPA (004043)
	Lapwing (141) and grassland	River Boyne & River Blackwater cSAC (004232)
Lough Naglack (000561)	Pochard (45), Tufted Duck (28), Coot (53), Black-headed Gull (30) and lake	Lough Derravaragh SPA (004043) & Lough Ennel SPA & Lough Sheelin SPA (004065)

2.8

Screening Conclusions

The Screening process has identified that all Natura 2000 sites within the County have the potential to be adversely affected by the implementation of the Meath County Development Plan 2013-2019.

Several sites outside of the County boundary (within the 15km zone) were “screened-in” as they could be affected by development impacts in the same catchment or by effects of recreation activities emanating from increased populations in growth centres. Sites that were screened out are listed in **italics** in Table 5

and were not deemed to be subject to further consideration in the assessment.

The Screening process identified four non-Natura 2000 sites in the County (NHAs, pNHAs) that may form a supporting feature for some species that also use the Natura 2000 sites. Impacts on these sites could result in indirect effects on the protected species which are also Qualifying Interests of the Natura 2000 sites. No non-Natura 2000 sites that occurred outside of the County were screened in.

3

Stage 2 – Appropriate Assessment

3.1

Assessment Methodology

The assessment of impacts on the Natura 2000 network of sites was undertaken by the following tasks:

1. Establishing site-specific issues so that the impact evaluation is correctly informed.
 - This was primarily achieved through research of desktop information, site visits undertaken in January 2012 and consultation with regional staff of the NPWS.
2. Issuing a Policy Guidance Note for Meath County Council to pro-actively inform the preparation of Policies and Objectives.
 - This Note contained a summary of the Screening Exercise and recommendations of policies to promote and avoid during the preparation of the County Development Plan (included in Appendix B).
3. Iterative Review of draft Chapters of the Draft County Development Plan to allow the amendment of Policies, Objectives and supporting text. By doing so, potential impacts were avoided or mitigated through the addition of additional Policies and Objectives.
4. Reviews of proposed changes at later stages of the plan-preparation process including screening of submissions made at the public display stage, screening of the Manager's Report: Draft Meath County Development Plan 2013-2019 (14th September 2012) and the Manager's Report: Proposed Amendments to Draft Meath County Development Plan 2013-2019, (3rd December 2012) as well as the directions from the Elected Members.

3.2

Site-specific issues at Natura 2000 sites

Note where Natura 2000 sites were not deemed to be at particular risk they have not been listed in the following.

Marsh Road and Crook Road. Whilst not significant in small quantities, it can lead to increased illegal dumping and subsequent habitat loss and disturbance of species.

3.2.1 Boyne Coast and Estuary cSAC

- At Bettystown, pressures on car parking and toilet facilities were putting pressure on dune and beach habitats at certain times of year. This has led to localised trampling of dunes.
- Potential threat of surface water run-off from newly developed and on-going construction sites in the area around Mornington and Bettystown.
- There was evidence of unauthorised local dumping of house and garden waste in estuary habitats near to houses along

3.2.2 River Boyne and Blackwater cSAC

- Riverside recreation poses a threat to alluvial woodland especially downstream of Navan and within 5km upstream of Drogheda.
- Otters and possibly Salmon and Lamprey can be affected by bankside works.
- There are on-going concerns over the quality of treated effluent discharging into the Boyne catchment but it was acknowledged that upgrading of works is being addressed.
- Permitted abstractions from the river

may have the potential to cause impacts on water levels and future control over applications by appropriate assessments was recommended by the NPWS.

- Extensive invasive species problems with Giant Hogweed, Japanese Knotweed, Cherry Laurel and Rhododendron all present. Eradication required but such programmes will need checking to make sure they do not conflict with Conservation Objectives.

3.2.3 Lough Bane and Lough Glass cSAC

- There were adverse effects of historic over-abstraction but this has now apparently been solved and Lough Bane recovered to a good conservation status.

3.2.4 Boyne Estuary SPA

- Adverse effects of recreational activities causing disturbance of Little Tern colony at Baltray (County Louth) and their feeding grounds in the estuary.

3.2.5. River Boyne and Blackwater SPA

- Canoeing at Slane Bridge and upstream unlikely to be a source of disturbance

to Kingfisher unless new development associated with recreation occurred near to nesting sites. Need to address streams entering main channel and the potential for areas outside the SPA (e.g. Canal) to be supporting features to the SPA. Riverside walks pose threat to nesting sites if not correctly located or designed.

3.2.6 River Nanny Estuary and Shore SPA

- Apart from at Laytown, there was no evidence for adverse effects of development pressure. Some fields used by birds that are outside of the SPA could be developed and indirectly affect these conservation interests.
- Any proposed future redevelopment of Military camp site may need to be considered for its effects on the SPA.
- Evidence for undergrazing of dune habitat.
- Some recreational pressure and human-induced erosion. There was evidence of impacts of dog-walking disturbance on wintering birds but the significance of this impact on the conservation interests of the SPA is not known.

3.3

Conservative Objectives

The E.C. Habitats Directive requires the focus of the assessment at this stage to be on the integrity of the site as indicated by its Conservation Objectives. At the time of the preparation of the County Development Plan the National Parks and Wildlife Service had only prepared generic objectives for cSACs whilst there are more substantial Objectives prepared for some SPAs such as Dundalk Bay.

The generic objective for each cSAC is as follows: **“Objective: To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected”.**

These Annex I habitats and Annex II species are listed in Appendix A1.

Favourable Conservation status/condition is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is “favourable”.

“Favourable” is defined as:

- population dynamics data on the species concerned indicate that it is maintaining itself on a longterm basis as a viable component of its natural habitats, and

- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long term basis.

For SPAs, most have the following generic objective:

“Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA”

Conservation Objectives for the following sites are more explicit and relate to each of the qualifying interests. They can be found at:

Boyne Coast and Estuary cSAC (September 2012)

http://www.npws.ie/publications/archive/001957_Boyne%20Coast%20and%20Estuary%20SAC%20Marine%20Supporting%20Doc_V1.pdf

River Boyne and Blackwater cSAC (August 2012) Coastal Habitats

http://www.npws.ie/publications/archive/001957_Boyne%20Coast%20and%20Estuary%20SAC%20Coastal%20Supporting%20Doc_V1.pdf

Dundalk Bay SPA (March 2011)

<http://www.npws.ie/media/npwsie/content/images/protectedsites/conservationobjectives/CO004026.pdf>

River Nanny Estuary and Shore SPA

http://www.npws.ie/publications/archive/004158_River%20Nanny%20Estuary%20and%20Shore%20SPA_Supporting%20Doc_V1.pdf

3.4

Likely Effects of the Plan on Natura 2000 sites

A Policy Guidance Note was prepared at the commencement of the preparation of the Draft County Development Plan to help those preparing the Draft Plan in avoiding adverse impacts on Natura 2000 sites. Avoidance of impacts during the early stages of drafting Policies and Objectives is regarded to be the most efficient method of mitigating any potential adverse impacts.

The Guidance Note provided advice to the Council that would allow impacts on Natura 2000 sites to be avoided. If avoidance was not always possible then the potential adverse impact could be further mitigated by adding caveat or protective Policies.

In early 2012, Meath County Council prepared and revised several versions of each Chapter of the Draft County Development Plan. The Appropriate Assessment consultants, in conjunction with the SEA consultants, reviewed these draft Chapters and provided feedback on the Policies, Objectives and supporting text. Four iterative reviews were carried out

by the Appropriate Assessment team and recommendations were forwarded to the Council after each review to allow them to consider the proposed changes. The output was the final version of each Chapter of the Draft Plan that contained amended policies and mitigation measures specifically designed to address impacts on Natura 2000 sites.

The application of the Policy Guidance Note by the Council meant that the majority of the policies and objectives did not pose any likely significant effect on the Natura 2000 sites and therefore were not subject to further scrutiny in the AA process. Table 7 only lists the policies and objectives that did pose a risk of adverse effects and hence required mitigation.

Table 7 presents the key changes that were made to the policies and objectives as a result of the AA of the initial drafts of the chapters of the Draft County Development Plan. It shows how specific policies and objectives of the Draft County Development Plan were deemed to pose likely significant effects to Natura 2000

sites. It also shows how these policies were then amended to avoid, reduce or minimise the potential adverse effects. These are the key mitigation measures that were included in the Draft Plan that went on display as a consequence of the AA process.

Following the publication of the Draft Plan and placing it on public display further reviews (screenings) of submissions on the Draft Plan, the Manager's Report on recommendations based on these submissions and the Manager's Report on the Proposed Amendments to the

Draft Plan were carried out. This was necessary to determine if the changes were likely to result in adverse impacts on the integrity of the Natura 2000 sites. The results of these screening processes were conveyed to the Council alongside observations made by the SEA team. They are summarised in Sections 3-5-3.6 in this NIR. Table 7 shows how the mitigation measures that were applied in the Draft Plan were carried through to the adopted version of the Plan. It can be seen that in most cases there were few, if any, changes required to the mitigation measures.

Table 7: Aspects of the Draft County Development Plan and how they were mitigated as a result of the Appropriate Assessment process.

Chapter	Section/Policy/Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
2 Core Strategy	2.3.3. Residential Land Zoned Provision	<p>"The Local Area Plans will need to be reviewed and amended where necessary to address the excess of residential zoning in order to ensure consistency between the household allocations, residential zoned land requirements and Local Area Plans and to ensure that the urban settlements in Meath develop in a planned and orderly manner according to the core strategy and settlement strategy outlined in Chapter 3. Meath County Council intends to publish variations to town and village Local Area Plans within one year of the adoption of the Meath County Development Plan 2013-2019 to ensure that they are consistent with the Development Plan, and particularly the settlement strategy, core strategy and household allocations outlined in Table 2.4."</p> <p>Such variations could have a wide variety of adverse effects on Natura 2000 sites unless mitigated.</p>	<p>Insertion of clause "Any variation/amendment required as a result of this core strategy should be screened for the need to undertake Appropriate Assessment."</p> <p>Also included in ED OBJ 2 "It is noted that such variations or amendments may be subject to an Appropriate Assessment of the likely significant effects on Natura 2000 sites due to the proximity of urban centres to Natura 2000 sites."</p>	No change required, incorporated in full.

Chapter	Section/Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
4 Economic Devpt. Strategy	4.1.1 Navan Core Economic Area which includes Navan as a Primary Economic Growth Town and including the Secondary Economic Growth Town of Kells and the town of Trim.	This Section promotes economic growth around Navan. This could cause a variety of construction and development-related impacts on water quality in the River Boyne and Blackwater cSAC unless mitigated.	Insertion of clause “The Boyne and Blackwater cSAC is acknowledged as a background influence to economic development within the Navan Core Economic Area;”	No change required, incorporated in full.
	4.1.2 Drogheda	This Section promotes economic growth around Drogheda. This could cause a variety of construction and development-related impacts on water quality and sensitive species in the Boyne Estuary cSAC/ SPA.	Insertion of clause “The Boyne Estuary cSAC / SPA and River Nanny and Shore SPA are acknowledged as a background influence to economic development within the Drogheda Core Economic Area;”	No change required, incorporated in full.
	4.1.3 Maynooth / Leixlip Economic Area	Economic growth around Maynooth/Leixlip could cause a variety of construction and development-related impacts on water quality and sensitive species in the Rye Water Valley/ Carton cSAC.	Insertion of clause “The Rye Water Valley / Carton cSAC is acknowledged as a background influence to economic development within the environs of Maynooth.”	No change required, incorporated in full.

Chapter	Section/Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
Economic Devpt. Strategy (cont)	4.1.5 M1 Dublin - Belfast Economic Corridor & Provision of Deepwater Port Facility at East Meath	This Section makes reference to a proposal for a deepwater port on the east Meath coast. This could have significant impacts on coastal and estuarine habitats and species depending upon its design and location. Coastal Natura 2000 sites such as Boyne Estuary cSAC/SPA, River Nanny Estuary and Shore SPA in Meath and sites on the Fingal and Louth coasts could be adversely affected unless mitigated.	<p>ED POL 9 To facilitate the sustainable development of a new deep water port in East Meath.</p> <p>ED POL 10 Pending the outcome of the pre feasibility assessment and the establishment of the requisite planning framework (following Strategic Environmental Assessment / Appropriate Assessment, as required, in relation to ED POL 9) which may include the seeking of a designation of lands as a Strategic Development Zone, to facilitate associated landside activities to support the proposed deep water port, maximizing the economic benefits to nearby communities and minimizing any negative impacts of landside activities on such communities or the environment and heritage of the area.</p> <p>ED POL 11 To ensure any port related development proposals are subject to full environmental assessment including Strategic Environmental Assessment, Environmental Impact Assessment and Appropriate Assessment, as required.</p>	No change required, incorporated in full.

Chapter	Section/Policy/Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
4 Economic Devpt. Strategy (cont)	Policy ED OBJ 2	<p>“ED OBJ 2: To incorporate a review of the appropriateness of the nature, location and quantum of industrial and employment generating land use in each individual Development Plan and Local Area Plan...”</p> <p>Increasing industrial and employment generating land use that lead to variations to zonings in Local Area Plans could have adverse effects on Natura 2000 sites.</p>	Clause added “It is noted that such variations or amendments may be subject to an Appropriate Assessment of the likely significant effects on Natura 2000 sites due to the proximity of urban centres to Natura 2000 sites.”	No change required, incorporated in full.
	<p>4.4.2 Bio-Fuels and Renewable Energy:</p> <p>ED POL 14</p>	<p>“To recognise and develop the full potential of biomass for energy production and manufacturing including the export of green electricity to the national grid. The Development Plan acknowledges that such enterprises are more readily accommodated in rural areas due to the extent of lands required to ensure security of supply of raw materials and that proximity to the medium to high voltage national electricity transmission network for green electricity exportation is a key locational consideration for development proposers.”</p> <p>Promotion of growth of new crops for biomass could lead to adverse impacts on Natura 2000 sites if they spread outside of their areas.</p>	Clause added “All proposals for biomass energy production and manufacturing will require screening to determine if a full Appropriate Assessment of the likely significant effects on Natura 2000 sites, is required.”	<p>Numbering change: ED POL 14 became ED POL 15 in Adopted Plan.</p> <p>Measure incorporated in full.</p>

Chapter	Section/Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
4 Economic Devpt. Strategy (cont)	4.6.8 Walking and Cycling Routes ED POL 39	<p>“To support developments which will enable and encourage countryside recreation and an increased appreciation of the natural environment, through facilitating the development of community walks, off road trails / rural trail developments, parks and other outdoor amenities and recreational infrastructure.”</p> <p>Promotion of countryside recreation can lead to disturbance of sensitive fauna such as Kingfisher breeding sites along the Boyne SPA and Otters in the cSAC as well as overwintering birds</p>	<p>Insertion of clause “All proposals will require screening to determine if a full Appropriate Assessment of the likely significant effects on Natura 2000 sites, is required.”</p>	<p>Numbering change: ED POL 39 became ED POL 40 in Adopted Plan.</p> <p>Measure incorporated in full.</p>
5 Social Strategy	5.10 Sporting and Leisure Facilities/ Recreation/ Open Space	<p>This Section promotes Sport and Leisure facilities, which in proximity to certain sensitive Natura 2000 sites could have adverse effects caused by habitat loss, noise and disturbance.</p>	<p>SOC POL 38 To protect the integrity of Natura 2000 sites during the identification of suitable sites for recreation, in particular in terms of their design and use.</p>	<p>No change required, incorporated in full.</p>
6 Transport	Public Transport 6.8.1 Rail	<p>“The preparation of the Railway Order application for Phase II of the Navan Rail project was substantially completed including the preparation of the Environmental Impact Statement and Natura 2000 Appropriate Assessment.”</p> <p>The proposed Navan Rail Line includes a crossing of the River Boyne and Blackwater cSAC and SPA at Bonfield and Navan. The potential for significant adverse effects was identified in the AA Screening Report in September 2011.</p>	<p>Comment (no change to text proposed): Mitigation measures agreed and stated in the EIS and NIS for the proposed rail line have ensured that significant impacts have been suitably addressed.</p>	<p>No change required.</p>

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
6 Transport (cont)	6.8 Public Transport TRAN OBJ 2	<p>“To facilitate and encourage the upgrading of existing railway stations, and protect as required lands required for the upgrading of existing railway lines or stations or the provision of new railway stations throughout the County.”</p> <p>Implementation of the policy could result in adverse impacts on overwintering birds that use various fields around Bettystown and south of Drogheda that also use the SPAs along the coast.</p>	Insertion of clause “Any such proposals for developments in Bettystown and south of Drogheda, will have to ensure that there are no adverse effects on integrity of SPAs.”	No change required, incorporated in full.
	6.9 Walking and Cycling TRAN OBJ 8 and TRAN OBJ 9	<p>“To promote and explore the development of the following linkages within the lifetime of the Development Plan.....”</p> <p>Promotion of cycleways and pedestrian linkages could lead to disturbance and habitat loss at riverside and coastal Natura 2000 sites, depending on the scale and the location of such features.</p>	<p>Insertion of “subject to the appropriate environmental assessments, including Appropriate Assessment of the likely significant effects on Natura 2000 sites in accordance with Article 6(3) of the EC Habitats Directive;</p> <p>And</p> <p>iii) To provide for the development of the Trim – Navan – Slane – Drogheda cycle / greenway along the River Boyne subject to obtaining the necessary statutory planning consent, the carrying out of Appropriate Assessment, landowner co-operation and the securing of the necessary funding.</p> <p>(iv) To develop a system of cycle / greenways, subject to the availability of resources, along the banks of the Boyne and Blackwater Rivers, in such a manner so as not to significantly negatively impact on the conservation status of the Natura 2000 site either alone or in combination with other objectives in this or other plans.</p>	No change required, all incorporated in full.

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
6 Transport (cont)	6.9 Walking and Cycling TRAN OBJ 8 and TRAN OBJ 9 (cont)		And TRAN OBJ 9 To encourage pedestrian access to certain areas of Natura 2000 sites for their appreciation and in a manner so as not to impact negatively on the sites' integrity or long term conservation status.	
	6.10 Road Infrastructure	Promotion of future national roads and other road based projects can have potential adverse impacts on Natura 2000 sites. The Boyne river system (cSAC and SPA) spans the County and is likely to be crossed by new or upgraded roads. Cumulative impacts of road developments on these sites are particularly relevant.	TRAN POL 27 To ensure that all road plans and project proposals in the County which could, either individually or in combination with other plans and projects, have a significant effect on a Natura 2000 site, undergo an Appropriate Assessment in accordance with Article 6 (3) of the EC Habitats Directive. The AA consultants noted that several of the schemes stated in TRAN OBJ 16 and TRAN POL 33 are close to Natura 2000 sites and warrant scrutiny of impacts on Natura 2000 sites at the design stage.	Numbering change: TRAN POL 27 became TRAN POL 32. Measure incorporated in full. Reference to TRAN OBJ 16 and TRAN POL 33 should refer to TRAN OBJ 17 and TRAN POL 39 in the Adopted Plan.
7 Water, Drainage and Env. Services	7.9 Water Services Assessment of Needs	"The Meath Water Services Assessment of Needs contained a ranked list of 31 water services capital works projects totalling an estimated cost of €250.2 million which were identified as requiring substantial investment in the short to medium term, for the purpose of addressing existing serious infrastructural deficiencies while also providing for the continued sustainable advancement and development of County Meath.	WS SO 7 To undertake Appropriate Assessment of the likely significant effects on Natura 2000 sites in accordance with Article 6(3) of the EC Habitats Directive for proposals for the abstraction of water from Natura 2000 sites. WS SO 8 To ensure that wastewater treatment plants discharging into the Boyne catchment or to coastal Natura 2000 sites are operated in compliance with their wastewater discharge licenses / certificates of authorisation, in order to protect water quality.	WS SO 7 incorporated in full. WS SO 8 changed to "To ensure that in so far as is reasonably practicable, waste water treatment plants are operated in compliance with their Waste Water Discharge Licenses / Certificates of Authorisation, in order to protect water quality." Any consequences of this change are addressed by RD POL 52.

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
7 Water, Drainage and Env. Services (cont)	7.9 Water Services Assessment of Needs (cont)	<p>The 2010 - 2013 'Water Services Investment Programme' set out an allocation for Meath of €187.7m and only included 6 of the 31 schemes listed in the adopted Water Services Needs Assessment. Therefore, the need to prioritise projects is critically important."</p> <p>Promotion of activities involving water abstraction and removal can adversely affects Natura 2000 sites dependent on water levels (such as alluvial woodland in the River Boyne and Blackwater cSAC and Alkaline Fens at Lough Shesk). Similarly discharges of treated wastewater can both in isolation but more often in cumulation, lead to poor water quality that can affect species such as Salmon and Otter, both qualifying interests in the cSAC.</p>		

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
7 Water, Drainage and Env. Services (cont)	7.9 Water Services Assessment of Needs (cont)	See above	<p>WS POL 2 To protect and develop, in a sustainable manner, the existing groundwater sources and aquifers in the county and to control development in a manner consistent with the proper management of these resources.</p> <p>WS POL 11 To develop additional treatment capacity at existing plants where required to facilitate planned sustainable growth.</p> <p>WS OBJ 7 To generally require new developments to provide for the separation of foul and surface water drainage networks within the application site.</p>	<p>Measures incorporated in full.</p> <p>Measures incorporated in full.</p> <p>Numbering change: WS OBJ 7 became WS OBJ 8. Measures incorporated in full.</p>
	7.13 Interim and Permanent Water Services Arrangements	<p>“The absence, or inadequacy, of water and wastewater services may curtail the development of some settlement centres in County Meath. Many of these towns and villages will not receive national funding to provide these services within the lifetime of this Development Plan. In order to overcome some of these difficulties, Meath County Council proposes the introduction of a number of initiatives that will allow flexibility in the provision of small scale sewage treatment and water works in towns and villages, where appropriate that are lacking in adequate treatment facilities.”</p> <p>Pressures on water quality due to inadequate wastewater treatment facilities and pollution due to poor drainage design or overflow of foul sewer systems can accumulate to a level that threatens sensitive fauna in Natura 2000 sites.</p>	<p>WS POL 17 To ensure that all new developments have access to or are provided with satisfactory drainage systems in the interest of public health and to avoid the pollution of ground and surface waters.</p> <p>WS POL 18 To provide for the separation of foul and surface water drainage networks and to upgrade the drainage network so as to reduce foul sewer discharges for treatment by identification and removal of surface water misconnection and infiltration.</p>	<p>No change required, incorporated in full.</p> <p>No change required, incorporated in full.</p>

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
7 Water, Drainage and Env. Services (cont)	7.14 Water Quality	This Section needs to acknowledge the sensitivities of the Natura 2000 sites to changes in water volume and quality and the obligation to maintain favourable conservation status of aquatic species and habitats that are qualifying interests/ conservation interests for these sites.	Insertion of “Natura 2000 sites are sensitive to changes in water volume and quality. The Council recognises the importance of maintaining the favourable conservation status of aquatic species and habitats that are qualifying interests/ conservation interests of these sites.”	No change required, incorporated in full.
	7.15 Flood Risk Management	Flood relief measures designed to protect some features may have indirect adverse effects on others e.g. protection of alluvial woodland compared to protection of bankside otter holts.	(WS OBJ 12) To design flood relief measures to protect the conservation objectives of Natura 2000 sites and to avoid indirect impacts of conflict with other qualifying interests or Natura 2000 sites.	Numbering change: WS OBJ 12 became WS OBJ 13. Measures incorporated in full.
	General	Impacts of construction activities can, in isolation when close to Natura 2000 sites or in combination when further away, lead to adverse effects caused by contaminated surface water runoff.	Insertion of WS OBJ 14 To seek to ensure that construction works are designed so as not to result in surface water runoff into cSAC or SPAs either directly or indirectly via a watercourse.	Numbering change: WS OBJ 14 became WS OBJ 15. Measures incorporated in full.
8 Energy and Comm.	8.1.5 Wind Energy Development	“The development plan must achieve a reasonable balance between responding to overall Government Policy on renewable energy and enabling the wind energy resources of the Local Authority’s area to be harnessed in a manner that is consistent with proper planning and sustainable development.	Insertion of “All planning applications for wind turbines within Natura 2000 sites require an Appropriate Assessment of the likely significant effects on the Natura 2000 site/s in accordance with Article 6(3) of the E.C. Habitats Directive.”	Additional text added in response to Submissions- See Section 3.5 of this NIR.

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
8 Energy and Comm. (cont)	8.1.5 Wind Energy Development (cont)	<p>The assessment of individual wind energy development proposals needs to be conducted within the context of a “plan led” approach which involves identifying areas considered suitable or unsuitable for wind energy development.”</p> <p>Wind energy developments can have a variety of impacts on ecological receptors depending on design and location. Developments within Natura 2000 sites pose the highest risk of impacts.</p>		“The aim of this Development Plan is to promote a policy of preferential avoidance of siting wind energy projects in Natura 2000 sites, or sites that are on the flight lines of wintering birds unless it can be proven that there are no risks to the integrity of the sites (by carrying out Appropriate Assessment).”
	8.1.6 Hydro Energy	Hydro-energy developments can, depending on design and location, cause issues regarding passage of Salmon and Lamprey and other potential qualifying interests of Natura 2000 sites.	Insertion of “In all proposals, the Planning Authority will consult with the National Parks & Wildlife Section of the Department of Arts, Heritage and the Gaeltacht and the Inland Fisheries Board with regard to the impact of such proposals for the free passage of fish, salmonid qualities of the river and ecological impact of any E.U. sites or national designation.”	No change required, incorporated in full.
	8.1.8 Bioenergy	Cultivation of rapidly growing crops such as Miscanthus or Willow as biocrops can have adverse effects if they hybridise or spread into Natura 2000 sites.	EC POL 23 To ensure that development proposals which include the growing of biocrops within the Eastern River Basin District in County Meath and the coastal strip consider the potential for spreads or hybridisation of native flora.	No change required, incorporated in full.

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
8 Energy and Comm. (cont)	8.1.8 General	Energy developments, particularly those that use natural resources such as wind, hydro and fossil fuels can be located in sensitive locations and give rise to potential likely significant effects.	<p>EC POL 3 To encourage the production of energy from renewable sources, such as from biomass, waste material, solar, wave, hydro, geothermal and wind energy, subject to normal proper planning considerations, including in particular, the potential impact on areas of environmental or landscape sensitivity and Natura 2000 sites.</p> <p>EC POL 15 To ensure any proposal for geothermal or other energy subsurface exploration is accompanied by an assessment that addresses the potential impacts on groundwater quality.</p> <p>EC POL 18 To generally avoid the location of overhead lines in Natura 2000 sites unless it can be proven that they will not affect the integrity of the site in view of its conservation objectives i.e. by carrying out an appropriate assessment in accordance with Article 6(3) of the E.C. Habitats Directive.</p> <p>EC OBJ 1 To ensure that all plans and projects associated with the generation or supply of energy or telecommunication networks will be subject to an Appropriate Assessment Screening and those plans or projects which could, either individually or in combination with other plans and projects, have a significant effect on a Natura 2000 site (or sites) undergo a full Appropriate Assessment.</p>	<p>No change required, incorporated in full.</p> <p>No change required, incorporated in full.</p> <p>“E.C” changed to “E.U.”, incorporated in full.</p> <p>No change required, incorporated in full.</p>

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
9 Cultural and Natural Assets	General	The Chapter contains a range of mitigation measures designed to protect sites of biodiversity importance including Natura 2000 sites.	<p>Reference to protection of European Sites in 9.7.2.1.</p> <p>NH POL 1 To protect, conserve and seek to enhance the County's biodiversity.</p> <p>NH POL 2 To promote measures to protect biodiversity in the development management process by creating and improving habitats, where possible.</p> <p>NH POL 5 To permit development on or adjacent to a designated Special Areas of Conservation, Special Protection Areas, National Heritage Area or those proposed to be designated over the period of the plan, only where an assessment carried out to the satisfaction of the Meath County Council, in consultation with National Parks and Wildlife Service, indicates that it will have no significant adverse effect on the integrity of the site.</p> <p>NH POL 6 To have regard to the views and guidance of the National Parks and Wildlife Service in respect of proposed development where there is a possibility that such development may have an impact on a designated European or national site or a site proposed for such designation.</p>	<p>No change required, incorporated in full.</p> <p>No change required, incorporated in full.</p> <p>No change required, incorporated in full.</p> <p>No change required, incorporated in full.</p>

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
9 Cultural and Natural Assets (cont)	General (cont)	As above	<p>NH POL 7 To undertake appropriate surveys and collect data to provide an evidence-base to assist Meath County Council in meeting its obligations under Article 6 of the Habitats Directives, subject to available resources.</p> <p>NH OBJ 3 To ensure an Appropriate Assessment in accordance with Article 6(3) and Article 6(4) of the Habitats Directive, and in accordance with the Department of Environment, Heritage and Local Government Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities, 2009 and relevant EPA and European Commission guidance documents, is carried out in respect of any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect on a Natura 2000 site(s), either individually or in-combination with other plans or projects, in view of the site's conservation objectives.</p> <p>NH OBJ 4 To protect and conserve the conservation value of candidate Special Areas of Conservation, Special Protection Areas, National Heritage Areas as identified by the Minister for the Department of Arts, Heritage and the Gaeltacht and any other sites that may be proposed for designation during the lifetime of this Plan.</p>	<p>No change required, incorporated in full.</p> <p>Numbering change: NH OBJ 3 became NH OBJ 2. Measures incorporated in full</p> <p>Numbering change: NH OBJ 4 became NH OBJ 3. Text added in response to Submission- See Section 3.5 of this NIR. "and proposed Natural Heritage Areas".</p>

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
9 Cultural and Natural Assets (cont)	General (cont)		<p>GI OBJ 3 To encourage, pursuant to Article 10 of the Habitats Directive, the management of features of the landscape, such as traditional field boundaries, important for the ecological coherence of the Natura 2000 network and essential for the migration, dispersal and genetic exchange of wild species.</p> <p>NH OBJ 5 To work in partnership with relevant stakeholders on a suitable peatland site(s) to demonstrate best practice in sustainable peatland conservation, management and restoration techniques and to promote their heritage and educational value subject to ecological impact assessment and Appropriate Assessment Screening as appropriate.</p>	<p>No change required, incorporated in full.</p> <p>Numbering change: NH OBJ 5 became NH OBJ 4. Measure incorporated in full.</p>
10 Rural Devpt.	General	Promotion of rural development can lead to construction and development-related impacts on water quality, habitat loss and disturbance of sensitive species within several cSACs and SPAs found in the County and environs.	RUR DEV SO 9 To ensure that plans and projects associated with rural development will be subject to an Appropriate Assessment Screening and those plans or projects which could, either individually or in combination with other plans and projects, have a significant effect on a Natura 2000 site (or sites) undergo a full Appropriate Assessment.	No change required, incorporated in full.

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
10 Rural Devpt. (cont)	10.10 Forestry	<p>“To develop forestry to a scale and in a manner which maximises its contribution to the economic and social well being of the County on a sustainable basis and which is compatible with the protection of the environment.”</p> <p>Afforestation and deforestation can have significant adverse effects on Natura 2000 sites unless mitigated due to disturbance of sensitive fauna, erosion due to increased surface water runoff and loss of habitat.</p>	RD POL 18 To promote the avoidance of deforestation or commercial afforestation within Natura 2000 sites unless directly relating to the management of the site for its qualifying interests.	No change required, incorporated in full.
	10.12 Extractive Industry and Building Material Production	<p>“To facilitate adequate supplies of aggregate resources to meet the future growth needs of the County and the wider region while addressing key environmental, traffic and social impacts and details of rehabilitation.”</p> <p>Extractive industries can have significant adverse effects on Natura 2000 sites unless mitigated due to drawdown of water table within aquifers, surface water runoff and disturbance of sensitive species.</p>	RD POL 21 To ensure that projects associated with the extractive industry carry out screening for Appropriate Assessment in accordance with Article 6(3) of the E.C. Habitats Directive, where required.	No change required, incorporated in full.
	Technical Requirements 10.19.3 Waste Water Disposal	<p>“Wastewater from housing development in unserved areas is normally dispersed underground. Individual wastewater treatment facilities in rural areas should therefore, be located, constructed and maintained to the highest standards to ensure minimal impacts on water quality and particularly groundwater quality.”</p>	RD POL 52 To ensure wastewater treatment plants discharging into the Boyne catchment or to coastal Natura 2000 sites are suitably maintained and upgraded in advance of any additional loadings beyond their capacity in order to protect water quality, as required.	No change required, incorporated in full.

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
10 Rural Devpt. (cont)	Technical Requirements 10.19.3 Waste Water Disposal (cont)	Septic tanks close to Natura 2000 sites that are dependent on high standards of water quality pose a risk of adverse effects.	RD POL 53 To promote good practice with regard to the siting and design of septic tanks and the maintenance of existing tanks. A high level of scrutiny will be placed on applications within 2km of watercourses in the Boyne catchment. Proposals in this area shall not have an adverse impact on local water quality that could affect the qualifying interests of the cSAC and SPA.	No change required, incorporated in full.
11 Devpt. Mgt Standards and Guidelines	11.2.2.2 Residential Design Criteria: Houses	“Where residential developments are close to existing facilities or natural amenities or where in the opinion of Meath County Council that it would be in the interest of the proper planning and sustainable development of the area, Meath County Council may require a financial contribution towards the provision of public open space or recreational facilities in the wider area in lieu of public open space within the development. This may put additional pressure on natural spaces which could be Natura 2000 sites sensitive to disturbance.	Insertion of “If development proposals are proposed to follow this approach then the applicant must ensure that there are no adverse direct or indirect effects on the integrity of Natura 2000 sites. Applicants will be obliged to comply with Article 6(3) of the EC Habitats Directive in this regard.”	No change required, incorporated in full.
	11.5 Sports Facilities	“The Council may in certain cases consider it appropriate to grant a temporary permission for sports activities to allow the impact of noise levels and any potential disturbance or nuisance to be more fully assessed.” This may put additional pressure on natural spaces which could be Natura 2000 sites sensitive to disturbance.	Insertion of “Proposals should pay particular attention to the potential for likely significant effects on the Natura 2000 sites”.	No change required, incorporated in full.

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
11 Devpt. Mgt Standards and Guidelines (cont)	11.10 Petrol Service Stations	Petrol Stations with underground storage tanks have been linked to contamination of ground and surface water. This could lead to a decline in water quality in aquatic Natura 2000 sites such as the Boyne and Blackwater cSAC.	Insertion of “Proposals for petrol stations should consider the risk of any hydrocarbon contamination of Natura 2000 sites and groundwater.”	No change required, incorporated in full.
	11.13.2 Piggery Developments	Piggeries pose a risk to aquatic cSACs as they generate liquid waste and slurry with strong pollution potential. Their proximity to cSACs and SPAs is an important factor in determining an application for a new facility.	Insertion of “Proposals should pay particular attention to the potential for likely significant effects on the Natura 2000 sites.”	No change required, incorporated in full.
	11.14 Extractive Industry and Building Materials	Extractive industries can have significant adverse effects on Natura 2000 sites unless mitigated due to drawdown of water table within aquifers, surface water runoff and disturbance of sensitive species.	Insertion of “Extractive industry proposals should pay particular attention to the potential for likely significant effects on the Natura 2000 sites due to groundwater drawdown or contamination of surface water.”	No change required, incorporated in full.
	11.15.2 Wind Energy	Wind energy and overhead lines pose a threat to migratory bird flight paths even if they are located outside of Natura 2000 sites.	Insertion of “The aim of this Development Plan is to promote a policy of preferential avoidance of siting wind energy projects in Natura 2000 sites, or sites that are on the flight lines of wintering birds unless it can be proven that there are no risks to the integrity of the sites (by carrying out an appropriate assessment).”	No change required, incorporated in full.

Chapter	Section/ Policy/ Objective in the Draft Plan	Potential Likely Significant Impact	Mitigation Measure incorporated into the Draft Plan	Mitigation Measure incorporated into the Adopted Plan
11 Devpt. Mgt Standards and Guidelines (cont)	11.15.3 Hydro Energy	Hydro-energy projects can cause a range of impacts both in-stream and outside of the channel.	Insertion of: <ul style="list-style-type: none"> “Any hydro-energy proposal within the Boyne catchment should be accompanied by an appropriate assessment that addresses the potential impacts on bankside habitat loss, passage of salmon and lamprey and the impacts on otters. Any proposal for tidal or wave-energy should be accompanied by an appropriate assessment that addresses the potential impacts on wintering birds, coastal habitats and their supporting ecosystems.” 	No change required, incorporated in full.
	11.16 Public Lighting	Lighting of public areas close to the River Boyne has the potential to disturb otters.	Insertion of: “Public lighting proposals within 100m of the River Boyne should consider the potential for likely significant effects on sensitive species.”	No change required, incorporated in full.

3.5

Screening of Submissions and Manager’s Recommendations made on the Draft Plan

The Draft Meath County Development Plan 2013-2019, together with accompanying Environmental Report (output of the Strategic Environmental Assessment) and Draft Natura Impact Statement, was put on public display from Friday 25th May to Friday 3rd August 2012. Written submissions or observations with respect to the Draft Development Plan and/or Environmental Report and/or Appropriate Assessment were invited from members of the public and other interested parties.

Following completion of the public consultation period for the Draft Plan, a Manager’s

Report was prepared on the submissions summarising the issues raised, detailing the Manager’s response to them and outlining recommendations to the Draft Development Plan (dated 14th September 2012).

A total of 139 submissions were received from, or on behalf of, the general public; businesses; community, cultural, sporting and tourist groups; third-level institutions; elected representatives; local, town and county councils; utility providers; An Taisce; Department of Arts, Heritage and the Gaeltacht; Department of Environment, Community and

Local Government; Dublin Regional Authority; Environmental Protection Agency; Fáilte Ireland; Inland Fisheries Ireland; National Roads Authority; National Transport Authority; The Heritage Council and The Office of Public Works.

Submissions underwent a screening process by the AA team to see which submissions may have implications for the Natura 2000 sites under consideration in the AA of the County Development Plan. Only three submissions were deemed to be of relevance for the AA. These are described in full in the Manager's Report reproduced in Appendix C and are summarised below. The changes that were made to the Draft Plan are also set out in Table 7.

Louth County Council (submission 2025) raised the issue of the buffer zones and requested that their extent be stated in the Plan. Analysis of the buffer zones in Fingal and Louth (although there are none in Louth) resulted in a response that it was considered the extent of any setback is based on the proposed development and its potential effect on such sites. The approach in Fingal uses buffer zones that are marked on the Green Infrastructure maps and are of varying width and are very site-specific. It is suggested that a similar approach is employed for Meath CDP and is therefore recommended that there is no change to the policy in the draft CDP. It is envisaged that the use of buffer zones will be employed at the Local Area Plan where relevant.

The Department of Arts, Heritage and the Gaeltacht (submission 2090) raised issues regarding the search for sites within the 15km

buffer zone and that the distance may require extending in distance or extending to the catchment for rivers. Changes were made to within this NIR to reflect this observation. An observation to ensure that proposed Natural Heritage Areas were given equal weighting as fully-designated Natural Heritage Areas and this has been addressed in an amendment to NH OBJ 3 in the adopted version of the Plan. Finally the Department raised a suggestion that impacts of wind turbines on flight lines of birds should be specifically addressed in the policies. This resulted in an insertion at the end of the last paragraph of Section 8.1.5 of the Draft Plan.

The Irish Wind Energy Association (submission 2113) raised concerns over restrictions of the siting of wind energy developments in Natura 2000 sites. The AA team felt that this was dealt with in the 11.15.2 in the adopted version of the Plan.

The Manager's Report, together with a SEA/AA screening of each proposed amendment, was considered by the Elected Members of Meath County Council at a Special Planning meeting on the 24th September 2012.

Based on the screening exercise for SEA and AA, the Planning Authority determined, in accordance with the requirement of Section 12 (7)(aa) of the Planning and Development Act 2000 (as amended), that the likely significant effects on the environment of implementing the proposed amendments, or material alterations, to the Draft Plan were not such that they required further Appropriate Assessment, as per the requirements of the relevant Directives.

3.6

Screening of Manager's Proposed Amendments and Submissions on Amendments during the Public Consultation Stage

Consultation on the Manager's Proposed amendments to the Draft Development Plan took place between Friday 12th October and Thursday 8th November 2012 during which time a total of 26 written submissions were received.

Submissions made on the proposed amendments were also subject to AA Screening and this is contained within the Manager's Report on the Submissions Received

on the Proposed Amendments to the Draft Meath County Development Plan 2013-2019 (3rd December 2012).

There were no issues contained within the submissions on the amendments and the Manager's Response to them or the Elected Member's directions that warranted any requirement for Appropriate Assessment. The Manager's Report is appended to the NIR in Appendix D.

3.7

Interaction with other Plans

The E.C. Habitats Directive and the Irish Habitats Regulations 2011 require that the impacts on Natura 2000 sites be assessed from the plan or project in question and also in the presence of other plans and projects that could affect the same Natura 2000 sites.

The screening process identified the plans that could act in combination with the Draft County Development Plan to pose likely significant effects on Natura 2000 sites in County Meath and its environs. This Section identifies if these Plans have undergone an appropriate assessment themselves as it is assumed that if a Plan has been adopted following an AA then it cannot pose likely significant adverse effects on Natura 2000 sites.

Meath County Council intends to publish variations to the Navan, Trim and Kells Development Plans if necessary, to publish variations to the Local Area Plans of Ashbourne, Drogheda Environs, Dunboyne/Clonee/Pace, Dunshaughlin, Ratoath, prepare a new Local Area Plan for Bettystown/Laytown, and publish a variation to the Meath County Development Plan 2013-2019 to contain development zoning objectives for the remaining identified centres within one year of the adoption of the County Development Plan. These variations and the new LAP will all undergo their own appropriate assessment where necessary and will take into account the cumulative effects at this scale, particularly of projects which can act in combination and identified at a local scale. The amendments/variations to these Plans will be in accordance with the Policies and Objectives that are described in Table 7. Therefore it is assumed that the amendments/variations themselves will not pose likely significant effects to the Natura 2000 sites. Local Area Plans in Meath are therefore not predicted to pose cumulative adverse impacts, providing they are in compliance with the County Development Plan.

The cumulative/in-combination impact assessment focused on the other County Development Plans that had the highest potential to affect the same Natura 2000 sites that could be affected by the Draft Meath County Development Plan 2013-2019.

Other higher-level plans that could promote infrastructure are integrated within the Draft County Development Plan itself and have been assessed as such.

- Fingal County Development Plan 2011-2017
 - Potential for impacts from recreational users of the beach at the River Nanny and Shore SPA are acknowledged and policies integrated to the Plan to ensure the AA is carried out for such proposals. Cumulative impacts caused by increased populations in East Meath and in Fingal, on Rogerstown and Malahide Estuaries have been addressed by mitigation policies in the Fingal County Development Plan.
- Kildare County Development Plan 2011-2017
 - A Screening Report was published alongside the Plan, taking the approach that impacts had been avoided through the use of adapting Policies. Impacts on the Rye Water Valley/Cartron cSAC which is shared with Meath is not specifically addressed.
 - Impacts on this cSAC are addressed in the Leixlip and Collinstown Local Area Plans 2010 Screening Report. Impacts were ruled out on the basis that they were addressed by mitigation policies relating to protection of the riparian corridor.
- Westmeath County Development Plan 2008-2014
 - Mountney Bog cSAC, Lough Bane and Lough Glass cSAC, White Lough, Ben Loughs and Lough Doo cSAC, Moneybeg and Clareisland Bogs cSAC, Lough Sheelin SPA and the River Boyne and Blackwater cSAC and SPA are shared by both Meath and Westmeath counties. The County Development Plan does not seem to have undergone an appropriate assessment under Article 6(3) of the E.C. Habitats Directive.

- Strategic policies relating to the promotion of recreation and tourism of the County's Lakes could have potential adverse effects. These are not exempt from AA at the project-level and it would be assumed that such proposals will not be permitted if they impact on the integrity of these sites.
 - Policies P-EH 7 and 8 provide for general protection of these sites. Policy P-EH 10 is now inaccurate following the Habitats Regulations 2011 and judgements from the European Commission on Ireland's implementation of the E.C. Habitats Directive.
 - No cumulative impacts are predicted as there are no specific policies promoting development in the Draft Meath County Development Plan 2013-2019.
- Louth County Development Plan 2009-2015
 - The Boyne Estuary SPA, River Boyne and Blackwater cSAC and SPA are all shared by Louth and Meath. Policies have been assessed as part of a comprehensive appropriate assessment and changes made to protect these specific sites. As a result there are no predicted cumulative impacts from the implementation of this Plan.
 - Dublin City Development Plan 2011-2017
 - There are no Natura 2000 sites shared by the two Counties. At the screening stage it was purported that there could be indirect impacts if bird populations in Meath SPAs were adversely affected (Shelduck, Black-tailed Godwit, Golden Plover and others).
 - Policies have been proposed to provide for protection of the coastal Natura 2000 sites in Dublin City that could share species with the River Nanny and Boyne Estuary sites in Meath. As a result there are no predicted cumulative impacts from the implementation of this Plan.
 - Longford County Development Plan 2009-2015
- The Appropriate Assessment for this Plan provides for a range of protective policies and commitments to monitor the implementation of mitigatory policies. As a result there are no predicted cumulative impacts from the implementation of this Plan on Lough Kinale and Derragh Lough SPA and downstream sites in Meath.
 - Cavan County Development Plan 2008-2014
 - Lough Sheelin SPA Killyconny Bog cSAC and the River Boyne and Blackwater cSAC and SPA are shared by Meath and Cavan. The most recent County Development Plan does not appear to have undergone an appropriate assessment under Article 6(3) of the E.C. Habitats Directive.
 - There are no specific concerns regarding threats to the Natura 2000 sites but there are references to promotion of access and amenities related to rivers and lakes but there are also protective policies in place to prevent adverse impacts. As a result there are no predicted cumulative impacts from the implementation of this Plan.
 - Offaly County Development Plan 2009-2015
 - The Plan underwent a Screening for AA and Policies that aim to protect Natura 2000 sites are specifically addressed in Chapter 15 of this Plan.
 - There are no Natura 2000 sites within 10km of the Meath/Offaly border so the risk of interaction between the Counties is regarded to be low.
 - Monaghan County Development Plan 2013-2019
 - The AA Screening Report for the review of the Monaghan County Development Plan does not identify any interaction with County Meath. All of the sites in Monaghan and Meath are located more than 20km from the border and there is no significant risk of in-combination effects.

- Fingal and East Meath Flood Risk Assessment and Management Study SEA Environmental Report (2011)
 - This strategic analysis of flood risk and relief options identified potential for impacts on the River Nanny Estuary and Shore SPA and Boyne Estuary SPA as a result of embankment proposals at Laytown/Bettystown. It was recommended that the timing of the proposed works on the River Nanny Estuary take place between April and August to avoid the main bird migration and wintering period; the reduction of noise by using appropriate construction methods; and the setting back of the flood defences and road, or the creation of new intertidal habitat to mitigate for habitat likely to be lost through coastal squeeze.
- Eastern River Basin District Management Plan (2008)
 - A review of the Article 6 Assessment indicated that the Measures proposed within the Plan are consistent with the mitigation policies within the Draft County Development Plan. Key issues such as buffers strips alongside rivers, control of invasive species, upgrade and capacity of wastewater treatment plants lend support for the Policies in the Plan.
- Neagh Bann International River Basin District Management Plan (2008)
 - This international River Basin District covers the north-eastern edge of Meath. A review of the Article 6 Assessment indicated that the Measures proposed within the Plan are consistent with the mitigation policies within the Draft County Development Plan in a similar manner to the ERBDMP.
- Shannon International River Basin District Management Plan (2008)
 - The ShIRBD is the largest river basin district in Ireland, comprising a land area of approximately 18,000 km² and includes an extensive area of central Ireland, from its source in County Cavan to the mouth of the Shannon Estuary. It drains only a small part of western County Meath outside of the Boyne catchment.
 - A review of the Article 6 Assessment indicated that the Measures proposed within the Plan are consistent with the mitigation policies within the Draft County Development Plan in a similar manner to the ERBDMP. There is no significant risk of in-combination effects.
- Heritage Capital- Marketing Tourism in Meath 2005 – 2010
 - Whilst the Strategy does not appear to have undergone any AA, there are several recommendations that overlap with protective Policies in the Draft County Development Plan. Proposals to protect the beaches from parking and to provide adequate parking whilst respecting the need to protect the designated sites, is one such example.
 - It is noted that this Strategy was prepared in the peak of the Celtic Tiger era and that pressures to develop hotel and leisure developments are no longer viable. Such developments could have posed a conflict with the protection of some Natura 2000 sites.

3.8

Summary of Policies protecting individual Natura 2000 sites.

The AA process involved the analysis of the proposed policies and objectives and where necessary, the inclusion of mitigation measures to ensure that the implementation of the Plan does not result in adverse impacts on Natura 2000 sites. In doing so, there were several policies whose specific function was to protect the integrity of the sites and the environmental

conditions underpinning them. These are identified in this Section.

Table 8 below show a summary of the Policies and Objectives contained within the Meath County Development Plan 2013-2019 (taking into account all adopted amendments) which act cumulatively to protect the individual

Natura 2000 sites. This list does not cover all of the Policies or Objectives of a protective or mitigatory nature but identifies those that address specific sensitivities of the sites.

The sites highlighted in green are those located within County Meath.

Table 8: Policies protecting individual Natura 2000 sites.

Site	Sensitivity/threat	Mitigation Policy/Objective
Candidate SPECIAL AREAS OF CONSERVATION		
Boyne Coast and Estuary	<ul style="list-style-type: none"> Water quality Changes in coastal geomorphology 	ED OBJ 2; ED POL 10; ED POL 11; ED POL 40; TRAN OBJ 2; TRAN OBJ 8; TRAN OBJ 9; TRAN POL 32; WS SO 7; WS SO 8; WS POL 11; WS OBJ 13; WS OBJ 15; EC POL 23; NH POL 5; NH OBJ 2; NH OBJ 3; RUR DEV SO 9
River Boyne and Blackwater	<ul style="list-style-type: none"> Groundwater changes near alkaline fens Direct and indirect impacts on alluvial forests Disturbance of otter holts Instream obstructions affecting fish passage 	ED OBJ 2; ED POL 40; TRAN OBJ 8; TRAN OBJ 9; TRAN POL 32; WS SO 7; WS SO 8; WS POL 2; WS POL 11; WS OBJ 8; WS OBJ 15; EC POL 23; NH POL 5; NH OBJ 2; RUR DEV SO 9; RD POL 18; RD POL 21; RD POL 52; RD POL 53
Rye Water Valley / Carton	<ul style="list-style-type: none"> Groundwater changes near springs Water quality and changes to flood regime 	ED OBJ 2; TRAN OBJ 9; TRAN POL 32; WS SO 7; WS SO 8; WS POL 2; WS OBJ 15; NH POL 5; NH OBJ 2; RUR DEV SO 9
Mount Hevey Bog	<ul style="list-style-type: none"> Water abstraction Peat cutting Afforestation Drainage 	ED OBJ 2; TRAN OBJ 9; WS SO 7; WS SO 8; WS POL 2; NH POL 5; NH OBJ 2; NH OBJ 4; RUR DEV SO 9; RD POL 18; RD POL 21
White Lough, Ben Loughs and Lough Doo	<ul style="list-style-type: none"> Water quality Invasive species Water abstraction 	ED OBJ 2; TRAN OBJ 9; WS SO 7; WS SO 8; WS POL 11; WS OBJ 15; NH POL 5; NH OBJ 2; RUR DEV SO 9; RD POL 21
Lough Bane and Lough Glass	<ul style="list-style-type: none"> Water quality Invasive species Water abstraction 	ED OBJ 2; TRAN OBJ 9; WS SO 7; WS SO 8; WS POL 11; WS OBJ 15; NH POL 5; NH OBJ 2; RUR DEV SO 9; RD POL 21
Killyconny Bog (Cloughbally)	<ul style="list-style-type: none"> Water abstraction Peat cutting Afforestation Drainage 	ED OBJ 2; TRAN OBJ 9; WS SO 7; WS SO 8; WS POL 2; NH POL 5; NH OBJ 2; NH OBJ 4; RUR DEV SO 9; RD POL 18; RD POL 21

Site	Sensitivity/threat	Mitigation Policy/Objective
Monybeg and Clareisland Bogs	<ul style="list-style-type: none"> Water abstraction Peat cutting Afforestation Drainage 	ED OBJ 2; TRAN OBJ 9; WS SO 7; WS SO 8; WS POL 2; NH POL 5; NH OBJ 2; NH OBJ 4; RUR DEV SO 9; RD POL 18; RD POL 21
Lough Lene	<ul style="list-style-type: none"> Water quality Invasive species Water abstraction 	ED OBJ 2; WS SO 7; WS SO 8; WS POL 11; NH POL 5; NH OBJ 2; RUR DEV SO 9; RD POL 21
Baldoyle Bay	<ul style="list-style-type: none"> Recreational activities 	ED OBJ 2; ED POL 9; NH POL 5; NH OBJ 2
Malahide Estuary	<ul style="list-style-type: none"> Recreational activities 	ED OBJ 2; ED POL 9; NH POL 5; NH OBJ 2
Rogerstown Estuary	<ul style="list-style-type: none"> Recreational activities 	ED OBJ 2; ED POL 9; NH POL 5; NH OBJ 2
Clogher Head cSAC	<ul style="list-style-type: none"> Recreational activities 	ED OBJ 2; ED POL 9; NH POL 5; NH OBJ 2; RUR DEV SO 9
SPECIAL PROTECTION AREAS		
Boyne Estuary	<ul style="list-style-type: none"> Disturbance from recreation/development 	ED OBJ 2; ED POL 9; ED POL 40; TRAN OBJ 2; TRAN OBJ 8; TRAN OBJ 9; TRAN POL 32; WS SO 7; WS SO 8; WS POL 11; NH POL 5; NH OBJ 2; RUR DEV SO 9
River Nanny Estuary and Shore	<ul style="list-style-type: none"> Disturbance from recreation/development Water quality. 	ED OBJ 2; ED POL 9; ED POL 40; TRAN OBJ 8; TRAN OBJ 9; TRAN POL 32; WS SO 7; WS SO 8; WS POL 11; WS OBJ 8; WS OBJ 13; WS OBJ 15; NH POL 5; NH OBJ 2; RUR DEV SO 9; RD POL 18; RD POL 21
Lough Sheelin	<ul style="list-style-type: none"> Disturbance from recreation/development Water quality 	ED OBJ 2; TRAN OBJ 9; WS SO 7; WS SO 8; WS OBJ 8; NH POL 5; NH OBJ 2; RUR DEV SO 9; RD POL 18; RD POL 21
River Boyne and Blackwater	<ul style="list-style-type: none"> Disturbance from recreation/development Water quality 	ED OBJ 2; ED POL 40; ED OBJ 10; TRAN OBJ 2; TRAN OBJ 8; TRAN OBJ 9; TRAN POL 32; WS SO 7; WS SO 8; WS POL 11; WS OBJ 8; WS OBJ 15; NH POL 5; NH OBJ 2; RUR DEV SO 9; RD POL 18; RD POL 21; RD POL 52; RD POL 53
North Bull Island SPA	<ul style="list-style-type: none"> Indirect effects on shared metapopulations.² 	ED OBJ 2; ED POL 9; NH POL 5; NH OBJ 2

² Spatially-separated populations of the same species that may interact at some level.

Site	Sensitivity/threat	Mitigation Policy/Objective
(South Dublin Bay) Sandymount Strand / River Tolka Estuary	<ul style="list-style-type: none"> Indirect effects on shared metapopulations 	ED OBJ 2; ED POL 9; NH POL 5; NH OBJ 2
Baldoyle Bay	<ul style="list-style-type: none"> Indirect effects on shared metapopulations 	ED OBJ 2; ED POL 9; NH POL 5; NH OBJ 2
Rogerstown Estuary	<ul style="list-style-type: none"> Indirect effects on shared metapopulations 	ED OBJ 2; ED POL 9; NH POL 5; NH OBJ 23
(Malahide Estuary) Broadmeadow / Swords Estuary SPA	<ul style="list-style-type: none"> Indirect effects on shared metapopulations 	ED OBJ 2; ED POL 9; NH POL 5; NH OBJ 2
Dundalk Bay SPA	<ul style="list-style-type: none"> Indirect effects on shared metapopulations 	ED OBJ 2; ED POL 9; NH POL 5
Lough Kinale and Derragh Lough SPA	<ul style="list-style-type: none"> Indirect effects on shared metapopulations 	ED OBJ 2; NH POL 5; RUR DEV SO 9
Garriskil Bog SPA	<ul style="list-style-type: none"> Indirect effects on shared metapopulations 	ED OBJ 2; RUR DEV SO 9; RD POL 21
Lough Derraghvarragh SPA	<ul style="list-style-type: none"> Indirect effects on shared metapopulations 	ED OBJ 2; RUR DEV SO 9
Lough Ennell SPA	<ul style="list-style-type: none"> Indirect effects on shared metapopulations. Likely to be sharing populations with Lough Sheelin (within Meath). 	ED OBJ 2; RUR DEV SO 9

3.9

Responsibilities for implementing mitigation policies

The responsibility for implementing the County Development Plan lies solely with the Planning Authority through the Planning consent process. Applicants who intend to develop within the County are obliged to ensure that their application is consistent with the Policies and Objectives within the Plan. Applicants are also strongly advised to address the

recommendations provided in Section 3.11 of this Natura Impact Report when carrying out screening for AA and AA of plans and projects proposed under the County Development Plan.

Applicants must provide information to allow the Planning Authority to screen the application and decide if Stage 2 is required.

3.10

Monitoring the Implementation of Policies

Whilst there is no legal requirement to monitor the outputs of the AA process, there is an obligation to monitor the implementation of the County Development Plan through the

E.C. SEA Directive as implemented in Ireland. Contingency measures may have to be applied if there is evidence that Policies or Objectives cannot be implemented successfully.

3.11

Recommendations regarding Appropriate Assessments of Plans and Projects under the Draft County Development Plan.

The AA process has informed the preparation of the County Development Plan so that it can be implemented successfully without having adverse effects on the integrity of Natura 2000 sites. However many of the mitigation policies rely upon subsequent screening for AA or Stage 2 of future Plans or variations thereof and projects.

In order to provide clarity to potential applicants and to inform the screening and AA of variations to the Plan and Local Area Plans, Table 9 provides an indication of the scope of the information that should be provided

to the Planning Authority to allow them to a) screen the application for the requirement to undertake AA b) carry out the AA on the basis of information provided to them in the form of a Natura Impact Statement (for projects) or Natura Impact Report (for Plans). Reference to the relevant qualifying interests for each site (see Appendix A) would be necessary to further clarify the scope of information required in subsequent assessments.

The sites highlighted in green are those located within County Meath.

Table 9: Recommended Information to be provided when addressing potential developments affecting Natura 2000 sites

Site	Sensitivity/threat	Screening for AA	AA data
Candidate SPECIAL AREA OF CONSERVATION			
Boyne Coast and Estuary	Water quality Changes in coastal geomorphology.	<ul style="list-style-type: none"> Potential for discharge/ run-off to the cSAC direct/ indirect including effects on invertebrates in mudflats. Works along the coastline affecting coastal habitats such as dunes, mudflats, grasslands. 	<ul style="list-style-type: none"> Nature of discharge, potential impact and how it can be mitigated. Nature of coastal works, potential impact and how it can be mitigated.
River Boyne and Blackwater	Groundwater changes near alkaline fens. Direct and indirect impacts on alluvial forests. Disturbance of otter holts Instream obstructions affecting fish passage.	<ul style="list-style-type: none"> Potential for interaction with groundwater. Location relative to known alluvial woodland. Potential for disturbance of otters (survey may be able to inform judgments). Potential for in-stream works. 	<ul style="list-style-type: none"> Nature of impact on groundwater, and how it can be mitigated. Extent of impact on habitats Location and activity of otters Known data on salmon/lamprey or habitat-based interpolations. Surveys required if in-stream works in spawning areas. Nature of faunal impacts and how they can be mitigated.

Site	Sensitivity/threat	Screening for AA	AA data
Rye Water Valley / Carton	Groundwater changes near petrifying springs. Water quality and changes to flood regime that could affect molluscs.	<ul style="list-style-type: none"> Potential for interaction with groundwater. Location relative to known springs. Potential for discharge/run-off to the cSAC direct/indirect. 	<ul style="list-style-type: none"> Nature of impact on groundwater, and how it can be mitigated. Nature of discharge, potential impact and how it can be mitigated.
Mount Hevey Bog	Water abstraction, Peat cutting near raised bogs, Afforestation on bog habitat Drainage near raised bogs	<ul style="list-style-type: none"> Potential for interaction with groundwater. Potential for habitat loss/change. 	<ul style="list-style-type: none"> Nature of impact on groundwater, and how it can be mitigated. Extent of impact on habitats and how it can be mitigated.
White Lough, Ben Loughs and Lough Doo	Water quality Invasive species (flora and fauna) Water abstraction	<ul style="list-style-type: none"> Potential for abstraction/discharge/run-off from/to the cSAC direct/indirect. Potential to interfere with White-clawed Crayfish refuges or lifecycle. 	<ul style="list-style-type: none"> Nature of surface water interaction, potential impact and how it can be mitigated. Nature of faunal impacts and how they can be mitigated.
Lough Bane and Lough Glass	Water quality Invasive species Water abstraction	<ul style="list-style-type: none"> Potential for abstraction/discharge/run-off from/to the cSAC direct/indirect that could cause eutrophication or pH changes. 	<ul style="list-style-type: none"> Nature of surface water interaction esp. changes to nutrients and pH, potential impact and how it can be mitigated.
Killyconny Bog (Cloughbally)	Water abstraction Peat cutting Afforestation on bog habitat Drainage	<ul style="list-style-type: none"> Potential for interaction with groundwater. Potential for habitat loss/change. 	<ul style="list-style-type: none"> Nature of impact on groundwater, and how it can be mitigated. Extent of impact on habitats and how it can be mitigated.
Monybeg and Clareisland Bogs	Water abstraction, Peat cutting Afforestation on bog habitat Drainage	<ul style="list-style-type: none"> Potential for interaction with groundwater. Potential for habitat loss/change. 	<ul style="list-style-type: none"> Nature of impact on groundwater, and how it can be mitigated. Extent of impact on habitats and how it can be mitigated.
Lough Lene	Water quality Invasive species Water abstraction	<ul style="list-style-type: none"> Potential for abstraction/discharge/run-off from/to the cSAC direct/indirect. Potential to interfere with White-clawed Crayfish refuges or lifecycle. 	<ul style="list-style-type: none"> Nature of surface water interaction, potential impact and how it can be mitigated. Nature of faunal impacts and how they can be mitigated.

Site	Sensitivity/threat	Screening for AA	AA data
Baldoyle Bay	Recreational activities	<ul style="list-style-type: none"> Potential for indirect habitat loss/change. 	<ul style="list-style-type: none"> Extent of impact on habitats and how it can be mitigated.
Malahide Estuary	Recreational activities	<ul style="list-style-type: none"> Potential for indirect habitat loss/change. 	<ul style="list-style-type: none"> Extent of impact on habitats and how it can be mitigated.
Rogerstown Estuary	Recreational activities	<ul style="list-style-type: none"> Potential for indirect habitat loss/change. 	<ul style="list-style-type: none"> Extent of impact on habitats and how it can be mitigated.
Clogher Head cSAC	Recreational activities	<ul style="list-style-type: none"> Potential for indirect habitat loss/change. 	<ul style="list-style-type: none"> Extent of impact on habitats and how it can be mitigated.
SPECIAL PROTECTION AREAS			
Boyne Estuary	Disturbance from recreation/development	<ul style="list-style-type: none"> Location of proposed development relative to known bird roosting/feeding/breeding grounds. Potential for activities causing disturbance. Potential for habitat loss. 	<ul style="list-style-type: none"> Extent (spatial and temporal) of disturbance (may require survey). Effects on metapopulations. Extent of impact on habitats and how it can be mitigated. Extent to which impacts can be mitigated.
River Nanny Estuary and Shore	Disturbance from recreation/development Water quality.	<ul style="list-style-type: none"> Location of proposed development relative to known bird roosting/feeding/breeding grounds. Potential for activities causing disturbance. Potential for habitat loss. 	<ul style="list-style-type: none"> Extent (spatial and temporal) of disturbance (may require survey). Effects on metapopulations. Extent of impact on habitats and how it can be mitigated. Extent to which impacts can be mitigated.
Lough Sheelin	Disturbance from recreation/development Water quality.	<ul style="list-style-type: none"> Location of proposed development relative to known bird roosting/feeding/breeding grounds. Potential for activities causing disturbance. Potential for habitat loss. 	<ul style="list-style-type: none"> Extent (spatial and temporal) of disturbance (may require survey). Effects on metapopulations. Extent of impact on habitats and how it can be mitigated. Extent to which impacts can be mitigated.

Site	Sensitivity/threat	Screening for AA	AA data
River Boyne and Blackwater	Disturbance from recreation/development Water quality.	<ul style="list-style-type: none"> Location of proposed development relative to known Kingfisher territories and nesting sites. Potential for activities causing disturbance. Potential for habitat loss. 	<ul style="list-style-type: none"> Extent (spatial and temporal) of disturbance (may require survey). Extent of impact on habitats and how it can be mitigated. Extent to which impacts can be mitigated.
North Bull Island SPA	Indirect effects on shared metapopulations ³ .	<ul style="list-style-type: none"> Potential for proposal to have in-combination effect. 	<ul style="list-style-type: none"> Extent to which the proposal's role in the overall impact can be mitigated.
(South Dublin Bay) Sandymount Strand / River Tolka Estuary	Indirect effects on shared metapopulations.	<ul style="list-style-type: none"> Potential for proposal to have in-combination effect. 	<ul style="list-style-type: none"> Extent to which the proposal's role in the overall impact can be mitigated.
Baldoyle Bay	Indirect effects on shared metapopulations.	<ul style="list-style-type: none"> Potential for proposal to have in-combination effect. 	<ul style="list-style-type: none"> Extent to which the proposal's role in the overall impact can be mitigated.
Rogerstown Estuary	Indirect effects on shared metapopulations.	<ul style="list-style-type: none"> Potential for proposal to have in-combination effect. 	<ul style="list-style-type: none"> Extent to which the proposal's role in the overall impact can be mitigated.
(Malahide Estuary) Broadmeadow / Swords Estuary SPA	Indirect effects on shared metapopulations.	<ul style="list-style-type: none"> Potential for proposal to have in-combination effect. 	<ul style="list-style-type: none"> Extent to which the proposal's role in the overall impact can be mitigated.
Dundalk Bay SPA	Indirect effects on shared metapopulations.	<ul style="list-style-type: none"> Potential for proposal to have in-combination effect. 	<ul style="list-style-type: none"> Extent to which the proposal's role in the overall impact can be mitigated.
Lough Kinale and Derragh Lough SPA	Indirect effects on shared metapopulations.	<ul style="list-style-type: none"> Potential for proposal to have in-combination effect. 	<ul style="list-style-type: none"> Extent to which the proposal's role in the overall impact can be mitigated.
Garriskil Bog SPA	Indirect effects on shared metapopulations.	<ul style="list-style-type: none"> Potential for proposal to have in-combination effect. 	<ul style="list-style-type: none"> Extent to which the proposal's role in the overall impact can be mitigated.
Lough Derragh-varragh SPA	Indirect effects on shared metapopulations. ³	<ul style="list-style-type: none"> Potential for proposal to have in-combination effect. 	<ul style="list-style-type: none"> Extent to which the proposal's role in the overall impact can be mitigated.
Lough Ennell SPA	Indirect effects on shared metapopulations. Likely to be sharing populations with Lough Sheelin (within Meath).	<ul style="list-style-type: none"> Potential for proposal to have in-combination effect. 	<ul style="list-style-type: none"> Extent to which the proposal's role in the overall impact can be mitigated.

³ Spatially-separated populations of the same species that may interact at some level.

This Natura Impact Report records the decisions that were taken during the preparation of the County Development Plan 2013-2019. It determines that, assuming the successful implementation of the Policies and

Objectives, there will be no likely significant effects on Natura 2000 sites in County Meath and its environs by the adopted Plan in isolation or in combination with other Plans and Projects acting in the same area.

APPENDIX A

Table A1 Qualifying Interests and Threats to Key Conditions for Natura 2000 sites

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
CANDIDATE SPECIAL AREAS OF CONSERVATION				
Boyne Coast and Estuary	IE0001957	Atlantic salt meadows (Glauco-Puccinellietalia maritima)	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion & Accretion
		Embryonic shifting dunes	Dune-building grasses Elytrigia juncea and Leymus arenarius . Supply of windblown sand	Erosion, Walking horse riding and non-motorised vehicles, Trampling overuse, Sea defence or coastal protection works
		Estuaries	Supply of riverine freshwater. Unimpeded tidal flow. Shelter from open coasts. Diverse invertebrate communities.	Aquaculture, Recreational fishing, Housing development, Sewage outflow, Industrialisation, Autoroutes, Port/Marina, Water pollution, Reclamation of land, Drainage, Dredging, Invasion of Species
		Fixed coastal dunes with herbaceous vegetation (grey dunes)	Low wind, weakly saline conditions In shelter of Ammophila arenaria dunes. Grazing.	Erosion, Walking horse riding and non-motorised vehicles, Grazing, Undergrazing, Invasion by a species, Trampling, Overuse, Camping/Caravans, Agricultural Improvement/ Restructuring agricultural land holdings, Stock Feeding, Motorised Vehicles, Paths Tracks & Cycling Routes, Golf Courses, Fertilisation, Sea defences or coastal protection works,
		Mediterranean salt meadows (Juncetalia maritimi)	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion
		Mudflats and sandflats not covered by seawater at low tide	Silt deposits in sheltered estuaries.	Aquaculture, Professional fishing, Bait Digging, Removal of Fauna, Reclamation of Land, Coastal protection works, Invasion by a species
		Salicornia and other annuals colonizing mud and sand	Frequency of tidal submergence	Invasive Species, Erosion & Accretion, Grazing
		Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Supply of wind-blown sand.	Erosion, Walking/ Horse riding and non-motorised vehicles, Trampling - overuse, Motorised Vehicles

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
River Boyne and Blackwater	IE0002299	Alkaline fens	High water table. Ground -surface water supply. Calcium-rich conditions.	Agriculture & Land Reclamation, abstraction, Drainage, Turf Cutting, Afforestation
		Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	Riparian/lacustrine habitat prone to flooding	Grazing, Invasive Species, Drainage, Planting of non-native conifers, felling of native tree species
		Atlantic Salmon Salmo salar	Riverine habitat. Water quality (Q4-5). Riverbed breeding gravels. Quality riparian vegetation. Unhindered migratory routes.	Cultivation (Pesticides, Fertilisation, Grazing), Pollution (Water Pollution), Grazing, Trampling/Overuse, Erosion, Afforestation, Aquaculture, Fishing, Sand & Gravel Abstraction, Quarries, Peat Extraction, Mining, Urbanisation, canalisation, barriers, invasive species, introduction of diseases
		River Lamprey Lampetra fluviatilis	Riverine habitat. Water quality. Riverbed breeding gravels and silt nursery substrate. Unhindered migratory channels.	River Channel Maintenance.
		Otter Lutra lutra	Prey availability. Water Quality. Riparian vegetation for breeding sites. Unhindered passage along waterways.	Water Pollution, Mortalities/ Illegal Killings, Recreation/ Disturbances, Hydroelectric Schemes, Aquaculture/ fisheries, chemical spillages, American Mink
Rye Water Valley / Carton	IE0001398	Petrifying springs with tufa formation (<i>Cratoneurion</i>)	Calcium-rich, nutrient poor groundwater/ surface water supply.	Agriculture & Land Reclamation, Drainage, Afforestation
		Vertigo angustior	Stable wetland water table. Emergent vegetation. Groundwater supply. Lime-rich conditions.	Agriculture & Land Reclamation. Habitat loss due to roads, motorways and urbanisation. Raising of water through reopening of disused feeder canal.

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Rye Water Valley / Carton (cont)	IE0001398	Vertigo moulinsiana	Stable wetland water table. Emergent vegetation. Groundwater supply. Lime-rich conditions.	Climate Change, Flooding, Urbanisation (Habitat Encroachment, Pesticides, Fertilised, Grazing, Undergrazing, Afforestation, Stock Feeding, Burning, Peat Extraction, Communications Networks, Paths & Tracks, Walking/horse riding & non-motorised vehicles, Water Pollution, Landfill, Drainage, Modifying structures of inland watercourses.
Mount Hevey Bog	IE0002342	Active raised bogs	Surface water supply. Low nutrient, acidic conditions. Sphagnum spp.	Peat Cutting, Drainage Burning, Afforestation, Invasive Species
		Degraded raised bogs still capable of natural regeneration	Dessication from drainage.	Restructuring agricultural land holding, General Forestry Management, Burning, Mechanical Removal of Peat, Drainage, Invasion by Species
		Depressions on peat substrates of the Rhynchosporion	Peat cutting, Surface water supply	Drainage, Burning, Mechanical removal of peat, Overgrazing by sheep, Forestry Planting, Landfill land reclamation and drying out, climate change (Via habitat desiccation), Erosion, Invasion by species
White Lough, Ben Loughs and Lough Doo	IE0001810	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	Calcium rich, shallow, low nutrient waters.	Eutrophication, Overgrazing, Fertilisation, Afforestation, Invasive Alien Species, Sport & Leisure Activities, Housing Developments
		White clawed Crayfish Austropotamobius pallipes	Well oxygenated lakes/streams with high pH. Riparian/ lacustrine substrate of cobbles/ submerged vegetation.	Loss of Water Quality, Discharges: sewage effluent, Industrial discharges, organic compounds in water), Loss of Habitat Quality (cattle watering, trampling, infrastructural development, alteration of stream morphology by canalisation and dredging, eutrophication of rivers), Angling Leisure and introduction of species.
Lough Bane and Lough Glass	IE0002120	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	Calcium rich, shallow, low nutrient waters.	Eutrophication, Overgrazing, Fertilisation, Afforestation, Invasive Alien Species, Sport & Leisure Activities, Housing Developments, Abstraction.

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Killyconny Bog (Cloughbally)	IE0000006	Active raised bog	Surfacewater supply. Low nutrient acidic conditions. Sphagnum spp.	Peat Cutting, Drainage Burning, Afforestation, Invasive Species
		Degraded raised bogs still capable of natural regeneration	Dessication from drainage. Low moss cover.	Restructuring agricultural land holding, General Forestry Management, Burning, Mechanical Removal of Peat, Drainage, Invasion by Species
Monybeg and Clareisland Bogs	IE0002340	Active raised bogs	Surface water supply. Low nutrient, acidic conditions. Sphagnum spp.	Peat Cutting, Drainage Burning, Afforestation, Invasive Species
		Degraded raised bogs still capable of natural regeneration	Dessication from drainage.	Restructuring agricultural land holding, General Forestry Management, Burning, Mechanical Removal of Peat, Drainage, Invasion by Species
		Depressions on peat substrates of the Rhynchosporion	Peat cutting, Surface water supply	Drainage, Burning, Mechanical removal of peat, Overgrazing by sheep, Forestry Planting, Landfill land reclamation and drying out, climate change (Via habitat desiccation), Erosion, Invasion by species
Ardagullion Bog	IE0002341	Active raised bogs	Surface water supply. Low nutrient, acidic conditions. Sphagnum spp.	Peat Cutting, Drainage Burning, Afforestation, Invasive Species
		Degraded raised bogs still capable of natural regeneration	Dessication from drainage.	Restructuring agricultural land holding, General Forestry Management, Burning, Mechanical Removal of Peat, Drainage, Invasion by Species
		Depressions on peat substrates of the Rhynchosporion	Peat cutting, Surface water supply	Drainage, Burning, Mechanical removal of peat, Overgrazing by sheep, Forestry Planting, Landfill land reclamation and drying out, climate change (Via habitat desiccation), Erosion, Invasion by species

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Garriskil Bog	IE0000679	Active raised bogs	Surface water supply. Low nutrient, acidic conditions. <i>Sphagnum</i> spp.	Peat Cutting, Drainage Burning, Afforestation, Invasive Species
		Degraded raised bogs still capable of natural regeneration	Dessication from drainage.	Restructuring agricultural land holding, General Forestry Management, Burning, Mechanical Removal of Peat, Drainage, Invasion by Species
		Depressions on peat substrates of the Rhynchosporion	Peat cutting, Surface water supply	Drainage, Burning, Mechanical removal of peat, Overgrazing by sheep, Forestry Planting, Landfill land reclamation and drying out, climate change (Via habitat desiccation), Erosion, Invasion by species
Lough Lene	IE0002121	Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	Calcium rich, shallow, low nutrient waters.	Eutrophication, Overgrazing, Fertilisation, Afforestation, Invasive Alien Species, Sport & Leisure Activities, Housing Developments
		White clawed Crayfish <i>Austropotamobius pallipes</i>	Well oxygenated lakes/rivers with high pH. Riparian/ lacustrine substrate of cobbles/ submerged vegetation.	Loss of Water Quality, Discharges: sewage effluent, Industrial discharges, organic compounds in water), Loss of Habitat Quality (cattle watering, trampling, infrastructural development, alteration of stream morphology by canalisation and dredging, eutrophication of rivers), Angling Leisure and introduction of species.
Lough Ennell	IE0000685	Alkaline fens	High water table. Ground/ surface water supply. Calcium-rich, nutrient-rich conditions.	Agriculture & Land Reclamation, Drainage, Turf Cutting, Afforestation
Raheen-more Bog	IE0000582	Active raised bogs	Surface water supply. Low nutrient, acidic conditions. <i>Sphagnum</i> spp.	Peat Cutting, Drainage Burning, Afforestation, Invasive Species
		Degraded raised bogs still capable of natural regeneration	Dessication from drainage.	Restructuring agricultural land holding, General Forestry Management, Burning, Mechanical Removal of Peat, Drainage, Invasion by Species

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Raheen-more Bog (Cont)	IE0000582	Depressions on peat substrates of the Rhynchosporion	Peat cutting, Surface water supply	Drainage, Burning, Mechanical removal of peat, Overgrazing by sheep, Forestry Planting, Landfill land reclamation and drying out, climate change (Via habitat desiccation), Erosion, Invasion by species
The Long Derries, Edenderry	IE0000925	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia) (*important orchid sites)	Dry, shallow, calcium rich nutrient poor soils. Light grazing.	Encroachment by Pteridium aquilinum and woody shrub species, undergrazing, Fertiliser, Agricultural Improvement - cultivation, Abandonment of pastoral systems, sand and gravel extraction
Ballynafagh Bog	IE0000391	Active raised bogs	Surface water supply. Low nutrient, acidic conditions. Sphagnum spp.	Peat Cutting, Drainage Burning, Afforestation, Invasive Species
		Degraded raised bogs still capable of natural regeneration	Dessication from drainage.	Restructuring agricultural land holding, General Forestry Management, Burning, Mechanical Removal of Peat, Drainage, Invasion by Species
		Depressions on peat substrates of the Rhynchosporion	Peat cutting, Surface water supply	Drainage, Burning, Mechanical removal of peat, Overgrazing by sheep, Forestry Planting, Landfill land reclamation and drying out, climate change (Via habitat desiccation), Erosion, Invasion by species
Ballynafagh Lake	IE0001387	Alkaline fens	High water table. Ground/ surface water supply. Calcium-rich, nutrient-rich conditions.	Agriculture & Land Reclamation, Drainage, Turf Cutting, Afforestation
		Marsh Fritillary Euphydryas aurinia	Larval foodplant Succisa pratensis. Grassland sward structure. Water supply for damp conditions.	Changes in agricultural regimes, habitat loss roads, motorways Urbanised areas

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Ballynafagh Lake (Cont)	IE0001387	Whorl Snail Vertigo moulinsiana	Stable wetland water table. Emergent vegetation. Groundwater supply. Lime-rich conditions.	Climate Change, Flooding, Urbanisation (Habitat Encroachment, Pesticides, Fertilised, Undergrazing, Afforestation, Stock Feeding, Burning, Peat Extraction, Communications Networks, Paths & Tracks, Walking/ horse riding & non-motorised vehicles, Water Pollution, Landfill, Drainage, Modifying structures of inland watercourse. Raising water levels through reopening of disused feeder canal.
North Dublin Bay	IE0000206	Annual vegetation of drift lines	Sandy substrate. Physical impact and nutrient supply from tidal flow.	Grazing, Sand & Gravel extraction - Removal of Beach materials, Walking horse riding - non motorised vehicles, outdoor sports & motorised vehicles, other leisure & tourism impacts, Trampling overuse, sea defences & coastal protection works
		Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion & Accretion
		Embryonic shifting dunes	Dune-building grasses Elytrigia juncea and Leymus arenarius . Supply of windblown sand	Erosion, Walking horse riding and non-motorised vehicles, Trampling overuse, Sea defence or coastal protection works
		Fixed coastal dunes with herbaceous vegetation (grey dunes)	Low wind, weakly saline conditions In shelter of Ammophila arenaria dunes. Grazing.	Erosion, Walking horse riding and non-motorised vehicles, Grazing, Undergrazing, Invasion by a species, Trampling, Overuse, Camping/Caravans, Agricultural Improvement/ Restructuring agricultural land holdings, Stock Feeding, Motorised Vehicles, Paths Tracks & Cycling Routes, Golf Courses, Fertilisation, Sea defences or coastal protection works,
		Humid dune slacks	High water maintained by groundwater and impermeable soils. Grazing. Salinity.	Agricultural Improvement, Fertilisation, Grazing, Restructuring agricultural land holding, Forestry, Stock Feeding, Golf Course, Walking, horse riding and non-motorised vehicles, motorised vehicles, trampling/overuse, drainage, other human changes in hydraulic conditions, drying out, invasion by a species

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
North Dublin Bay (Cont)	IE0000206	Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion
		Mudflats and sandflats not covered by seawater at low tide	Silt deposits in sheltered estuaries.	Aquaculture, Professional fishing, Bait Digging, Removal of Fauna, Reclamation of Land, Coastal protection works, Invasion by a species
		Salicornia and other annuals colonizing mud and sand	Frequency of tidal submergence	Invasive Species, Erosion & Accretion, Grazing
		Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Supply of wind-blown sand.	Erosion, Walking/ Horse riding and non-motorised vehicles, Trampling - overuse, Motorised Vehicles
		Petalwort <i>Petalophyllum ralfsii</i>	Lime-rich sandy habitat. Overgrazing. Water supply for damp conditions.	Grazing Imbalance, Physical Disturbance, Pollution, Desiccation, trampling from stock and recreation, changes in land use.
Baldoyle Bay	IE0000199	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion
		Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	Frequency of tidal submergence	Aquaculture, Professional fishing, Bait Digging, Removal of Fauna, Reclamation of Land, Coastal protection works, Invasion by a species
		Mudflats and sandflats not covered by seawater at low tide	Diverse invertebrate communities. Silt deposits in sheltered estuaries.	Invasive Species, Erosion & Accretion, Grazing
		Salicornia and other annuals colonizing mud and sand	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion
Malahide Estuary	IE0000205	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion & Accretion
		Fixed coastal dunes with herbaceous vegetation (grey dunes)	Low wind, weakly saline conditions In shelter of <i>Ammophila arenaria</i> dunes. Grazing.	Erosion, Walking horse riding and non-motorised vehicles, Grazing, Undergrazing, Invasion by a species, Trampling, Overuse, Camping/Caravans, Agricultural Improvement/ Restructuring agricultural land holdings, Stock Feeding, Motorised Vehicles, Paths Tracks & Cycling Routes, Golf Courses, Fertilisation, Sea defences or coastal protection works,

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Malahide Estuary (Cont)	IE0000205	Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion
		Mudflats and sandflats not covered by seawater at low tide	Silt deposits in sheltered estuaries.	Aquaculture, Professional fishing, Bait Digging, Removal of Fauna, Reclamation of Land, Coastal protection works, Invasion by a species
		Salicornia and other annuals colonizing mud and sand	Frequency of tidal submergence	Invasive Species, Erosion & Accretion, Grazing
		Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Supply of wind-blown sand.	Erosion, Walking/ Horse riding and non-motorised vehicles, Trampling - overuse, Motorised Vehicles
		Spartina swards (<i>Spartinion maritimae</i>)	Frequency of tidal submergence. Supply of mud sediment on seaward edge of saltmarsh.	Erosion (Non-Native Habitat)
Rogers-town Estuary	IE0000208	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion & Accretion
		Estuaries	Supply of riverine freshwater. Unimpeded tidal flow. Shelter from open coasts. Diverse invertebrate communities.	Aquaculture, Recreational fishing, Housing development, Sewage outflow, Industrialisation, Autoroutes, Port/Marina, Water pollution, Reclamation of land, Drainage, Dredging, Invasion of Species
		Fixed coastal dunes with herbaceous vegetation (grey dunes)	Low wind, weakly saline conditions In shelter of Ammophila arenaria dunes. Grazing.	Erosion, Walking horse riding and non-motorised vehicles, Grazing, Undergrazing, Invasion by a species, Trampling, Overuse, Camping/Caravans, Agricultural Improvement/ Restructuring agricultural land holdings, Stock Feeding, Motorised Vehicles, Paths Tracks & Cycling Routes, Golf Courses, Fertilisation, Sea defences or coastal protection works,
		Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion
		Mudflats and sandflats not covered by seawater at low tide	Silt deposits in sheltered estuaries.	Aquaculture, Professional fishing, Bait Digging, Removal of Fauna, Reclamation of Land, Coastal protection works, Invasion by a species

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Rogers-town Estuary (Cont)	IE0000208	Salicornia and other annuals colonizing mud and sand	Frequency of tidal submergence	Invasive Species, Erosion & Accretion, Grazing
		Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Supply of wind-blown sand.	Erosion, Walking/ Horse riding and non-motorised vehicles, Trampling - overuse, Motorised Vehicles
Clogher Head	IE0001459	European dry heaths	Free-draining nutrient poor acid soils. Grazing and burning.	Agricultural Improvements, Removal of Scrub, Cultivation, Fertilisation, Over Grazing by sheep, Burning, Invasion by Species, Vandalism,
		Vegetated sea cliffs of the Atlantic and Baltic coasts	Flat topography on coastal cliff bedrock. High pH influence of sands and seabird guano	Fertilisation, Grazing, Overgrazing, Restructuring agricultural land holding, Burning, Disposal of household waste, Golf Course, Trampling overuse, Sea defences/ coastal protection works, Erosion
Dundalk Bay	IE0000455	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion & Accretion
		Estuaries	Supply of riverine freshwater. Unimpeded tidal flow. Shelter from open coasts.	Aquaculture, Recreational fishing, Housing development, Sewage outflow, Industrialisation, Autoroutes, Port/Marina, Water pollution, Reclamation of land, Drainage, Dredging, Invasion of Species
		Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	Frequency of tidal submergence	Grazing, Infilling & Reclamation, Invasive Species, Erosion
		Mudflats and sandflats not covered by seawater at low tide	Silt deposits in sheltered estuaries.	Aquaculture, Professional fishing, Bait Digging, Removal of Fauna, Reclamation of Land, Coastal protection works, Invasion by a species
		Perennial vegetation of stony banks	Cobble substrate. Tidal levels. Sediment supply from wind and waves.	Sand & Gravel extraction - Removal of Beech Materials, Infrastructure development
		Salicornia and other annuals colonizing mud and sand	Frequency of tidal submergence	Invasive Species, Erosion & Accretion, Grazing
Rockabill to Dalkey Island	Unknown	Reefs and Harbour Porpoise <i>Phocoena phocoena</i>	Marine currents, food supply for Porpoises.	Underwater noise and vibration, aquaculture, dredging and dumping at sea.

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
SPECIAL PROTECTION AREAS				
Boyne Estuary	[004080]	Shelduck (Tadorna tadorna)	Food availability (intertidal flora and fauna/pasture/ cereal). Undisturbed coastal roosting sites close to feeding sites.	Infilling of Intertidal mudflats, Pollution from Drogheda town, hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Oystercatcher (Haematopus ostralegus)	Food availability (intertidal fauna/ pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.	
		Golden Plover (Pluvialis apricaria)		
		Grey Plover (Pluvialis squatarola)		
		Lapwing (Vanellus vanellus)		
		Knot (Calidris canutus)		
		Sanderling (Calidris alba)		
		Black-tailed Godwit (Limosa limosa)		
		Redshank (Tringa totanus)		
		Turnstone (Arenaria interpres)		
		Little Tern (Sterna albifrons)	Sea level. Natural/ artificial nest site availability. Undisturbed breeding sites. Regularity of extreme weather events. Marine prey availability (sand eel). Predation	
		Wetlands & Waterbirds	-	
River Nanny Estuary and Shore	[004158]	Oystercatcher (Haematopus ostralegus)	Food availability (intertidal fauna/ pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.	Infilling of Intertidal mudflats, Pollution from upstream urbanisation, hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Ringed Plover (Charadrius hiaticula)		
		Knot (Calidris canutus)		
		Sanderling (Calidris alba)		
		Wetlands & Waterbirds	-	

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Lough Sheelin	[004065]	Great Crested Grebe (Podiceps cristatus)	Fish/crustacean/vegetation availability in shallow inshore/freshwaters. Undisturbed, ice-free marine/freshwater feeding grounds.	Eutrophic conditions, phosphorus inputs to the feeder streams entering the lake. Disturbance from recreational and wildfowling activities.
		Pochard (Aythya ferina)		
		Tufted Duck (Aythya fuligula)		
		Goldeneye (Bucephala clangula)		
		Wetlands & Waterbirds	-	
River Boyne and Blackwater	[004232]	Kingfisher (Alcedo atthis)	Marine/freshwater food availability. Undisturbed soft substrate riparian nest sites. Regularity of extreme weather. Water quality.	Disturbance from riverside recreation, loss of nest sites due to bankside interference. Loss of riparian scrub and woodland.
Stabannan Bragans-town	[004091]	Greylag Goose (Anser anser)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.	Infilling of habitats, Pollution from upstream urbanisation, hard coastal developments. Disturbance from recreational activities.
North Bull Island [004006]		Light-bellied Brent Goose (Branta bernicla hrota)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.	Infilling of Intertidal mudflats, Pollution from upstream urbanisation, hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Shelduck (Tadorna tadorna)	Food availability (intertidal flora and fauna/pasture/ cereal). Undisturbed coastal roosting sites close to feeding sites.	
		Teal (Anas crecca)	Food availability (intertidal flora and fauna/pasture/ cereal). Undisturbed freshwater/coastal roosting sites close to feeding sites.	

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
North Bull Island (Cont)	[004006]	Pintail (Anas acuta)	Food availability (intertidal flora and fauna/pasture/ cereal). Undisturbed freshwater/coastal roosting sites close to feeding sites.	Infilling of Intertidal mudflats, Pollution from upstream urbanisation, hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Shoveler (Anas clypeata)		
		Oystercatcher (Haematopus ostralegus)	Food availability (intertidal fauna/ pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.	
		Grey Plover (Pluvialis squatarola)		
		Knot (Calidris canutus)		
		Sanderling (Calidris alba)		
		Black-tailed Godwit (Limosa limosa)		
		Bar-tailed Godwit (Limosa lapponica)		
		Curlew (Numenius arquata)		
		Redshank (Tringa totanus)		
		Turnstone (Arenaria interpres)		
		Golden Plover (Pluvialis apricaria)		
		Black-headed Gull (Chroicocephalus ridibundus)		
		Dunlin (Calidris alpina)	Food availability (intertidal fauna/ pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.	
		Wetlands & Waterbirds	-	

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
(South Dublin Bay) Sandymount Strand / River Tolka Estuary	[004024]	Light-bellied Brent Goose (Branta bernicla hrota)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.	Infilling of Intertidal mudflats, Pollution from upstream urbanisation, hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Oystercatcher (Haematopus ostralegus)	Food availability (intertidal fauna/ pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.	
		Ringed Plover (Charadrius hiaticula)		
		Golden Plover (Pluvialis apricaria)		
		Knot (Calidris canutus)		
		Sanderling (Calidris alba)		
		Bar-tailed Godwit (Limosa lapponica)		
		Redshank (Tringa totanus)		
		Roseate Tern (Sterna dougallii)	Sea level. Natural/ artificial nest site availability. Undisturbed breeding sites. Regularity of extreme weather events. Marine prey availability (sand eel). Predation	
		Common Tern (Sterna hirundo)		
		Arctic Tern (Sterna paradisaea)		
Baldoyle Bay	[004016]	Light-bellied Brent Goose (Branta bernicla hrota)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.	Infilling of Intertidal mudflats, Pollution from upstream urbanisation, hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Shelduck (Tadorna tadorna)	Food availability (intertidal flora and fauna/pasture/ cereal). Undisturbed coastal roosting sites close to feeding sites.	

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Baldoyle Bay (Cont)	[004016]	Ringed Plover (Charadrius hiaticula)	Food availability (intertidal fauna/ pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.	Infilling of Intertidal mudflats, Pollution from upstream urbanisation, hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Grey Plover (Pluvialis squatarola)		
		Bar-tailed Godwit (Limosa lapponica)		
		Golden Plover (Pluvialis apricaria)		
		Wetlands & Waterbirds	-	
Rogerstown Estuary	[004015]	Greylag Goose (Anser anser)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.	Infilling of Intertidal mudflats, Pollution from upstream urbanisation, hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Light-bellied Brent Goose (Branta bernicla hrota)		
		Shelduck (Tadorna tadorna)	Food availability (intertidal flora and fauna/pasture/ cereal). Undisturbed freshwater/coastal roosting sites close to feeding sites.	
		Shoveler (Anas clypeata)		
		Oystercatcher (Haematopus ostralegus)	Food availability (intertidal fauna/ pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.	
		Ringed Plover (Charadrius hiaticula)		
		Grey Plover (Pluvialis squatarola)		
		Knot (Calidris canutus)		
		Black-tailed Godwit (Limosa limosa)		
		Redshank (Tringa totanus)		

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Skerries Islands	[004122]	Shag (Phalacrocorax aristotelis)	Fish/crustacean/vegetation availability in shallow inshore/freshwaters. Undisturbed, ice-free marine/freshwater feeding grounds and roosting sites.	Invasive predatory species (Rats, birds, foxes). Offshore pollution (chemical spillages).
		Light-bellied Brent Goose (Branta bernicla hrota)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.	
		Purple Sandpiper (Calidris maritima)	Food availability (intertidal fauna/ pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.	
		Turnstone (Arenaria interpres)		
(Malahide Estuary) Broadmeadow / Swords Estuary	[004025]	Great Crested Grebe (Podiceps cristatus)	Fish/crustacean prey availability in shallow inshore waters. Undisturbed, ice-free marine/freshwater feeding grounds.	Infilling of Intertidal mudflats, Pollution from upstream urbanisation (Broadmeadow River & Sewage Plants at Swords & Malahide), hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Light-bellied Brent Goose (Branta bernicla hrota)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.	
		Shelduck (Tadorna tadorna)	Food availability (intertidal invertebrates and vegetation). Undisturbed coastal roosting sites close to feeding sites.	

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
(Malahide Estuary) Broadmeadow / Swords Estuary (Cont)		Pintail (Anas acuta)	Food availability (intertidal flora and fauna/pasture/ cereal). Undisturbed coastal roosting sites close to feeding sites.	Infilling of Intertidal mudflats, Pollution from upstream urbanisation (Broadmeadow River & Sewage Plants at Swords & Malahide), hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Goldeneye (Bucephala clangula)		
		Red-breasted Merganser (Mergus serrator)	Fish/crustacean prey availability in shallow inshore waters. Undisturbed, ice-free marine/ freshwater feeding grounds.	
		Oystercatcher (Haematopus ostralegus)	Food availability (intertidal fauna/ pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.	
		Golden Plover (Pluvialis apricaria)		
		Grey Plover (Pluvialis squatarola)		
		Knot (Calidris canutus)		
		Black-tailed Godwit (Limosa limosa)		
		Bar-tailed Godwit (Limosa lapponica)		
		Redshank (Tringa totanus)		
		Wetlands & Waterbirds	-	
Dundalk Bay	[004026]	Great Crested Grebe (Podiceps cristatus)	Fish/crustacean/ vegetation availability in shallow inshore/ freshwaters. Undisturbed, ice-free marine/ freshwater feeding grounds.	Infilling of Intertidal mudflats, Pollution (point-source and diffuse -agricultural and domestic), hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Greylag Goose (Anser anser)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.	
		Light-bellied Brent Goose (Branta bernicla hrota)		

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Dundalk Bay (Cont)	[004026]	Shelduck (Tadorna tadorna)	Food availability (intertidal flora and fauna/pasture/ cereal). Undisturbed coastal roosting sites close to feeding sites.	Infilling of Intertidal mudflats, Pollution (point-source and diffuse -agricultural and domestic), hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Teal (Anas crecca)		
		Mallard (Anas platyrhynchos)	Food availability (intertidal flora and fauna/pasture/ cereal). Undisturbed roosting sites close to feeding sites.	
		Pintail (Anas acuta)	Food availability (intertidal flora and fauna/pasture/ cereal). Undisturbed coastal roosting sites close to feeding sites.	
		Common Scoter (Melanitta nigra)	Fish/crustacean/ vegetation availability in shallow inshore/ freshwaters. Undisturbed, ice-free marine/ freshwater feeding grounds.	
		Red-breasted Merganser (Mergus serrator)		
		Oystercatcher (Haematopus ostralegus)	Food availability (intertidal fauna/ pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.	
		Ringed Plover (Charadrius hiaticula)		
		Golden Plover (Pluvialis apricaria)		
		Grey Plover (Pluvialis squatarola)		
		Lapwing (Vanellus vanellus)		
		Knot (Calidris canutus)		
		Dunlin (Calidris alpina)		
		Black-tailed Godwit (Limosa limosa)		
		Bar-tailed Godwit (Limosa lapponica)		

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Dundalk Bay (Cont)	[004026]	Curlew (Numenius arquata)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands. Undisturbed coastal roosting sites close to feeding areas.	Infilling of Intertidal mudflats, Pollution (point-source and diffuse -agricultural and domestic), hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Redshank (Tringa totanus)		
		Black-headed Gull (Chroicocephalus ridibundus)	Food availability (intertidal fauna/pasture/sewage). Coastal water quality.	
		Common Gull (Larus canus)	Marine prey availability. Wetland foraging area. Undisturbed roost site availability.	
		Herring Gull (Larus argentatus)	Coastal water quality.	
		Wetlands & Waterbirds	-	
Lough Kinale and Derragh Lough	[004061]	Pochard (Aythya ferina)	Fish/crustacean/vegetation availability in shallow inshore/freshwaters. Undisturbed, ice-free marine/freshwater feeding grounds.	Eutrophication. Siltation of shallow waters. Pollution (point-source and diffuse -agricultural and domestic), hard coastal developments. Disturbance from recreational activities at coast and offshore.
		Tufted Duck (Aythya fuligula)		
Garriskill Bog	[004102]	Merlin (Falco columbarius)	Moorland Prey availability. Undisturbed forested/moorland nest sites. Regularity of extreme weather. Water quality.	Drainage, modification of inland rivers, afforestation/deforestation, Restructuring agricultural land holding. Burning.
		Snipe (Gallinago gallinago)	Food availability (intertidal fauna/pasture). Flooding regime of coastal grasslands.	
		Curlew (Numenius arquata)	Undisturbed coastal roosting sites close to feeding areas.	
		Redshank (Tringa totanus)		

Site name	Site Number	Qualifying Interests	Key environmental conditions supporting site integrity	Threats to Key Conditions
Lough Derraghvarragh	[004043]	Whooper Swan (Cygnus cygnus)	Food availability (intertidal aquatic vegetation/ pasture/ crops). Undisturbed coastal roosting sites close to feeding sites. Grazing.	Infilling of Intertidal mudflats, Pollution (point-source and diffuse -agricultural and domestic), Disturbance from recreational and wildfowling activities.
		Pochard (Aythya ferina)	Fish/crustacean prey availability in shallow inshore waters. Undisturbed, ice-free marine/ freshwater feeding grounds.	
		Tufted Duck (Aythya fuligula)		
		Coot (Fulica atra)	Food availability (aquatic flora and fauna). Undisturbed freshwater roosting sites close to feeding sites.	
Lough Ennell	[004044]	Pochard (Aythya ferina)	Fish/crustacean/ vegetation availability in shallow inshore/ freshwaters. Undisturbed, ice-free marine/ freshwater feeding grounds.	Pollution (point-source and diffuse -agricultural and domestic), Increases in recreational activity.
		Tufted Duck (Aythya fuligula)		
		Coot (Fulica atra)		
Rockabill	[004014]	Roseate Tern (Sterna dougallii)	Sea level. Natural/ artificial nest site availability. Undisturbed breeding sites. Regularity of extreme weather events. Marine prey availability (sand eel). Predation	Invasive predatory species (Rats, birds, foxes). Offshore pollution (chemical spillages).
		Common Tern (Sterna hirundo)		
		Arctic Tern (Sterna paradisaea)		

APPENDIX B

Policy Guidance Note

Policy Guidance Note For the Protection of Natura 2000 sites

Rev 1.0

12th January 2012

How to use this Policy Guidance Note

This Note has been prepared at the commencement of the preparation of the new County Development Plan to help those preparing the new Plan in avoiding adverse impacts on Natura 2000 sites. It is an advisory note only and not exhaustive in its scope. It will be revised as the Plan is progressed further and more data is analysed.

Section 1 describes the Natura 2000 sites that have the potential to be adversely affected by the CPD. It lists the types of impacts that could affect each site. These are the impacts that should be avoided.

Section 2 lists the advice for planners on how to avoid impacts on these sites. It is divided into the sections that make up the draft CDP for ease of reference. Note that this Guidance note only relates to protection of Natura 2000 sites and not ecological features outside of them.

Section 3 provides policy guidance on how to maintain or safeguard specific conditions underpinning site integrity for each Qualifying Feature type found in Meath and its environs.

Section 1: Potential Impacts and current threats

As part of the Screening stage in the Appropriate Assessment process, the published Strategic Issues Paper and Manager's Report were interpreted as being the background for the Draft CDP. Potential sources of impacts were identified and linkages between these impacts and the integrity of the Natura 2000 sites within Meath and its environs were

subsequently highlighted. An informal meeting was held with NPWS staff on 11th December 2011 where the key issues surrounding each of the Natura 2000 sites were discussed, particularly in the context of current pressures on the Natura 2000 sites. The results of the Screening and this consultation exercise are presented below.

Site	Possible Impacts arising from the Plan	Specific Issues raised by NPWS (informal consultation)
Boyne Coast and Estuary	Coastal developments can threaten local water quality especially during construction. Coastal works can affect embryonic dunes which are sensitive to changes in coastal geomorphology. Any changes in the Boyne catchment leading to changes in water quality could affect condition of the habitats.	Bettystown: lack of car parking and toilets putting pressure on dunes and the beach. Potential threat of surface water run-off from newly developed and construction areas. Some issues regarding unauthorised local dumping of house and garden waste in estuary near to houses.
River Boyne and Blackwater	Water abstraction for potable water supply within catchment of alkaline fens. Direct and indirect impacts on alluvial forests, disturbance of otter holts and Bridges, aquaculture and other developments have potential to affect Salmon migration and spawning success.	Alkaline fen at Lough Shesk and surrounding Loughs in a relatively undeveloped area and not thought to be at risk. Riverside walks pose threat to alluvial woodland, otters and possibly Salmon and Lamprey if close to bank. Issues re Wastewater treatment plants discharging to the Boyne systems. Issues re permitted (but not implemented) abstraction from the Boyne at Navan that had no appropriate assessment. Also abstraction at Ballinter and Liscarton from R. Blackwater. Invasive species problems include Giant Hogweed, Japanese Knotweed, Cherry Laurel and Rhododendron.
Rye Water Valley / Carton	Water abstraction for potable water supply within catchment of springs. Species affected by changes to catchment including water quality and changes to flood regime.	Small area of the cSAC within Co Meath so only issues will be those occurring in the spring and river catchment that could affect water quality.
Mount Hevey Bog	Water abstraction, peat cutting, afforestation and drainage within the catchment of the bog could affect the local groundwater levels.	Turf cutting to cease.
White Lough, Ben Loughs and Lough Doo	Developments causing run-off of silt and nutrients or toxic spillages. Invasive species introduction by unregulated water activities. Changes in natural water levels by abstraction or changes to outflows can affect habitat extents.	Mostly agricultural issues that are controlled by other regulations.
Lough Bane and Lough Glass	Developments causing run-off of silt and nutrients or toxic spillages. Invasive species introduction by unregulated water activities. Changes in natural water levels by abstraction or changes to outflows can affect habitat extents.	Previous over abstraction now apparently solved and Lough recovered.
Killyconny Bog (Cloughbally)	Water abstraction, peat cutting, afforestation and drainage within the catchment of the bog could affect the local groundwater levels.	Turf cutting to cease.
Monybeg and Clareisland Bogs	Water abstraction, peat cutting, afforestation and drainage within the catchment of the bog could affect the local groundwater levels.	Some amenity issues on Lough Sheelin but otherwise no known significant risks.

Site	Possible Impacts arising from the Plan	Specific Issues raised by NPWS (informal consultation)
Lough Lene	Possible effects from development at County boundary including invasive species introductions, eutrophication.	No additional comments
North Dublin Bay cSAC	Possible impacts of inadequate capacity of Ringsend Wastewater Treatment Plant on local water quality and condition of habitats.	No additional comments
Baldoyle Bay cSAC	Impacts due to increased levels of recreational activities from nearby growth towns. Developments in catchment leading to cumulative changes in water quality.	No additional comments
Malahide Estuary cSAC	Impacts due to increased levels of recreational activities from nearby growth towns. Developments in catchment leading to cumulative changes in water quality.	No additional comments
Rogerstown Estuary cSAC	Impacts due to increased levels of recreational activities from nearby growth towns. Developments in catchment leading to cumulative changes in water quality.	No additional comments
Clogher Head cSAC	Impacts due to increased levels of recreational activities from nearby growth towns. Developments in catchment leading to cumulative changes in water quality.	No additional comments
Boyne Estuary	Impacts due to increased levels of recreational activities from nearby growth towns. Developments in Boyne catchment leading to cumulative changes in water quality.	Problem of recreational disturbance of Little Tern colony at Baltray (Louth) and their feeding grounds in the estuary due to jet-ski activity.
River Nanny Estuary and Shore	Impacts due to increased levels of recreational activities from nearby growth towns. Developments in River Nanny catchment leading to cumulative changes in water quality. Impacts of proposed port development at Bremore (potential direct/indirect habitat loss, offshore impacts, coastal disturbance).	Apart from Laytown, little development pressure. Some fields used by birds that are outside of the SPA and could be developed. Future redevelopment of Military camp site may need to be considered. Generally not a high amenity area but some impacts of dog-walking disturbance on wintering birds.
Lough Sheelin	Impacts due to increased levels of recreational activities (angling, water/shore based activities) from nearby growth towns. Developments in catchment giving rise to increased levels of sediment and nutrients in runoff.	Little amenity risk at present, some car parking. Problems of piggery impacts (IPPC licence controlled).
River Boyne and Blackwater	Kingfisher nesting sites may be affected by increased levels of recreational activities, construction of riverside boardwalks, removal of riparian woodland and alteration of watercourses and flooding regime.	Canoeing at Slane bridge and upstream unlikely to be a source of disturbance to Kingfisher unless new development associated with recreation occurred near to nesting sites. Need to address streams entering main channel and the potential for areas outside the SPA (e.g. Canal) to be supporting features to the SPA. Riverside walks pose threat to nesting sites if not correctly located or designed.

Site	Possible Impacts arising from the Plan	Specific Issues raised by NPWS (informal consultation)
North Bull Island SPA	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Shelduck, Black-tailed Godwit, Golden Plover and others). Possible impacts of inadequate capacity of Ringsend Wastewater Treatment Plant on local water quality and condition of habitats. No direct impacts likely.	No additional comments
(South Dublin Bay) Sandymount Strand / River Tolka Estuary	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Golden Plover and others). Possible impacts of inadequate capacity of Ringsend Wastewater Treatment Plant on local water quality and condition of habitats. No direct impacts likely.	No additional comments
Baldoyle Bay	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Golden Plover and others). Impacts due to increased levels of recreational activities from nearby growth towns. No direct impacts likely.	No additional comments
Rogerstown Estuary	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Shelduck, Black-tailed Godwit and others). Delvin Catchment is outside of Co. Meath. No direct impacts likely.	No additional comments
(Malahide Estuary) Broadmeadow / Swords Estuary SPA	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Great Crested Grebe, Shelduck, Golden Plover, Black-tailed Godwit) and others. Impacts due to increased levels of recreational activities from nearby growth towns in the Metropolitan area of the County. No direct impacts likely.	No additional comments
Dundalk Bay SPA	Population dynamics of some birds may be affected indirectly by direct impacts on other sites within Meath that also support these species (Great Crested Grebe, Shelduck, Golden Plover, Black-tailed Godwit) and others. No direct impacts likely.	No additional comments
Lough Kinale and Derragh Lough SPA	Likely to be sharing populations with Lough Sheelin (within Meath). Population dynamics of some species may be affected indirectly by impacts on Lough Sheelin that also supports these species (Pochard, Tufted Duck). No direct impacts likely.	No additional comments

Site	Possible Impacts arising from the Plan	Specific Issues raised by NPWS (informal consultation)
Garriskil Bog SPA	Population dynamics of Redshank may be affected indirectly by direct impacts on other sites within Meath that also support this species. No direct impacts likely.	No additional comments
Lough Derraghvarragh SPA	Likely to be sharing populations with Lough Sheelin (within Meath). Population dynamics of some species may be affected indirectly by impacts on Lough Sheelin that also supports these species (Pochard, Tufted Duck). No direct impacts likely.	No additional comments
Lough Ennell SPA	Likely to be sharing populations with Lough Sheelin (within Meath). Population dynamics of some species may be affected indirectly by impacts on Lough Sheelin that also supports these species (Pochard, Tufted Duck). No direct impacts likely.	No additional comments

Section 2: Recommendations for each Section in the Development Plan

This section provides some preliminary recommendations to be included as text, policies or objectives in the emerging CDP. Some of these measures may be more relevant to the Development Management Guidelines

and Standards Chapter as they may relate to potential planning conditions.

2.1

Policy Context

2.1.1

Include reference to the role of the Council as competent authority for carrying out appropriate assessments under the EC Habitats and Birds Directives. This role applies to the preparation of this County Development Plan but also to all other plans and projects that may have likely significant effects on the integrity of Natura 2000 sites.

2.1.2

State the CDP will be consistent with the recommendation contained as mitigation measures in the Habitats Directive Assessment of the Regional Planning Guidelines.

2.1.3

Highlight the legal requirement that all plans and projects that are proposed as a result of the CDP should be screened according to Article 6 of the Habitats and an appropriate assessment carried out where necessary. Highlight that policies and objectives in this CDP may help in determining if a full (Stage 2) Appropriate Assessment is required. There is no need to re-state this requirement throughout the rest of the CDP as this is now enshrined in law.

2.2

Settlement Strategy

2.2.1

Settlement patterns should be proposed that take account of the indirect effects of local population increases on Natura 2000 sites. This is particularly important with regard to physical disturbance of riparian (riverbanks) habitat and sensitive coastal habitats such as sand dunes. Birds such as Kingfisher and wildfowl (e.g. overwintering geese) are vulnerable to pedestrian and motorised craft disturbance. Policies that have any locational component should take account of known Kingfisher territories and breeding sites and should recommend that in any of these areas that breeding surveys should be carried out and any relevant proposed developments should be correctly designed to avoid these areas. If areas cannot be avoided, as the spatial extent of the constraints may be too large, then mitigation measures should be proposed such as buffer zones from the river, design of footpath, locations and design of moorings etc.

2.2.2

Ensure that settlement patterns include the concurrent provision of appropriate services such as recreation, water supply and treatment facilities. The location of such facilities, the resources they use and their ecological impacts can have adverse effects on the integrity of Natura 2000 sites if inadequately designed or located. The location of any lands zoned for development within 200m of the Boyne cSAC, or lands within its floodplain or within 5km upstream, should be scrutinised for their potential for interaction with the Boyne ecosystem. Whilst zoning lands within this buffer is not precluded, any planning applications within these high-risk areas are likely to require a full appropriate assessment (Stage 2 AA). This assessment would have to prove that the development can be constructed and operated:

- Without resulting in runoff of contaminated surface water to the Boyne or any of its tributaries;
- Without loss of any alluvial woodland (requiring a specialist survey to map this habitat type within the zone of influence of the proposed development)

- Without causing loss of or disturbance to Kingfisher and their breeding and feeding places.
- Without affecting the passage of salmon, lamprey and otters or disturbing their feeding, resting, breeding and nursery areas

In some cases this may require avoidance of areas for zoning.

2.2.3

Ensure that settlement that may result in direct or indirect increase in sewage takes place only in areas served by Wastewater Treatment Plants with the capacity to accommodate extra loadings. Development that would add extra loading to a WWTP that is at or over-capacity and drains into a catchment containing a Natura 2000 site that is dependent on good water quality cannot be promoted. Policies which may wish to do so must be strongly caveated that the WWTP must be upgraded to allow treated effluent meet the water quality standard required by the catchment and the Natura 2000 site, before any additional development takes place. Several local authorities now refuse planning applications on the basis that there is no capacity for sewage treatment. Policies that rely upon good intentions to commit to upgrading plants within the lifetime of the Plan cannot be used as mitigation measures, as experience has shown that economic changes can override these intentions. These types of caveats in Plans are no longer acceptable unless there is funding and contractual arrangements in place.

2.2.4

Similar precautions must be made for water abstraction if it occurs within the catchment of any of the Natura 2000 sites that rely on water quality and volume. It cannot be assumed that water abstraction is sustainable without the relevant appropriate assessment being carried out.

2.2.5

Specific linkages between settlements and Natura 2000 sites are shown below:

Settlement	Natura 2000 site
Kilcock & Maynooth Environs	Rye Water/Cartron cSAC
Drogheda (Environs)	Boyne Estuary SPA, Boyne Coast and Estuary cSAC
Navan	River Boyne and Blackwater cSAC and SPA
Kells	River Boyne and Blackwater cSAC and SPA
Trim	River Boyne and Blackwater cSAC and SPA
Athboy	River Boyne and Blackwater cSAC and SPA
Laytown	River Nanny Estuary and Shore SPA
Bettystown	River Boyne and Blackwater cSAC and SPA
Mornington East	Boyne Estuary SPA, Boyne Coast and Estuary cSAC
Stamullen	close to River Nanny Estuary and Shore SPA
Ballivor	River Boyne and Blackwater cSAC and SPA
Longwood	>5km upstream of River Boyne and Blackwater cSAC and SPA
Slane	River Boyne and Blackwater cSAC and SPA
Carnaross	River Boyne and Blackwater cSAC and SPA
Carlanstown	>5km upstream of River Boyne and Blackwater cSAC and SPA
Donacarney	near Boyne Estuary SPA, Boyne Coast and Estuary cSAC
Donore	near River Boyne and Blackwater cSAC and SPA
Gormanston	close to River Nanny Estuary and Shore SPA
Julianstown	close to River Nanny Estuary and Shore SPA
Mornington	Boyne Estuary SPA, Boyne Coast and Estuary cSAC
Moynalty	>5km upstream of River Boyne and Blackwater cSAC and SPA

2.3 Economic Development

2.3.1

Generally the assessment of impacts of economic development will take place in response to individual policy proposals. As a general rule, specific proposals for economic development in urban centres will have to

have regard to the sensitivities of the Natura 2000 sites as indicated in the Screening report. Specific regard should be paid to how the development will be sustained by water supply and wastewater treatment facilities.

2.4 Infrastructure

2.4.1

Infrastructure proposals that have a spatial reference plan should take into the account the sensitivities of the Natura 2000 sites.

2.4.2

A policy of preferring to avoid locating any potentially-damaging infrastructure within/through within Natura 2000 sites is recommended. This may not be possible (e.g. the Boyne spans the whole County) and where this is the case then appropriate mitigation may be required.

2.4.3

Specific policy advice is given to the following infrastructure types:

- (a) Public Transport (Bus & Rail), Walking & Cycling.
 - will need to ensure consistency with NTA 2030 Vision AA.
 - Ensure that new cycle routes along the Boyne and coastline address the potential to cause habitat loss and visual disturbance of qualifying interest habitats and species and therefore are likely to require a Stage 2 AA.
 - Promote policies that allow pedestrian access to certain areas of Natura 2000 sites for sustainable appreciation of their value.
- (b) Roads Infrastructure
 - Promote the preferential avoidance of Natura 2000 sites in new road schemes and highlight the need to address construction impacts when within 2km of a Natura 2000 site.

- Promote the need to address the fragmentation of green infrastructure/ ecological corridors that connect Natura 2000 sites.
- Highlight the importance of considering the localised increase in Nitrogen oxides and subsequent acidification/ eutrophication effects on wetland and bogs sites downwind. Adopt the National Roads Authority guideline of looking at potential effects on Natura 2000 sites when located within 1km of the new road.

(c) Water Supply

- Promote the preferential avoidance of abstraction from Natura 2000 sites unless it can be proven that there are no risks to the integrity of the site (by carrying out an appropriate assessment) highlight the potential of long-range effects of abstraction from both surface and groundwater including sites outside of the County. Highlight the specific effects on fens and bogs.

(d) Wastewater treatment

- Include a policy that states that wastewater treatment plants discharging into the Boyne catchment or to coastal Natura 2000 sites are, where required suitably maintained and upgraded in advance of any additional loadings beyond their capacity in order to protect water quality.

- (e) Flooding
- Avoid a policy of flood relief along the Boyne that may impact on the flood regime required by alluvial woodland – a qualifying interest.
 - Avoid a policy of diverting or closed-culverting watercourses or drainage ditches as flood relief measures in and around Natura 2000 sites and promote use of open ditches.
 - Promote positive flood relief measures that can enhance habitats in the Boyne floodplain such as swales, constructed wetland basins etc.
- (f) Waste management
- Promote local waste disposal facilities close to housing areas including recycling banks to minimise the tendency to fly-tip.
- (g) Energy
- Ensure that any proposal for fracking or similar subsurface exploration is accompanied by an appropriate assessment that addresses the potential impacts on groundwater quality.
 - Ensure that proposals for biocrops within the Boyne catchment and the coastal strip consider the potential for spreads or hybridisation of native flora.
 - Ensure that any proposal for geothermal or similar subsurface exploration is accompanied by an appropriate assessment that addresses the potential impacts on groundwater quality.
 - Ensure that any proposal for hydro-energy in the Boyne catchment is accompanied by an appropriate assessment that addresses the potential impacts on passage of salmon and lamprey and the impacts on otters.
 - Ensure that any proposal for tidal or wave-energy projects is accompanied by an appropriate assessment that addresses the potential impacts on wintering birds, coastal habitats and their supporting ecosystems.
 - Promote a policy of preferential avoidance of siting wind energy projects in Natura 2000 sites, or sites that are on the flight lines of wintering birds unless it can be proven that there are no risks to the integrity of the sites (by carrying out an appropriate assessment).
 - Promote a policy of preferential avoidance of overhead lines in Natura 2000 sites, or sites that are on the flight lines of wintering birds unless it can be proven that there are no risks to the integrity of the sites (by carrying out an appropriate assessment).

2.5

Housing

2.5.1

Generally the assessment of impacts housing will take place in response to individual policy proposals. As a general rule, location-specific proposals for housing will have to have regard to the sensitivities of the Natura 2000 sites as indicated in the Screening report. Specific regard should be paid to how the development will be sustained by water supply and wastewater treatment facilities.

2.5.2

Promote careful consideration of the interface between housing areas and rural surroundings with respect to the potential for littering, light spill, trampling of sensitive habitats and disturbance of sensitive species.

2.6

Rural Development

2.6.1

Promote good practice with regard to the siting and design of septic tanks, the maintenance of existing tanks using a Register as deemed necessary. A high level of scrutiny should be placed on applications within 2km of watercourses in the Boyne catchment.

2.6.2

Place a high level of scrutiny on policies proposing groundwater abstraction within 2km of alkaline fen habitats in the Boyne cSAC. Applicants should be able to demonstrate that there will be no drawdown of the water table in the cSAC as a result of abstraction.

2.6.3

Policies should promote rural tourism that allow sustainable appreciation of the biodiversity value of the Natura 2000 sites. Careful control of tourism to ensure that the qualifying interests are not compromised or exploited to a level that threatens their integrity.

2.6.4

Promote a policy of avoidance of deforestation or commercial afforestation within the Natura 200 sites unless directly relating to

the management of the site for its qualifying interests.

2.6.5

Recognise that the Meath coastline is subject to natural geomorphological change and that longshore drift and areas of selective erosion and deposition are natural processes and should not be interfered with unless there are overriding reasons (which may be subject to appropriate assessment). Coastal development should take account of climate change and the interaction between the Natura 2000 qualifying interest habitats and species that may respond to rising seas levels and climatic changes.

2.6.6

Policies promoting sensitive landscaping in all developments should be promoted. In order to reduce the risk of spread of non-native flora into Natura 2000 sites and also other areas of nature conservation value, all landscaping proposals should have an emphasis on use of native species. MCC should include a list of invasive species that should not be proposed as part of landscaping schemes (refer to the **European Communities (Birds and Natural Habitats) Regulations 2011**).

2.7

Social Strategy

2.7.1

Policies promoting leisure and recreation should promote use of local open space and avoid forcing populations to the coastal sensitive areas.

2.7.2

For coastal population centres, policies should promote development of off-leash parks and bye-laws controlling dog walking in certain areas of the beaches at Mornington, Bettystown and Laytown. Whilst usually unpopular and hard to enforce, it can raise the awareness of the sensitivity of the beaches to disturbance.

2.7.3

For policies that promote watersports and use of jet skis, consideration must be made to allocating preferential areas of water for recreation and buoying these in certain seasons to prevent disturbance to birds.

2.7.4

Policies that promote that promote use of riverside walks along the Boyne cSAC and SPA, should ensure that any proposals are fully screened for their potential impacts on alluvial woodland, Kingfisher nesting and feeding sites and impacts on otter, salmon and lamprey. Any proposal must be designed to avoid sensitive areas.

2.8

Cultural Heritage and Landscape

2.8.1

Policies should be included to promote the protection on Natura 2000 sites and their supporting network of green infrastructure and also the areas designated as pNHAs that may help to support the qualifying interest species.

2.8.2

Policies to promote the re-use of raised bog habitat that has ceased being cut, as a community amenity should be encouraged. Suitable re-uses include nature trails and outdoor classrooms. Such proposals will have to undergo screening for appropriate assessment.

Section 3: Policies that will help to maintain Specific Conditions underpinning Site Integrity for each Qualifying Feature type.

The table below lists the qualifying interests found in the Natura 2000 sites in Meath and its environs. The second column suggests the policies that will help protect these features.

Qualifying feature	Policies to maintain site condition
Active raised bogs	Zoning within hydrogeological catchment to prevent lowering of the water table through excavation, mineral extraction or abstraction.
Degraded raised bogs still capable of natural regeneration	
Depressions on peat substrates of the Rhynchosporion	
Petrifying springs with tufa formation (Cratoneurion)	
Alkaline fens	
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)	Protect against loss due to riverside development, erosion caused by changes in flood regime and localised drying out by flood relief measures or floodplain changes.
Annual vegetation of drift lines	Protect against trampling by recreational activities and loss due to coastal protection works.
Perennial vegetation of stony banks	
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	Protect against trampling by recreational activities.
Mediterranean salt meadows (<i>Juncetalia maritimi</i>)	
Mudflats and sandflats not covered by seawater at low tide	Promote integrated coastal zone management to reduce risk of man-made changes in offshore currents.
Estuaries	
<i>Salicornia</i> and other annuals colonizing mud and sand	

Qualifying feature	Policies to maintain site condition
Embryonic shifting dunes	Protect against trampling by recreational activities. Promote use of formal footpaths through dunes in heavily used areas. Promote restoration of degraded dunes by use of innovative techniques.
Fixed coastal dunes with herbaceous vegetation (grey dunes)	
Humid dune slacks	
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	
Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	Promote protection of watercourses from contamination, nutrient run-off and care when promoting forestry or other activities that could in reduce nutrients into the ground and surface water.
Petalwort <i>Petalophyllum ralfsii</i>	Protect against trampling by recreational activities and changes to local water table.
Otter <i>Lutra lutra</i>	Protect rivers and riparian corridors from habitat loss and pollution. Ensure that proposed development within 50m of any watercourse in the Boyne catchment takes into account the potential for impacts on these species. Ensure that any bridges or other crossings allow free passage for these species along the river corridor.
River Lamprey <i>Lampetra fluviatilis</i>	
Atlantic Salmon <i>Salmo salar</i>	
White clawed Crayfish <i>Austropotamobius pallipes</i>	
<i>Vertigo angustior</i>	Zoning within hydrogeological catchment to prevent lowering of the water table through excavation, mineral extraction or abstraction. Promote protection of wetland sites.
<i>Vertigo moulinsiana</i>	
Bar-tailed Godwit (<i>Limosa lapponica</i>)	Protect coastal roosting sites close to feeding sites. Coastal zone management to protect against changes to flooding regime of coastal grasslands. Protect against localised pollution incidents. Protect against repeated disturbance due to pedestrians and dogs.
Black-tailed Godwit (<i>Limosa limosa</i>) Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	
Curllew (<i>Numenius arquata</i>)	
Dunlin (<i>Calidris alpina</i>)	
Golden Plover (<i>Pluvialis apricaria</i>)	
Grey Plover (<i>Pluvialis squatarola</i>)	
Knot (<i>Calidris canutus</i>)	
Lapwing (<i>Vanellus vanellus</i>)	
Oystercatcher (<i>Haematopus ostralegus</i>)	
Purple Sandpiper (<i>Calidris maritima</i>)	
Redshank (<i>Tringa totanus</i>)	
Ringed Plover (<i>Charadrius hiaticula</i>)	
Sanderling (<i>Calidris alba</i>)	
Common Gull (<i>Larus canus</i>)	
Common Scoter (<i>Melanitta nigra</i>)	

Qualifying feature	Policies to maintain site condition
Coot (Fulica atra)	<p>Protect coastal roosting sites close to feeding sites.</p> <p>Coastal zone management to protect against changes to flooding regime of coastal grasslands.</p> <p>Protect against localised pollution incidents.</p> <p>Protect against repeated disturbance due to pedestrians and dogs.</p>
Goldeneye (Bucephala clangula)	
Great Crested Grebe (Podiceps cristatus)	
Greylag Goose (Anser anser)	
Herring Gull (Larus argentatus)	
Kingfisher (Alcedo atthis)	
Light-bellied Brent Goose (Branta bernicla hrota)	
Pintail (Anas acuta)	
Pochard (Aythya ferina)	
Red-breasted Merganser (Mergus serrator)	
Shag (Phalacrocorax aristotelis)	
Shelduck (Tadorna tadorna)	
Shoveler (Anas clypeata)	
Teal (Anas crecca)	
Tufted Duck (Aythya fuligula)	
Turnstone (Arenaria interpres)	
Whooper Swan (Cygnus cygnus)	
Mallard (Anas platyrhynchos)	
Merlin (Falco columbarius)	Careful balance of forestry and heath management in breeding and feeding areas.