



Waterford County Development Plan 2011-2017

Plean Forbartha Chontae Phort Láirge 2011-2017



Volume 4 - Environmental Report



Waterford County Council



STRATEGIC ENVIRONMENTAL ASSESSMENT

STATEMENT

WATERFORD COUNTY DEVELOPMENT PLAN REVIEW

2011 - 2017

February 2011



**Waterford County Council
Comhairle Chontae Port Láirge**

SEA Statement

An Environmental Report was prepared by Waterford County Council on the potential significant environmental impacts of the Draft County Waterford Development Plan 2011-2017. Alternatives were considered for the future growth of the county that included continuing with existing amount of zoning in the County Development Plan 2005-2011 or reducing the area of zoned land in support of objectives in the Regional Planning Guidelines, Water Framework Directive and national energy policy. The preferred strategy was a reduction in zoned land to an area of 461 ha for residential development. Publication of the South East Regional Planning Guidelines 2010-2022 and provisions of the Planning Act 2000 (as amended) has stipulated the need for alignment of the Core Strategy with the Regional Planning Guidelines population thresholds and consequently a review of the Core Strategy contained in the Draft County Development Plan will commence in 2011.

The Environmental Report highlighted key environmental pressures in the county that include water quality with the need to restore surface water quality in Dungarvan Bay, and Waterford Estuary, groundwaters around the River Suir, bathing waters in Ardmore and Dunmore East, continued monitoring of public water supplies and provision of sufficient capacity in waste water treatment plants and the Seven Villages Scheme. The need to maintain water quality is key to conservation of biodiversity and water dependant habitats and species. Climate change impacts involving floodrisk and coastal erosion will also be required to be considered in future land use and development patterns in the county.

The Draft County Development Plan 2011-2017 and Environmental Report were put on public display from 23rd February 2010 until 4th May 2010. Submissions on the Environmental Report were received from the Office of Public Works (OPW), Department of Environment, Heritage and Local Government (DoEHLG) and the Environmental Protection Agency (EPA).

Amendments proposed to the Draft County Development Plan including amendments to existing policies and zonings and insertion of additional policies and objectives were screened for SEA. The SEA matrix did not any identify any significant negative impacts arising from the amended or additional policies contained in the Draft County Development Plan. Material Amendments and the Environmental Report including SEA screening matrix were put on display from the 27th October to the 24th of November 2010. Submissions were received from the Department of Environment, Heritage and Local Government (DoEHLG) and the Environmental Protection Agency (EPA).

Assessment of the policies and objectives in the Draft County Development Plan indicated that, in the main, the policies and objectives would not pose a significant

adverse impact on the environment. Positive impacts will be realised through policies for protection of wetlands as sites of local biodiversity interest and protection of floodplains in zoned settlements.

The findings of “uncertain” impacts on the range of Environmental objectives in the SEA matrix will be determined at a lower level of environmental assessment largely through EIA and AA at the project level. These assessments will involve application of Appropriate Assessment, landscape appraisal, archaeological and architectural heritage appraisal and flood risk assessment to accurately determine the impacts under the range of environmental headings.

The finding of uncertain impacts on Natura 2000 sites through the Appropriate Assessment process were addressed through the incorporation of amendments to Draft Plan policies and zonings as recommended in Appendix 1 and Appendix 2 of the AA report. This included exclusion of a tourism zoning proposed for an area of land at Bunmahon within the boundary of the Mid-Waterford Coast SPA.

Integration of environmental considerations into the final Plan is indicated in Table 1. below detailing the relevant Plan section and policy addressing key Environmental Topics detailed in the Environmental Report.

Key Environmental Issue		Relevant Co. Dev Plan policy
Water Quality	Surface Waters	Section 8.4
	Coastal & Estuarine Waters	Section 8.6
	Bathing Waters	Section 8,7 Obj ENV2
	Shellfish Waters	Section 8.15 CP6
	Groundwater	Section 8.4
	Drinking Water Quality	Section 7.15.1
	Waste Water	Section 7.15
	Water Conservation	Section 7.15
Biodiversity	Designated sites	Section 8 Policies NH1-NH7
	Local Biodiversity	Section 8.21
	Invasive Species	Section 8.26

Table 1. Integration of environmental issues in County Development Plan policies

Monitoring of any significant environmental effects arising from the County Development Plan 2011-2-17 will be carried out by Waterford County Council at the mid-term implementation review post adoption of the Plan. Data sources that will be used include, NPWS Article 17 Conservation Assessment Reports, EPA and local authority water quality data, OPW flood reports and EPA data on carbon emissions. The following key measures are proposed as part of the SEA process to monitor the effects on the environment of implementing the Waterford County Development Plan 2011-2017.

Environmental Objectives, Indicators and Targets

Biodiversity, Flora, Fauna					
Environmental Objectives	Indicators	Responsible Authority	Frequency of Monitoring	Targets	Intervention
<p>B1: Protect, conserve and enhance the diversity of habitats, species and areas of national or international importance, including aquatic habitats and species and promote the sustainable management of habitat networks.</p>	<p>Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive.</p>	<p>NPWS of DoEHLG</p>	<p>Every 6 years. Next report due in 2014</p>	<p>Maintenance of favourable conservation status¹ for all habitats and species protected under national and international legislation.</p>	<p>Loss of favourable conservation status of protected habitats and species</p>
	<p>Reproduction in Freshwater Pearl Mussel populations.</p>	<p>NPWS of DoEHLG</p>	<p>Every 6 years under Article 17 Next report due in 2014</p>	<p>Compliance with Catchment Plans for Freshwater Pearl Mussel. Compliance with Water Framework Directive River Basin District Management Plans.</p>	<p>Increased mortality of Freshwater Pearl Mussel populations Non-attainment of targets set out in RBDMPs</p>

Population and Human Health

Environmental Objectives	Indicators	Responsible Authority	Frequency of Monitoring	Targets	Intervention
P1: Facilitate a good standard of health for County Waterford's population through ensuring high quality residential, recreational and working environments and minimising water pollution.	Provision of employment, services and amenities within the county.	Central Government, IDA Ireland, Enterprise Ireland County Enterprise Board Waterford County Council	ESRI quarterly index Monthly Live Register CSO Ongoing	Increase in employment opportunities, services and public amenity within the county	Ongoing
	Quality of Shellfish Growing Areas in Waterford Estuary and Dungarvan Bay and implementation of Pollution Reduction Programmes for designated areas.	Marine Institute Water Quality Section, DoEHLG	PRPs reviewed every 3 years	No Shellfish Areas to be graded as Class C. Implementation of Pollution Reduction Programmes for designated areas.	Class C shellfish areas Non attainment of targets in PRPs
	Number of Blue Flag Beaches in the county	Waterford County Council EPA An Taisce	Annual	Restore Blue Flag Status to beaches that have lost Blue Flag.	Loss of Blue Flag Beach Status
P2: To reduce the risk of flooding and harm to people, property and the environment.	Properties at risk of flooding. Number of Development Plans Local Area Plans and Development applications subject to Strategic Flood Risk Assessment. Areas of lands zoned for	Waterford County Council OPW	Ongoing	Reduction in incidents of flood damage to properties. SFRA's completed for all Development Plans and Local Area Plans at review stage. Minimal area of land zoned for	Flooding incidents that cause damage to people, property and the environment

	vulnerable development in lands classified as Flood Zone A or B as defined in DoEHLG Guidelines on Planning and Flood Risk Management.			vulnerable development in flood zones A and B. Completion of CFRAMS for River Suir, SE and SW River Basin Districts	
Water					
Environmental Objectives	Indicators	Responsible Authority	Frequency	Targets	Intervention
<p>W1: Protect the quality of surface and ground waters as sources of drinking water and as valuable assets for amenity and recreation.</p> <p>W2: Achieve and maintain required water quality standards in the South East and South West River Basin Management Plans and associated Programme of Measures and reduce discharges of pollutants or contamination to waters.</p>	<p>Water quality monitoring results by the EPA for:</p> <p>Surface Water Ecological and Chemical Status. Trophic Status of Estuarine and Coastal Waters. Bathing Water Quality. Groundwater Quality. Drinking Water Quality.</p> <p>Number of Public Water Supplies on EPA Remedial Action List.</p> <p>EPA data under <i>Urban Waste Water Discharges in Ireland Population Equivalents Greater than 500 persons - Reports for the Years 2008 and 2009 and 2010-2011</i>. Agglomerations over 500 without Secondary Treatment.</p> <p>Number of Discharge Licences granted by EPA.</p>	EPA Waterford County Council	Annual	<p>Protect and Restore areas identified in the River Basin District Management Plan required to achieve “good” status, i.e. 4+ for water quality by 2015 in line with the Water Framework Directive objectives.</p> <p>Improvement or at least no deterioration in levels of compliance with drinking water quality standards and promotion to above national average compliance rate.</p> <p>Commission secondary treatment plants in areas with inadequate treatment and capacity for waste water.</p>	Deterioration in Water Quality Standards Non attainment of WFD standards and River Basin Management Plans

Air and Climate

Environmental Objectives	Indicators	Responsible Body	Frequency	Targets	Intervention
AC1: Support Implementation of National Climate Strategy 2007-2012.	National Level of Carbon Emissions.	EPA	Annual	20% reduction of greenhouse gas emissions from 1990 levels by 2020.	Ongoing efforts to reduce emissions
	Delivery of County Climate Change Strategy	Waterford Energy Bureau Waterford County Council	5 years	Full delivery of Co. Waterford Climate Change Strategy	Ongoing delivery of Climate Change Strategy
AC2: To improve travel choice and accessibility, reduce the need for travel by car and shorten the length and duration of journey	Average daily motor vehicle flow within county	Waterford County Council	Ongoing	To reduce road traffic in line with DoEHLG policy <i>Smarter Travel A Sustainable Transport Future</i>	Non-attainment of targets set out in <i>Smarter Travel A Sustainable Transport Future</i>
	Proportion of travel by mode	Dept. of Transport		Increase in length of cycle paths and foot paths in the county	
AC3: To increase energy efficiency and the proportion of energy generated from renewable sources in the county	Installed capacity for energy production from renewable source	Waterford Energy Bureau Waterford County Council		Increase in sources of energy production from renewable sources	Non-attainment of targets set out in National Climate Change Strategy and Waterford Climate Change Strategy

Cultural Heritage

Environmental Objectives	Indicators	Responsible Body	Frequency	Targets	Intervention
C1: Protect and conserve features of architectural and archaeological heritage.	Number of structures in RPS in relation to Ministerial Recommendations arising from NIAH County Inventory	DoEHLG NIAH Waterford County Council	Ongoing	To increase the number of Protected Structures in line with ministerial recommendations arising from NIAH surveys.	Damage to or loss of Protected Structures
	Number and range of ACAs designated in the county (townscape/demesne landscapes).	Waterford County Council	Ongoing	To increase the number and range of ACAs in the county to conserve both townscapes and demesne landscapes.	Damage to or loss of ACAs
	Number of Monuments in the RMP and areas of archaeological potential which have been recorded or subject to exploration as a result of development.	DoEHLG National Monuments Service	Ongoing	To maintain and increase the number of archaeological features recorded and protected.	
	Number of protected structures or archaeological monuments damaged due to development.	Owners		No damage occurring to structures or monuments due to development.	Damage to or loss of Protected structures or national monuments

Landscape					
Environmental Objectives	Indicators	Responsible Body	Frequency	Targets	Intervention
L1: Protect and conserve the quality, character and distinctiveness of landscape including uplands, waterway corridors, demesne and coastal landscapes and minimise negative visual impacts.	Area of landscape designated as scenic landscapes, sensitive and visually vulnerable.	Waterford County Council	6 yearly at Dev. Plan review	Increase in area in subject to landscape conservation.	Damage to or loss of scenic landscape value
	Preparation of Landscape Character Assessments		Once off	Preparation of a Landscape Character Assessment.	Review of County Development Plan
				Appropriate Heritage Appraisal and Landscape Capacity Assessment to inform any future development of uplands, waterway corridors, demesne and coastal landscapes.	Damage to or loss of landscape value
Soils and Geology					
Environmental Objectives	Indicators	Responsible Body	Frequency	Targets	Intervention
S1: Protect quality of soils and prevent erosion of soils and geological heritage sites in the county	EPA/Teagasc National Soils Mapping project.	EPA/Teagasc	Ongoing	Conservation of soil quality re organic matter.	Loss of soil quality and soil erosion
	Number/ Area of geological heritage sites mapped by Geological Survey of Ireland.	GSI	Ongoing	Retain/ increase number of geological heritage sites in the county.	Review of County Development Plan
Material Assets					
Environmental Objectives	Indicators	Responsible Body	Frequency	Targets	Intervention
MA1: Maintain the quality of and access to assets such as open spaces, water resources and all other physical and social infrastructure.	Access to public amenities and visitor numbers.	Waterford County Council Fáilte Ireland OPW	Ongoing	Increased visitor numbers to cultural heritage sites. Increased usage of Waterway Corridors as a public amenity.	Damage to or loss of sites of amenity value

STRATEGIC ENVIRONMENTAL ASSESSMENT

ENVIRONMENTAL REPORT

FOR

WATERFORD COUNTY DEVELOPMENT PLAN

2011-2017

February 2011



**Waterford County Council
Comhairle Chontae Port Láirge**

1 NON-TECHNICAL SUMMARY

- 1.1 INTRODUCTION
- 1.2 CONTENTS AND MAIN OBJECTIVES OF COUNTY DEVELOPMENT PLAN
- 1.3 CURRENT STATE OF THE ENVIRONMENT
 - 1.3.1 BIODIVERSITY, FLORA AND FAUNA
 - 1.3.2 POPULATION AND HUMAN HEALTH
 - 1.3.3 WATER
 - 1.3.4 AIR QUALITY AND CLIMATE
 - 1.3.5 GEOLOGY AND SOIL
 - 1.3.6 LANDSCAPE
 - 1.3.7 CULTURAL HERITAGE
 - 1.3.8 MATERIAL ASSETS
- 1.4 EXISTING ENVIRONMENTAL ISSUES
- 1.5 CONSIDERATION OF ALTERNATIVE STRATEGIES
- 1.7 LIKELY SIGNIFICANT EFFECTS ON THE ENVIRONMENT OF IMPLEMENTING THE COUNTY DEVELOPMENT PLAN AND MITIGATION MEASURES
- 1.8 MONITORING PROPOSALS

2 INTRODUCTION

- 2.1 BACKGROUND
- 2.2 STRATEGIC ENVIRONMENTAL ASSESSMENT
- 2.3 THE CONTENTS AND MAIN OBJECTIVES OF THE COUNTY DEVELOPMENT PLAN
- 2.4 RELATIONSHIP OF PLAN WITH OTHER RELEVANT PLANS
 - 2.4.1 INTRODUCTION- HIERARCHY OF STRATEGIC ACTIONS
 - 2.4.2 NATIONAL AND REGIONAL POLICY AND GUIDANCE
 - 2.4.3 INTERNATIONAL POLICY AND GUIDANCE

3 SEA METHODOLOGY

- 3.1 STEPS IN THE SEA PROCESS
- 3.2 DIFFICULTIES ENCOUNTERED IN COMPILING THE REQUIRED INFORMATION

4 CURRENT STATE OF THE ENVIRONMENT

- 4.1 INTRODUCTION
- 4.2 BIODIVERSITY, FLORA AND FAUNA
- 4.3 POPULATION AND HUMAN HEALTH
- 4.4 WATER
- 4.5 AIR AND CLIMATE
- 4.6 CULTURAL HERITAGE
- 4.7 LANDSCAPE
- 4.8 GEOLOGY AND SOIL

- 4.9 MATERIAL ASSETS
- 4.10 INTERRELATIONSHIPS BETWEEN ENVIRONMENTAL FACTORS
- 4.11 EVOLUTION OF THE ENVIRONMENT IN THE ABSENCE OF THE PLAN
- 4.12 SIGNIFICANT ENVIRONMENTAL ISSUES
- 4.13 CONSIDERATION OF ALTERNATIVE STRATEGIES

5 ENVIRONMENTAL PROTECTION OBJECTIVES RELEVANT TO THE PLAN

- 5.1 INTRODUCTION
- 5.2 ENVIRONMENTAL PROTECTION OBJECTIVES
 - 5.2.1 BIODIVERSITY, FLORA AND FAUNA
 - 5.2.2 POPULATION AND HUMAN HEALTH
 - 5.2.3 WATER
 - 5.2.4 AIR AND CLIMATE
 - 5.2.5 CULTURAL HERITAGE AND LANDSCAPE
 - 5.2.6 LANDSCAPE
 - 5.2.7 SOILS AND GEOLOGY
 - 5.2.8 MATERIAL ASSETS
- 5.3 USE OF ENVIRONMENTAL PROTECTION OBJECTIVES

6 STRATEGIC ENVIRONMENTAL ASSESSMENT OF COUNTY DEVELOPMENT PLAN

- 6.1 METHODOLOGY FOR ASSESSMENT AND DETERMINATION OF SIGNIFICANCE OF EFFECTS
- 6.2 SUMMARY OF LIKELY SIGNIFICANT EFFECTS OF IMPLEMENTING THE COUNTY DEVELOPMENT PLAN ON THE ENVIRONMENT AND MEASURES PROPOSED TO PREVENT, REDUCE OR OFFSET
 - 6.2.1 INTRODUCTION
 - 6.2.2 BIODIVERSITY, FLORA, FAUNA
 - 6.2.3 POPULATION AND HUMAN HEALTH
 - 6.2.4 WATER
 - 6.2.5 AIR AND CLIMATE
 - 6.2.6 CULTURAL HERITAGE AND LANDSCAPE
 - 6.2.7 SOILS AND GEOLOGY
 - 6.2.8 MATERIAL ASSETS
 - 6.2.9 CONCLUSION

7 MONITORING

- 7.1 INTRODUCTION
 - 7.1.1 MONITORING PROPOSALS AND ENVIRONMENTAL INDICATORS

APPENDICES

- Appendix 1 SEA Matrix
- Appendix 2 SEA Scoping Report
- Appendix 3 Strategic Flood Risk Assessment
- Appendix 4 Water and Waste Water Treatment Capacity in zoned settlements
- Appendix 5 SEA Consultation List

1 NON-TECHNICAL SUMMARY

1.1 INTRODUCTION

Strategic Environmental Assessment (SEA) is a formal process that was carried out in parallel with the review of the Draft County Development Plan for County Waterford 2011-2017. It is a valuable tool that informs decision making in the consideration of the Plan, improving the environmental sustainability of the Plan and raising awareness of the potential environmental consequences of its implementation so that these consequences may be mitigated or avoided altogether. It also gives the public and other interested parties an opportunity to comment and to be kept informed on decisions that may impact on the environment and how they were made.

In accordance with the legislation, a ‘scoping’ exercise was carried out to determine the range of environmental issues and level of detail to be contained in the Environmental Report. This involved consultation with the relevant Environmental Authorities:

- The Environmental Protection Agency
- The Department of the Environment, Heritage and Local Government
- The Department of Communications, Energy and Natural Resources

Internal expertise was also used in carrying out the SEA process, which provided advice and expertise and assisted in the determination of significance of effects and mitigation and monitoring measures. The main output of SEA is the Environmental Report, which outlines the findings of the assessment process. This is the Environmental Report for the County Development Plan 2011-2017 that has been prepared in accordance with the Planning and Development (Strategic Environmental Assessment) Regulations 2004. This report should be read in conjunction with the County Development Plan 2011-2017 and the Appropriate Assessment Screening Report on the Plan.

1.2 CONTENTS AND MAIN OBJECTIVES OF THE COUNTY DEVELOPMENT PLAN

The County Development Plan 2011-2017 provides a medium-term strategic planning framework for the development of the County. The Plan is prepared under the requirements of Section 10(2) of the Planning and Development Act 2000 and provides for the proper planning and sustainable development for County Waterford for the years 2011-2017. It contains a written statement of the vision for the County which feeds into the Strategic Goals for the Plan. These goals then form part of each of the chapters which go on to define specific policies and objectives for housing, settlement strategy, environment, infrastructure, heritage and community.

1.3 CURRENT STATE OF THE ENVIRONMENT

1.3.1 Flora, Fauna and Biodiversity

There are a number of diverse habitats found in County Waterford. Some habitats are of national importance and are recognized through designation as Natural Heritage Areas or Proposed Natural Heritage Areas (pNHAs). Other habitats are of European Importance and are designated Special Areas of Conservation (SACs) for their habitat or plant/animal species value or Special Protection Areas (SPAs) for birdlife. In addition to legally designated sites there are many other important sites for wildlife such as wetlands, peat lands, woodlands, and hedgerows.

A number of wetland species protected under European legislation occur in Waterford rivers. These include Freshwater Pearl Mussel and White-Clawed Crayfish. Freshwater Pearl Mussel require extremely high water quality to reproduce and occur in three catchments in the county (Blackwater, Clodagh and Licky). The species is a key indicator of water quality but populations of the species are in serious decline. Key issues for conservation of Biodiversity in the county are; maintenance of good water quality for water dependant habitats and species including Freshwater Pearl Mussel, protection of coastal habitats and wetlands and control of invasive species.

1.3.2 Population and Human Health

The Census of 2006 shows the population of County Waterford grew by 5.3% from 46,736 to 49,213 between 2002 and 2006. Key issues for population and human health include water quality involving drinking water, waste water treatment, recreational bathing waters, quality of fisheries and shellfish waters. The increase of flood events in recent years has elevated the issue of flood risk as an issue of concern for impacts on human health and property particularly in areas such as Clonmel environs and Carrick-on-Suir environs.

1.3.3 Water

The main legislation governing water quality in Ireland is now under the EU Water Framework Directive. The WFD aims to achieve “good” status of all water bodies by 2015. In the county key issues for water are; provision of adequate waste water treatment infrastructure, maintenance of good quality drinking water for protection of human health, protection of groundwater’s, restoration of surface and coastal water, and protection and restoration of water quality for water dependant habitats and species.

1.3.4 Air Quality and Climate

Air quality monitoring is carried out by the EPA. Recent monitoring shows that Sulphur Dioxide, Nitrogen Oxides and levels of Particulate Matter were within EU limits.

The National Climate Change Strategy Review published in April 2007 sets out a series of measures that will reduce Ireland's greenhouse gas emissions by over 17 million tonnes of carbon dioxide equivalent in the period 2008-2012. The strategy looks beyond the Kyoto Protocol period in light of the recent agreement of EU leaders to reduce emissions to at least 20% below 1990 levels by 2020. Ireland presently emits nearly seven million tonnes more carbon dioxide than it should under internationally agreed Kyoto Protocol targets.

Currently there are no significant concerns with regard to air quality in the county. However, climate change presents real challenges to future land use and location of development in the county. Predicted impacts from projected temperature rises include more concentrated periods of higher rainfall, more exposure to flood risk and increasing coastal erosion.

1.3.5 Geology and Soils

The Soils of Ireland Map (1995) indicates that soils in the county include Acid Brown Earths and Surface Water Gleys while uplands are covered with Blanket Peat and alluvial soils occur along floodplains of rivers and estuaries.

The geological heritage of Ireland is surveyed and evaluated by the Geological Survey of Ireland. Many of these sites will be proposed for NHA designation or are being promoted as County Geological Sites (CGS), and listed within the County Development Plan.

Coastal erosion arising from Climate Change will be a key environmental pressure on geology and soils. Many sites on the Geological Heritage Lists are coastal sites and will be exposed to coastal erosion.

1.3.6 Landscape

County Waterford has a variety of landscapes and is characterised by mountain ranges in the northwest and centre of the county, several south-flowing river systems and a rugged coastline with many coves and beaches. The diversity of landscapes and natural heritage within the county enables views and prospects of areas of natural beauty from many public roads. Accordingly a number of scenic landscapes and routes, sensitive and visually vulnerable areas are designated throughout the county and listed in the County Development Plan. The county's landscapes are of key importance to the county's tourism industry. Development of infrastructure, including energy networks, wind energy and tourism developments, all have the potential to impact on the uplands, waterway corridors, demesne and coastal landscapes of the county. Other environmental pressures in relation to landscapes include coastal erosion, coastal development, forestry and increase in dispersed rural housing.

1.3.7 Cultural Heritage

County Waterford contains over 3,000 Recorded Monuments protected under the National Monuments Acts 1930-2004. A significant number of archaeological sites and monuments have been added to the Record of Monuments and Places as a result of extensive excavations related to the roads programme in recent years. An Archaeological Inventory prepared by the National Monuments Service of the DoEHLG is available for County Waterford.

A number of buildings and other structures are considered to be of interest for reasons of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest and are listed in the Record of Protected Structures in the County Development Plan. The National Inventory of Architectural Heritage is also an important resource for listing further structures for protection. The maintenance and conservation of the county's cultural heritage is key in order to maintain an irreplaceable resource, sense of identity for the county and as a source of visitor interest and tourism revenue. Key issues include the conservation of thatch, conservation and future use of demesne landscapes and sites of industrial heritage, protection of built heritage and streetscapes, protection of archaeological sites and monuments and promotion and enhancement of access to these sites.

1.3.9 Material Assets

Material assets are taken to include infrastructure and utilities including rail, road, water supply and wastewater treatment facilities. It also includes economic assets such as quarries, forest estate, agricultural lands, coastal and water resources which support fisheries and tourism industry. Shellfisheries are located in Waterford Harbour and Dungarvan Bay. Key environmental pressures on material assets in the county are land use and climate change. The Waterford coastline has long been subject to coastal erosion. If sea levels rise, coastal zones of obvious high risk are those situated behind soft sedimentary barriers, e.g. dunes and gravel beaches and land marginal to river estuaries. This has significant cost implications for infrastructure, population and the recreational value of our coastline. An increase in land use devoted to biofuels may reduce land available for food production.

1.4 EXISTING ENVIRONMENTAL ISSUES

Environmental issues in the region relate to water quality including protection of surface waters in Dungarvan Bay and Waterford Estuary, ground waters around the River Suir, Shellfish waters at Dungarvan Bay and Waterford Estuary, Bathing waters in Ardmore and Dunmore East, continued monitoring of public water supplies including water leakage and provision of sufficient capacity in waste water treatment plants. The need to maintain water quality is key to conservation of biodiversity and water dependant habitats and species. Climate change impacts

involving flood risk and coastal erosion will also require to be considered in future land use and development patterns in the county.

1.5 CONSIDERATION OF ALTERNATIVE STRATEGIES

Alternative strategy options are explored in the main report along with the do-nothing scenario. These are:

1. Alternative Strategy Option 1- Continue with existing zoning in Current County Development Plan.
2. Review zoning including phased zoning and de-zoning of settlements.

In the interests of the future settlement strategy for the county and wider region and in terms of environmental infrastructure to support a sustainable pattern and rate of future growth the preferred strategy is option 2.

De-zone lands in Ballinameela, Ballymacaw, Ballysaggart, Butlerstown, Faha, Fewes, Fourmilewater, Grange, Kilbrien, Kilrossanty, Knockanore, Melleray, Modeligo, and Newtown.

Retain settlements with some dezoning at AGLISH, Anestown, Ardmore, Baile na nGall, Ballinroad, Ballyduff West, Bunmahon/ Knockmahon, Clashmore, Clonea-Power, Clonmel Environs, Dunhill, Heilbhic, Lemybrien, Lismore, Rathgormuck, Passage East, and Sean Phobal.

Retain Settlements with phased zoning at Ballyduff East, Ballymacarbry, Bawnfune, Cappoquin Carrick on Suir, Cheekpoint, Clonmel Environs, Crooke, Dunmore East, Dungarvan Environs Fenor, Kill, Kilmacthomas, Kilmeaden, Maoil a Choirne, Piltown, Portlaw, Stradbally, Tallow, Touraneena and Villierstown.

1.6 ENVIRONMENTAL PROTECTION OBJECTIVES

The Environmental Protection Objectives provide a standard against which the goals, policies and objectives of the County Development Plan can be measured in order to highlight those with the potential for environmental impact. They are as follows:

1.6.1 Biodiversity, Flora and Fauna

B1: Protect, conserve and enhance the diversity of habitats, species and areas of national or international importance, including aquatic habitats and species and promote the sustainable management of habitat networks.

1.6.2 Population and Human Health

P1: Facilitate a good standard of health for the County's population through ensuring high quality residential, recreational and working environments and minimising water pollution.

P2: To reduce the risk of flooding and harm to people, property and the environment

1.6.3 Water Resources

W1: Protect and where possible enhance the quality of surface and ground waters as sources of drinking water and as valuable assets for amenity and recreation.

W2: Achieve and maintain required water quality standards and reduce discharges of pollutants or contamination to waters.

1.6.4 Air and Climate

AC1: Support Implementation of National Climate Strategy 2007-2012.

AC2: To improve travel choice and accessibility, reduce the need for travel by car and shorten the length and duration of journeys

AC3: To increase energy efficiency and the proportion of energy generated from renewable sources in the county.

1.6.5 Cultural Heritage

C1: Protect and conserve features of architectural and archaeological heritage.

1.6.6 Landscape

L1: Protect and conserve the quality, character and distinctiveness of landscape including uplands, waterway corridors, demesne and coastal landscapes and minimise negative visual impacts.

1.6.7 Soil and Geology

S1: Conserve the quality of and prevent erosion of soils and geological sites in County Waterford.

1.6.8 Material Assets

MA1: Maintain the quality of and access to assets such as open spaces, water resources and all other physical and social infrastructure.

1.7 LIKELY SIGNIFICANT EFFECTS ON THE ENVIRONMENT OF IMPLEMENTING THE PLAN AND MITIGATION MEASURES

The full matrix and assessment of the County Development Plan policies and development objectives against environmental objectives is included in Appendix One of the Environmental Report.

Assessment of the policies and development objectives in the County Development Plan shows that in the main, these policies and development objectives will not pose a significant adverse impact on the environment. Many of the policies and objectives are considered positive, setting out to manage and protect aspects of the environment such as water quality, landscape, heritage resources and management of flood risk. Due to the strategic nature of the plan some of the broad range objectives cannot be accurately appraised to infer a definite positive or negative impact and so have been assessed as “uncertain” as a lower level tier assessment will be more appropriate to determine the precise nature of the impacts involved. This may relate to strategic objectives concerning specific projects or other framework plans that may also require SEA at their inception.

The finding of “uncertain” impacts in the SEA matrix will be determined at a lower level of environmental assessment largely through EIA at the project level. These assessments will involve application of Habitats Directive Assessment, Landscape appraisal, archaeological and architectural heritage appraisal and flood risk assessment to accurately determine the impacts under the range of environmental headings detailed above.

The findings of uncertain impacts on Natura 2000 sites from the Appropriate Assessment screening process are carried through the Environmental Report and will be addressed through the incorporation of amendments to Plan policies as recommended in Appendix 1 of the AA Report.

1.8 MONITORING PROPOSALS

Measures were proposed as part of this SEA process to monitor the effects on the environment of implementing the County Development Plan and these are presented in the Environmental Report in terms of the achievement of the environmental protection objectives and the impact on the environmental factors that the SEA legislation requires to be considered. Measurable indicators are included and targets are set. Monitoring for SEA will be carried out as part of the overall monitoring of implementation of the County Development Plan and using existing assessment frameworks such as River Basin District Management Plans and Article 17 Habitats Directive Assessment. Monitoring proposals include the authority responsible for monitoring and frequency intervals of monitoring.

2. INTRODUCTION

2.1 Background

The objective of the County Development Plan is to provide for the proper planning and sustainable development for County Waterford for the years 2011-2017.

The purpose of this environmental report is to identify and evaluate the likely significant impacts on the environment of adopting the County Development Plan 2011-2017.

2.2 Strategic Environmental Assessment

Strategic Environmental Assessment (SEA) is defined as ‘the formal, systematic and comprehensive process of evaluating the effects of a proposed policy, plan or programme or its alternatives, including the written report on the findings of that evaluation, and using the findings in publicly accountable decision making’.

SEA is a process for evaluating at the earliest appropriate stage, the environmental quality, and potential consequences, of policies, plans or programmes and to ensure that any potential consequences are assessed during their preparation and before they are adopted. Its overall purpose is to contribute to sustainable development. SEA is intended to provide a framework for influencing decision-making at an early stage; to improve the environmental sustainability of the Plan and to raise awareness of the potential environmental consequences of its implementation so that these consequences may be mitigated or avoided altogether. It also gives the public and other interested parties an opportunity to comment and to be kept informed on decisions that may impact on the environment and how they were made.

The SEA process includes the following outputs:

- An Environmental Report (a report containing the findings of the SEA) on the likely significant effects of implementing the County Development Plan 2011-2017.
- Scoping Report – stating how the scoping responses of the environmental authorities were taken account of in preparing the Environmental Report;
- A SEA Statement (identifying how environmental considerations and consultation have been integrated into the final adopted County Development Plan).

This is the Environmental Report for the County Development Plan 2011-2017 for County Waterford and has been carried out in accordance with Schedule 2B of S.I. 436 of 2004, which sets out the information that is required to be included in SEA and Environmental Reports. This

report should be read in conjunction with the County Development Plan 2011-2017 for County Waterford and Appropriate Assessment Screening Report.

2.3 The Contents and Main Objectives of the Co. Development Plan 2011-2017

The County Development Plan 2011-2017 has been prepared in accordance with the requirements of Section 10(2) of the Planning and Development Act 2000 and provides for the proper planning and sustainable development for County Waterford for the years 2011-2017. It contains a written statement of the Vision for the County which feeds into the Strategic Goals for the Plan. These goals then form part of each of the chapters which go on to define specific policies and objectives.

The vision for County Waterford as defined in the County Development Plan 2011-2017 is “To develop Waterford as a County; where the wellbeing of the community is enhanced through a balanced economic development, the creation of attractive places to live and work and through the sustainable management of our natural assets as we strive to become a Green County.”

A set of strategic goals are set out in the Development Plan to realise this vision including;

1. Support and facilitate the development of sustainable vibrant communities and the provision of necessary supporting services and amenities;
2. Promote sustainable economic development through the development of key strategic sites, supporting and fostering entrepreneurship and building the foundations for a knowledge based economy;
3. Sustain rural communities by supporting rural diversification and sustainable tourism development;
4. Protect, enhance and promote access to the County’s Built, Natural and linguistic heritage;
5. Manage the challenges of climate change and increased flood risk;
6. Develop County Waterford as the leader of the green economy by facilitating renewable energy infrastructure and promoting use of renewable energy among businesses and households throughout the County; and
7. Create an inclusive society by encouraging a partnership approach between statutory bodies, community group and all other relevant stakeholders.

2.4 RELATIONSHIP OF THE COUNTY DEVELOPMENT PLAN WITH OTHER RELEVANT PLANS

2.4.1 Introduction - Hierarchy of Strategic Actions

The County Development Plan is situated within a hierarchy of strategic actions, policy and guidance; higher-level strategic actions direct the County Development Plan while the County Development Plan in turn, will direct lower strategic actions. In accordance with the SEA

legislation in this regard, the Environmental Report shall include the information that may reasonably be required taking into account a number of factors, one of which is “the extent to which certain matters are more appropriately assessed at different levels in the decision-making process in order to avoid duplication of environmental assessment”.

In accordance with this provision, potential environmental impacts that arise from the implementation of policies and objectives where dictated by higher-level policy, will not be assessed in this SEA. Furthermore, certain objectives will be more site-specific than strategic. Where such situations arise, they will undergo assessment for their impacts through a more appropriate appraisal, such as EIA. As required in the legislation, the County Development Plan (and accompanying Environmental Report) shall, so far as is practical, be consistent with national and regional plans, policies and strategies, and any guidelines issued by the Minister of the Environment Heritage and Local Government, which relate to the proper planning and sustainable development of the area covered by the County Development Plan 2011-2017.

2.4.2 National and Regional Policy and Guidance

Ireland has ratified a range of national and international agreements in relation to our environment; such agreements place legal obligations on the State in relation to the maintenance of prescribed standards of environmental quality and the conservation and management of designated heritage sites and species. Relevant policy and guidance from regional, national and international levels are outlined in the following sections.

National Spatial Strategy, 2002

The NSS was published in 2002 and is a 20-year planning framework designed to deliver more balanced social, economic and physical development between regions. Since the beginning of 2009, the Department of the Environment, Heritage and Local Government has been undertaking an NSS Update and Outlook comprising of a detailed analysis of NSS implementation to date and ongoing challenges, effectiveness of planning and delivery mechanisms at central, regional and local levels and identification of critical investments necessary to grow the gateways’ and regions’ economic performance and competitiveness.

In view of the current challenges facing Ireland and planning for the medium to long term, the Update and Outlook is focusing on how the NSS can contribute to economic renewal and competitiveness, through:

- enhanced prioritisation of infrastructure investment;
- strengthening governance arrangements in gateways; and
- improved integration of environmental considerations within the planning process.

National Development Plan 2007-2013

The National Development Plan 2007-2013 (€184 billion) focuses on a number of key themes including sustainable development and linking future growth to the NSS. The concept of sustainability underpins the plan. The NDP includes the following objectives;

1. Decisively tackle structural infrastructure deficits.
2. Greatly enhance enterprise development, science and technology and innovation, working age training and skills provision.
3. Integrate regional development within the National Spatial Strategy framework.
4. Invest in long-term environmental sustainability.

Regional Planning Guidelines for the South East Region 2010-2022

The objective of the Regional Planning Guidelines is to provide a long-term strategic planning framework for the development of the South-East region (South Tipperary, Waterford, Carlow, Kilkenny and Wexford). The guidelines are intended to be a framework for local authority development plans by enhancing the strategic dimension of planning at regional and local levels and building upon the approach taken by the National Spatial Strategy.

The Regional Planning Guidelines, developed by the South East Regional Authority, represent a planning framework for the period 2010-2022 designed to achieve a better spatial balance of social, economic and physical development throughout the region. It is intended that the Guidelines will provide the necessary strategic framework for local authority development plans and will address issues such as settlement, transportation, industrial development, community facilities and environmental protection.

2.4.3 International Conventions and Agreements

Ireland has ratified a range of International Agreements in relation to our environment. Such agreements place legal obligations on the State in relation to the conservation and management of our environment and heritage. Table 2.1 below details the range of EU environmental legislation and policies and how they are transposed into Irish law.

Table 2.1 Legislation and Policy directing environmental standards and objectives in Ireland

Topic	Policy, Plan or Programme	Objectives
Biodiversity	UN Convention of Biological Diversity (1992)	Maintain and enhance biodiversity.
	The Ramsar Convention The Convention on Wetlands of	Objectives include protection and conservation of wetlands,

	International Importance (1971 and amendments)	particularly those of importance to waterfowl as Waterfowl Habitat
	European Union Directive (92/432/EEC) on the conservation of natural habitats and of wild flora and fauna	Lists certain habitats and species that must be given protection.
	European Communities (Natural Habitats) Regulations, SI 94/1997, as amended SI 233/1998 and SI 378/2005	These Regulations give effect to Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) and the Minister to designate special areas of conservation (endangered species and habitats of endangered species) as a contribution to an EU Community network to be known as NATURA 2000.
	EU Directive (EU/79/409) on the conservation of wild birds	Designation of Special Protection Areas for birds.
	Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities (2009)	Guidance on carrying out AA on plans and Projects as required under Article 6 of the Habitats Directive
	Draft National Biodiversity Plan 2010	To secure the conservation, including where possible the enhancement and sustainable use, of biological diversity in Ireland
	European Communities Environmental Objectives (Freshwater Pearl Mussel) 2009	Measures to protect the conservation status of Freshwater Pearl Mussel
	Freshwater Pearl Mussel Sub-Basin Catchment Management Plans (Rivers Blackwater, Clodagh and Licky)	Catchment based management plans for the protection and conservation of Freshwater Pearl Mussel populations
	Irish National Forest Standards (2000)	Aims to ensure sustainable forest management
	Ospar Convention (1992) The Convention for the Protection of the Marine Environment of the North East Atlantic	Protection of the Marine Environment
	EU Marine Strategy Framework Directive 2008 (Yet to be adopted in Ireland)	Aims to achieve good environmental status of the EU's marine waters by 2021 and to protect the resource base upon which marine-related economic and social activities depend.
	EU Freshwater Fish Directive (78/659/EEC)	Objectives seek to protect those freshwater bodies identified by Member States as waters suitable for sustaining fish populations. For those waters it sets physical and chemical water

		quality objectives for salmonid waters and cyprinid waters.
Water	EU Water Framework Directive (2000/60/EC) 2000	Establishes a framework for community action in the field of water policy. Aims to prevent any deterioration in the status of any waters and to achieve at least “good status” in all waters by 2015.
	The Groundwater Directive (1980/68/EC) 1980	Seeks to maintain and enhance the quality of all ground waters in the EU.
	EU Urban Waste Water treatment directive (91/271/EEC) 1991	Sets targets dates for the provision of specified waste water treatment infrastructure and services.
	EU Floods Directive (2007/60/EC)	The Floods Directive applies to river basins and coastal areas at risk of flooding and provides for the prevention and management of flood risk and preparation of Flood Risk Management Plans
	DoEHLG Guidelines on Flood Risk Management and the Planning System (2009)	Seeks to prevent development that is sensitive to the effects of flooding in flood prone or marginal areas. Must not reduce the flood plain or restrict flow across floodplains.
	The Nitrates Directive (91/676/EEC)	This Directive has the objective of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further such pollution.
	Drinking Water Directive (80/778/EEC) as amended by Directive 98/83/EC	The primary objective is to protect the health of the consumers in the European Union and to make sure drinking water is wholesome and clean.
	The Local Government (Water Pollution) Act, 1977 (Water Quality Standards for Phosphorous) Regulations, 1998	Rivers of good quality to be retained as such, rivers of poor quality to be improved
	European Communities Environmental Objectives (Surface Waters) Regulations, 2009	Transposes into Irish law the measures needed to give effect to Article 4 of the Water Framework Directive relating to the protection of surface waters including the requirements of Directive 2008/105/EC on environmental quality standards.

	Managing Ireland's Rivers and Lakes: Catchment based Strategy Against Pollution (1997)	This document details a strategy to protect water quality against pollution by phosphorus from all sources.
	River Basin Management Plans for River Basin Districts (RBD's)	Seeks to establish an integrated monitoring and management system for all waters within an RBD, to develop a dynamic programme of management measures and to produce a River Basin Management Plan, which will be continually updated.
	Bathing Water Directive EC Directive 2006/7 EC Repeals existing Directive (71/160/EEC) with effect from 31 December 2014	Sets out standards for bathing water quality to protect health and the environment
Human Health	WHO Air Quality Guidelines (1999) and Guidelines for Europe (1987) Non Statutory	Seeks to eliminate or minimise certain airborne pollutants for the protection of human health.
	The Stockholm Convention (2001)	Objectives seek to protect human health and the environment from persistent organic pollutants (POPs).
	The EU CAFÉ Programme Commission communication of 4 May 2001 "The Clean Air for Europe (CAFE) Programme: Towards a Thematic Strategy for Air Quality".	Seeks to prevent and reduce air pollution and impacts on human health from air pollution.
	EU Shellfish Directive (79/923/EEC)	Objectives seek to maintain 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.
	Pollution Reduction Programmes for Dungarvan Bay, Waterford Harbour, Bannow Bay and Wexford Harbour	To ensure compliance with standards and objectives of the 2006 Quality of Shellfish Waters Regulations
	The EU Environment and Health Strategy 2004-2010	Seeks to prevent and reduce the impacts pollution on human health.
Climate / Air	Kyoto Protocol (1997)	Aim of the UN Protocol is to combat climate change. Industrialised countries will have to reduce their combined greenhouse gas emissions by a minimum of 8% by 2012.

	Second European Climate Change Programme (ECCP II) 2005	Seeks to develop the necessary elements of a strategy to implement the Kyoto protocol.
	White Paper on 'European transport policy for 2010', COM (2001) 370	Seeks to develop a modern sustainable transport system.
	"The IPPC Directive" Directive 96/61/EC concerning integrated pollution, prevention and control	Seeks to minimise pollution and maximize resource efficiency in industry through licensing and guidance.
	Ozone in Ambient Air Regulations 2004 (S.I. No. 53 of 2004).	Objectives include the reduction of certain airborne pollutants for the protection of human health and the environment.
	"Air Framework Directive" Directive on Air Quality Assessment and Management (Framework Directive) (1996/62/EC)	Seeks the prevention and/or reduction of airborne pollutants for the protection of human health and environment.
	Directive on national emission ceilings for certain atmospheric pollutants (2001/81/EC)	Seeks to limit the national emissions of certain airborne pollutants for the protection of human health and the environment.
	EC Directive 2008/50/EC on ambient air quality and cleaner air for Europe	Replaces the air framework directive and the first three daughter directives. Sets standards and target dates for reducing concentrations of fine particles, which are among the most dangerous pollutants for human health.
	Adopting to climate change in Europe – options to EU action {SEC(2007) 849}	Seeks to initiate a Europe-wide public debated and consultation on developing responses to climate change at EU level
	National Climate Change Strategy 2007-2012	Established measures by which Ireland can meet its 2008-2012 targets in respect to green house gas emissions
	Delivering A Sustainable Energy Future for Ireland	Government Energy Policy Framework 2007-2020 to deliver a sustainable energy future for Ireland.
Cultural Heritage (Landscape Architecture Archaeology)	European Landscape Convention 2000	Encourages public authorities to adopt policies at local, national and international level to protect and manage landscapes.
	Policy Paper on Ireland's Landscape and the National Heritage, The Heritage Council, (2002)	Policy paper sets out a vision for the Irish landscape to allow people to harness the landscape for economic benefit whilst acknowledging that in the long run such benefits can only be

		sustained through an appreciation and awareness of the contribution of that landscape to our quality of life.
	Landscape and landscape and Assessment, Guidelines for Planning Authorities -2000	Sets out how a landscape character assessment should be conducted.
	Granada Convention for protection of the Architectural Heritage of Europe 1985	Established common principles and strategy, informed Part IV of the 2000 Planning and Development Act 2000-2004
	European Convention on protection of the Archaeological Heritage 1992	Requires that appropriate consideration be given to archaeological issues at all stages of the planning and development process
	Architectural Heritage Protection- Guidelines for Planning Authorities 2004	The protection of structures, or parts of structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social, or technical interest, and; the preservation of the character of architectural conservation areas.
	National Heritage Plan 2002	Plan forms the basis of a strategic approach to the protection and management of heritage up to 2007
	National Inventory of Architectural Heritage	To establish inventory of buildings of value
	Framework and Principles for the Protection of the Archaeological Heritage (1999)	This document sets out the archaeological policies and principles which should be applied by all public bodies when undertaking or authorising development.
Soil	2006 Proposal for an EC Directive establishing a framework for the protection of soil	Still under discussion. Proposes to establish a common strategy in Europe for the protection and sustainable use of soil.
	Sewage Sludge Directive (86/278/EEC)	To encourage the use of sewage sludge in agriculture and to regulate its use in such a way as to prevent harmful effects on soil, vegetation, animals and man
	Directive 2004/35/EC on Environmental Liability with regard to the prevention and remedying environmental damage	Prevention and remediation of environmental damage

Sustainable Development	Agenda 21 (1992). Action for Sustainable Development	Aims to promote sustainable development at a local and regional level by taking into account environmental protection in the development process.
	“The Gothenburg Strategy” Communication from the Commission on Sustainable Europe for a Better World” 2001	Seeks to make the future development of the EU more sustainable.
	The Sixth Environmental Action Programme (EAP) of the European Community 2002-2012 Statutory	Seeks to make the future development of the EU more sustainable.
	The SEA Directive (2001/42/EC)	Objective 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.
	Guidelines for Planning Authorities on Sustainable Rural Housing 2005	To address the issue of sustainable rural housing
	Sustainable Residential Development in Urban Areas 2008	Addressing sustainable design and services in urban areas
	Wind Energy Guidelines 2004	To ensure a consistency of approach in the identification of suitable locations for wind farm development and the treatment of planning applications for wind farm developments
	Sustainable development- a strategy for Ireland 1997	To promote the consideration of sustainable principles in drafting and implementation of the Guidelines
	Green Paper on Sustainable Energy 1999	The paper sets out how Ireland will progress to meeting its energy requirements. It concentrates on Ireland’ s need to limit CO2 emissions under the Kyoto Protocol.

	Transport 21 (2005)	Seeks to develop an integrated transport system across Ireland
	Traffic Management Guidelines (2003)	Provides guidance on a number of traffic management issues including public transport
	Smarter Travel- A Sustainable Transport Future, A New Transport Policy for Ireland 2009-2020	Promotion of sustainable transport
	Delivering A Sustainable Energy Future For Ireland _ The Energy Policy Framework 2007 – 2020	Seeks to reduce energy demand and energy related emissions
	Directive 2004/35/EC on Environmental Liability with regard to the prevention and remedying environmental damage	Seeks to establish a common framework for the prevention and remediation of environmental damage
Waste	The Waste Framework Directive” Council Directive 75/442/EEC of 15 July 1975 on waste “the Waste Framework Directive” and amending acts.	Seeks to minimise the quantities of waste production in the EU, reduce the environmental impacts from the management of these wastes and defines what constitutes a waste or hazardous waste.
	“The Landfill Directive” Council Directive 99/31/EC of 26 April 1999 on the landfill of waste	Seeks to reduce the environmental impact from the landfilling of waste & divert certain quantities and types of waste from European landfills.
	“The WEE Directive” Directive 2002/96/EC of 27 January 2003 on waste electrical and electronic equipment	Seek more environmentally sensitive management of waste electric and electronic equipment.
	National Waste Prevention Programme	Seeks to decouple waste generation from economic activity in Ireland
Major Accidents	EU Major Accident (Seveso) Directive (96/82/EC) 1996	Seeks to avoid and minimize the effects of major accidents

3 SEA METHODOLOGY

3.1 STEPS IN THE SEA PROCESS

The Environmental Report is an important element of the SEA process. The report is generated from a series of distinct steps taken in the assessment of the likely potential impacts of the proposed variation being implemented.

The steps taken in the execution of this SEA process follow the layout of this document, and are as follows:

1. Introduction to and familiarisation with the SEA process.
2. Setting out the Background to the County Development Plan 2011-2017.
3. Consultation with the Environmental Authorities, the public and officials with a range of expertise within the Local Authority.

Scoping was carried out with the three environmental authorities prescribed in the legislation with the Environmental Protection Agency (EPA), Department of the Environment, Heritage and Local Government, and, the Department for Communications, Energy and Natural Resources. These were all consulted in order to determine the scope and the level of detail to be included in the environmental report. A scoping document was submitted to the authorities to facilitate this consultation. A scoping report has been prepared to show how the responses received from these authorities were taken account of when preparing the County Development Plan and Environmental Report and this is contained in the Appendix 2.

Other bodies and authorities were consulted as part of the SEA process to source environmental baseline information and these are listed in the Appendices.

Internal expertise within the local authority was used to input into the SEA process. This group consisted of representatives from planning, environment, infrastructure, and GIS sections and also the Heritage and Conservation Officers. They were consulted at the various stages in the process and inputted to the identification of significant environmental issues, drafting the environmental protection objectives, assessing the policies, considering alternatives.

4. Establishment of Environmental Baseline and Trends for the County:

Baseline data were collected based on the information included in the scoping report as well as having regard to the requirements of the SEA Directive. The various factors used to describe the current state of the environment included landscape, soils and groundwater, noise, air quality, built heritage, natural heritage and bio-diversity. Human health was considered, either directly or indirectly, under a variety of factors including air quality and noise. Much of the data were extracted from existing data sources.

5. Identifying significant Existing Environmental Issues in County Waterford.

This was facilitated by the various forms of consultation that took place as part of the SEA process.

6. Drafting of Environmental Protection Objectives from regional, national and international environmental policy, consideration of the significant environmental issues facing Waterford specifically and from best practice.
7. The Likely Significant Effects of implementation of the County Development Plan 2011-2017 were established through the identification of conflicts between the County Development Plan policies and objectives and environmental objectives (assessed in matrix format).
8. Where conflicts are identified, opportunities to prevent, reduce, or offset the adverse environmental effects were explored and policies altered or augmented where necessary to address / mitigate the effects.
9. Where the conflicts and consequent adverse impacts cannot be prevented, reduced or offset, mitigation measures were proposed.
10. Alternatives strategies were considered.
11. Monitoring measures were identified in order to quantitatively assess the consequences of the identified impacts.
12. Consultation. The Environmental Report and the County Development Plan 2011-2017 were made available for public consultation as per the statutory process provided for under the Planning and Development Acts 2000-2006. Along with prescribed bodies the documents will be made available to neighbouring local authorities. Consultation was also carried out with the NPWS on the need for the Plan to be subject to Appropriate Assessment due to the occurrence of a number of European designated sites within the county.

3.2 Difficulties Encountered in Compiling the Required Information

The SEA Guidelines produced by the DoEHLG in 2004 state that the SEA process “does not require major new research”. As such, the Environmental Report was prepared and informed by many already available data sources.

Data sources that were used include; research that was carried out within the local authority, by the Central Statistics Office, by the Environmental Protection Agency and WFD River Basin District Management Plans and also the Heritage Data that has been collated by the DoEHLG.

Difficulties encountered in compiling data include the availability of spatial data for human health. Table 3.1 details gaps in data sources relating to the Environmental Protection Objectives

Table 3.1 Environmental Protection Objectives and Data Gaps

Biodiversity, Flora and Fauna	Data Gaps
B1: Protect, conserve and enhance the diversity of habitats, species and areas of national or international importance, including aquatic habitats and species and promote the sustainable management of habitat networks.	Spatial data on ecological networks and sites of local biodiversity value
Population and Human Health	
P1: Facilitate a good standard of health for the County's population through ensuring high quality residential, recreational and working environments and minimising water pollution.	Spatial data on human health in the County
P2: To reduce the risk of flooding and harm to people, property and the environment.	CFRAMs underway. Flood risk mapping not available within the local authority
Water Resources	
W1: Protect and where possible enhance the quality of surface and ground waters as sources of drinking water and as valuable assets for amenity and recreation.	Good data available
W2: Achieve and maintain required water quality standards in the South East and South West River Basin Management Plans and associated Programme of Measures and reduce discharges of pollutants or contamination to waters.	Good data available
Air and Climatic Factors	
AC1: Support implementation of the National Climate Strategy 2007-2012	Data available
AC2: To improve travel choice and accessibility, reduce the need for travel by car and shorten the length and duration of journeys.	Lack of comprehensive data across county on commuting trends and use of public transport
AC3 To increase energy efficiency and the proportion of energy generated from renewable sources in the county	Data available
Cultural Heritage	
C1: Protect and conserve features of architectural and archaeological heritage.	Good Data available through Record of Monuments and Places and Record of Protected Structures
Landscape	

L1: Protect and conserve the quality, character and distinctiveness of landscape including uplands, waterway corridors, demesne and coastal landscapes and minimise negative visual impacts	Landscape designations listed in County Development Plan. Scenic Landscape Evaluation available for the County.
Soil and Geology	
S1: Protect the quality of soils, and prevent erosion of, soils and geological heritage sites in County Waterford.	Data available through Teagasc Soil Mapping Project and Geological Survey Ireland
Material Assets	
MA1: Maintain the quality of, and access to, assets such as open spaces, water resources and all other physical and social infrastructure	Details on public amenity areas available

4. CURRENT STATE OF THE ENVIRONMENT

4.1 INTRODUCTION

Ireland's Environment 2008, the Environmental Protection Agency's fourth state of the environment report provides an overall assessment of Ireland's environment. The overall conclusion of the report is that the quality of Ireland's environment is relatively good but there are some key environmental challenges facing Ireland and these include;

1. Limiting and adapting to Climate Change
2. Reversing Environmental Degradation
 - preventing eutrophication and other water pollution
 - protecting natural habitats and species populations
 - remediation of contaminated land
3. Complying with Environmental Legislation and Agreements.
4. Mainstreaming Environmental Considerations

The Assessment reports that there are two primary areas where unsatisfactory conditions are extensive- eutrophication and other water pollution and the unsatisfactory conservation status of natural habitats and species. Remediation of contaminated land is also an important issue. Ireland faces a difficult challenge in meeting many of its environmental protection obligations under both European legislation and other internationally binding legal agreements. Financial penalties are a potential consequence of failing to meet our environmental protection commitments.¹

Remediation of unsatisfactory quality in groundwater, rivers, lakes and estuaries is one of the main environmental challenges. The Water Framework Directive marks a new approach for the protection and improvement of water resources. Commencing in 2009, a six year cycle of river basin management plans will be implemented for the purpose of protecting and enhancing all waters- groundwater, rivers, lakes, transitional waters (estuaries) and coastal waters including protection for related terrestrial ecosystems and wetlands. County Waterford is covered by two river basin district management plans, the South East RBDMP and the South West RBDMP.

Biodiversity loss is a serious threat to the quality of Ireland's environment as habitat degradation and species loss are often irreversible. Many of Ireland's most important habitats afforded protection under the EU Habitats Directive were assessed in 2008 as having bad conservation status². Certain species particularly those of wetland and aquatic environments such as the Atlantic Salmon, Otter and Freshwater Pearl Mussel are considered to be of poor conservation status.

¹ Ireland's Environment 2008, EPA

² The Status of EU Protected Habitats and Species in Ireland, 2008, NPWS

The provision and maintenance of sufficient infrastructure in the areas of wastewater treatment, water supply, flood prevention and control, renewable energy, sustainable transport and waste management is critical to ensure maintenance of a good quality environment. The following baseline details the current status of the environment in County Waterford in relation to these issues.

BASELINE AND RELEVANT ENVIRONMENTAL PROBLEMS

4.2. Flora, Fauna and Biodiversity

The need to conserve biodiversity is underlined in the National Biodiversity Plan and Convention on Biological Diversity which Ireland signed and ratified in 1996. Conservation of biodiversity in Ireland is directed by the EU Birds Directive, EU Habitats Directive (transposed into Irish law by the Natural Habitat Regulations amended by SI 233/1998 and SI 378/2005) and the 1976 and 2000 (Amendment) Wildlife Acts. A Local Biodiversity Plan was published for County Waterford in 2008 with the aim of maintaining and enhancing biodiversity in the county through raising awareness, addressing information gaps and developing best practice through policy and work practices.

4.2.1 Designated Sites

The landscape of County Waterford provides the setting for a range of wildlife habitats and species and many areas are designated or proposed as Natural Heritage Areas, Special Areas of Conservation and Special Protection Areas. These designations are in place to protect the favourable conservation status of habitats and species identified in the Habitats and Birds Directives. Natural Heritage Areas are demarcated for their conservation value at a national level. There are 9 SACs, 6 SPAs and 27 pNHAs in Co. Waterford. Dungarvan Harbour, Tramore Backstrand and Blackwater Estuary are also recognised as wetlands of international importance protected under the Ramsar Convention of 1971. Fenor Bog the only community owned Nature Reserve in the State is located in the east of the county near Tramore.

Wet alluvial woodland, a rare habitat in Europe is found along the River Suir and River Blackwater. Dry heath occurs on the slopes of the upland areas with Blanket bog on mountain peaks. Lowland grassland and wetlands such as reed swamp, marsh and fen occur on the low-lying areas. Coastal habitats include sea cliffs, dunes, salt marsh, mudflats and beaches. Coastal heath and sea cliffs of international importance are found at Ardmore Head and Helvick Head. Tramore Back Strand and Dunes ecosystem is notable for its range of habitats and wintering bird populations.



Map 1. SACs and SPAs in County Waterford

4.2.2 Sites of local biodiversity interest

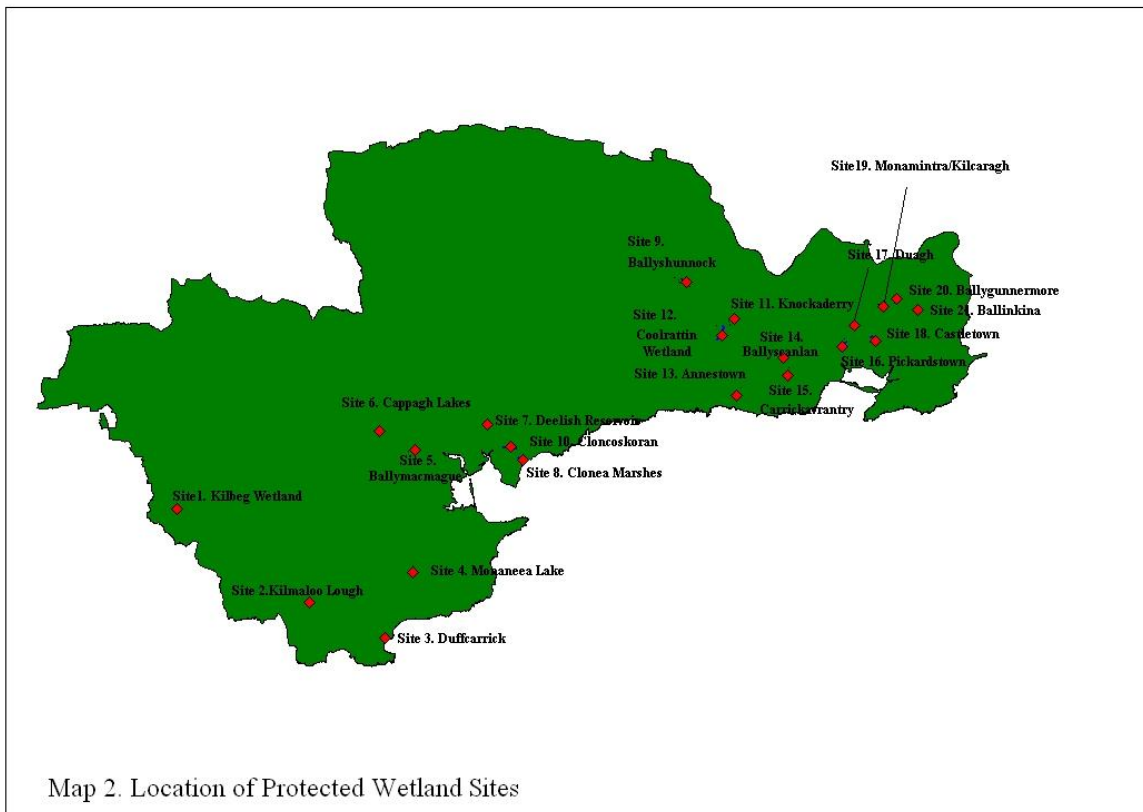
While many high nature value habitats are designated for nature conservation in the county most of Waterford’s land cover lies outside these areas but provides an essential resource in linking local biodiversity features throughout the landscape. Linear features such as hedgerows, woodlands and streams provide “ecological corridors” along which species can move and disperse. Collation of a habitat map of County Waterford was commenced by Waterford County Council in 2009 and includes spatial data on wetlands, woodlands, grasslands, bridges containing bat roosts and champion trees in the county.

4.2.3 Wetlands

Wetland sites are areas of marsh, fen, peatland or water whether natural or artificial, permanent or temporary with water that is static or flowing, brackish or salt. Wetlands are significant habitats in County Waterford. They provide habitats for unusual communities of species that can survive in aquatic and semi-aquatic conditions. The amount of drainage and water present at these sites are their most important feature as increased drainage or flooding can cause drastic changes and loss of species. A survey was carried out on 21 wetland sites in Co. Waterford in 2006 as part of the Co. Heritage Plan. The survey identified 8 swamps, 6 wet woodland sites, 4 reservoirs, 2 lakes and 1 marsh. Two of the sites – Monanee Lake and Cappagh Lakes Wet Woodland are considered to be of national value while a further seven are significant at county level. Nine sites are of high local value while the remaining three sites are of moderate local

value. The major sources of damage and threat are; drainage, land reclamation and infilling, afforestation, pollution/ enrichment and invasion by alien plant species. Appendix A12 of the County Development Plan details the sites surveyed that are now listed for protection in the plan. Wetlands of significance for birdlife in Waterford include Dungarvan Harbour which attract large populations of wintering waterfowl and is considered the 15th most important wetland site in Ireland and the second most important wetland in the South-East after Wexford Harbour. The site supports two species of internationally important numbers of Light Bellied Brent Goose and Black-tailed Godwit. The average number of Bar-tailed Godwits is close to the international threshold. Recent counts of up to 911 birds in Tramore (2009) indicate it is one of the 10 most important sites in Ireland for Brent Geese. In 2010 Waterford County Council submitted a Part 8 application to provide a compensatory wetland at Kilmacleague which has potential to extend the existing wetland area as an attractive habitat for waterfowl in the area.

A number of water dependant habitats and species of significance occur in the county as detailed below.



4.2.4 Freshwater Pearl Mussel

Freshwater Pearl Mussel is an Annex 1 species on the EU Habitats Directive and is also listed on the Red Data List of the International Union for Conservation of Nature and Natural resources as in danger of worldwide extinction. Ireland has approximately 46% of the EU Pearl Mussel population which is recorded from 125 rivers. There has been considerable decline in species distribution and numbers as the mussel is very sensitive to nutrient and silt levels in its habitat and also has high oxygen requirements. The significance of the conservation status of the pearl mussel lies in it acting as an indicator species i.e. a species whose presence, absence, or relative well-being is indicative of the health of its ecosystem as a whole and rivers in County Waterford. It can also be described as an umbrella species i.e. where the requirements for the Freshwater Pearl Mussel are provided for and protected will mean protection of the habitat of many other species. There are three Freshwater Pearl Mussel Catchments within the county; Blackwater, Clodiagh, and Lickey.

In 2010, Sub-Basin Management Plans were published by the DoEHLG for all Freshwater Pearl Mussel catchments in Ireland. The purpose of the sub-basin management plans is to address the catchment-wide issues contributing to decline of the species and to develop a strategy for implementing measures that will bring the catchment and thus the population back to favourable condition. These sub-basin plans must comply with the European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009.

The Catchment Plans for pearl mussel populations in Waterford report that the conservation status of the species is far from favourable with no evidence of surviving juveniles in many of the sites. The youngest species found in the Licky, Clodiagh and Blackwater Rivers were 30, 20 and 20 years respectively. Overall, the pearl mussel has suffered a major decline in these catchments largely due to depressed river quality from nutrient enrichment and siltation. The range of management plans for the species suggests that without serious conservation measures being employed the species is heading for extinction in the near future.

The ecological significance of the Freshwater Pearl Mussel is realized in the Water Framework Directive through its Programme of Measures under the River Basin District Management Plans aimed at achieving the objective of good water quality status by 2015. The Program of Measures is classified into “required measures” which are mandatory by law and “additional measures” which can be chosen to target problems in some or all waters if required measures don’t achieve the objectives of the Water Framework Directive. The sub-basin plans and environmental objectives established for those pearl mussel populations designated under the Habitats Directive are part of the Water Framework Directive’s river basin programmes of measures. They form part of the basic measures and the objectives for these protected areas must be achieved by 2015. In addition to these measures, a list of specific measures are set out for Freshwater Pearl Mussels where investigations and risk assessment show specific pressures need to be remediated to

restore pearl mussels to favourable conservation status. This list involves around 60 measures of which 23 are assigned to local authorities as the lead authority for those measures.

The basis of a catchment approach is integral to achieving the desired water quality standards required to maintain Freshwater Pearl Mussel. Avoidance of run-off of nutrients and sediment and maintenance of clear water which supports the salmonid host are essential for Freshwater Pearl Mussel to survive.

4.2.5 Other water dependant species

White-Clawed Crayfish occur in the River Clodiagh, a tributary of the Suir which flows through Portlaw. Twaite Shad migrate in May to spawning areas upstream of Carrick-on-Suir on the River Suir and to unknown spawning grounds on the River Blackwater. This species is considered to be in serious decline. Three lamprey species, Sea Lamprey, River Lamprey and Brook Lamprey are also found in the Lower Suir SAC. According to a survey of Lamprey in the River Suir catchment by the NPWS³ in 2006, Lamprey were recorded at Whelansbridge River (2.53 per m²) and the Dawn River (8.22 per m²). “The water quality on the Suir has a higher percentage of unsatisfactory areas than the Corrib catchment. However this does not seem to have any bearing on lamprey distribution.” The survey reported that river/brook lampreys are presently at a favourable status in the Suir catchment. The status of sea lampreys in the catchment is unfavourable however. Other fish of conservation concern include Smelt known from Blackwater and the Suir which is listed in the Irish Red Data Book but is not known to spawn there. One commercial fish species, the Atlantic Salmon is also an Annex II species. In the NPWS 2004/2005 Otter Survey of Ireland the Suir is included in the list of the most important SACs for Otter. The report recommends that SAC sites such as the Suir would benefit from a more detailed investigation of otter occurrences in relation to habitat and water quality.

4.2.6 Trees, Woodlands and Hedgerows

Trees provide great amenity value in the landscape and are also an important wildlife habitat. Woodlands were a key feature within demesne landscapes which occupied much of the historic landscape in Waterford the most striking example of this is the Curraghmore Estate containing over 600 ha. of mixed woodland. The 2008 NPWS Native Woodlands Survey reports there are 6,990 ha of native woodland in Waterford representing 3.8% of the county land cover.

The Tree Register of Ireland database for Co. Waterford contains details of over 270 trees in Waterford which are remarkable for their height, diameter, age or historical associations. The majority of notable trees in the county are located in demesne landscapes such as Curraghmore Estate, Gurteen le Poer and Cappoquin.

³ National Parks and Wildlife Service

A number of trees are also protected by Tree Preservation Order in the Co. Development Plan and includes trees around Whitfield Court, Curraghmore Estate, Ballinamona House and Ballyglan.

Hedgerows are a distinctive feature of Co. Waterford landscape providing wildlife habitat and shelter in exposed areas. Hedgerows complement the woodland cover in the county as an important source of trees and timber. Hedgerows also function as carbon sinks, pollution filters and sound barriers between busy roads and housing. It was the aim of the National Biodiversity Plan 2002-2007 to have no net loss of hedgerows by 2010. The corridor role of hedgerows in facilitating the movement and distribution of wild flora and fauna through the landscape is believed to be enhanced significantly if hedgerows link into other habitat features. Roadside and townland boundary hedges generally contain a higher diversity of species than other hedges.

Coastal earthen banks in County Waterford are a distinctive feature of the landscape with impressive seasonal colour of Thrift and Sea Pink in early summer.

4.2.7 Invasive Species

Invasive species represent one of the greatest threats to biodiversity, second only to that caused by direct habitat destruction. They do this by competitively excluding or out-competing our less robust native species, by preying on native species or by altering the natural aquatic or riparian habitat in which they reside. Invasive Species of concern in the county include, Japanese Knotweed, Giant Hogweed, Himalayan Balsam, and Chinese Mitten Crab (first recorded from Ireland in Waterford Estuary in 2006).

Also of concern is the spread of the Grey Squirrel which competes for food and habitat of the native Red Squirrel. Grey squirrel were first recorded in County Waterford as recently as December 2006 having crossed the River Suir. The control of and promotion of awareness on Invasive Species is being prioritised by a number of agencies and organisations based in County Waterford including the National Biodiversity Data Centre and Waterford Institute of Technology.

4.2.8 Existing Environmental Pressures/problems; Biodiversity, Flora and Fauna

The following issues are identified in the Co. Waterford Local Biodiversity Action Plan as threatening biodiversity in the county; drainage and infilling of wetlands, excess input of nutrients and silt into rivers with Freshwater Pearl Mussel, spread of Invasive Species, infilling and dumping on sensitive coastal habitats such as Saltmarsh which has low habitat cover in the county, unmanaged recreational use damaging to sand dunes, coastal heath and coastal grasslands, erosion and burning on mountain uplands and loss of hedgerow habitat.

In December 2007, the first baseline assessments of conservation status for all 59 habitats and c.100 species listed for protection by the EU in Ireland was prepared by the National Parks and Wildlife Service as required under Article 17 of the Habitats Directive. The report is the first such comprehensive compilation of the status of habitats, animals and plants in Ireland which have protected status under national and EU law. The report found that only 7% of the habitats examined were in good status, with 46% inadequate and 47% bad. Many habitats associated with water were considered to be in bad condition. Even moderate declines in water quality makes rivers and lakes unsuitable for many fish and invertebrate species. Coastal habitats were found to have declined in quality, often as a result of recreation and development pressure over the past 20 years. Roughly 50% of the species examined were in good status, while 10% were considered bad. Species such as bat, seals, dolphins and whales are considered to be in good condition. However, there is a real fear that the freshwater pearl mussel, which can live to an age of 130 years, is on the brink of extinction in Ireland.

Wetlands are subject to a number of damaging activities that undermine their important functions. This includes arterial drainage, infilling, dumping and land development. Habitats and species dependent on aquatic ecosystems are threatened by less than adequate water quality due to nutrient enrichment (eutrophication), siltation and drainage.

Planning for the conservation and protection of these key habitats and species is required not only on a county basis but also on a regional and catchment basis.

4.3 Population and Human Health

The Census of 2006 shows the population of Ireland increased by 8.1% from 3,917,203 in 2002 to 4,234,925 in 2006 an actual increase of 317,722 persons. This four-year period has experienced the highest annual growth rate on record. Over this time, the population of County Waterford grew by 5.3% from 46,736 to 49,213. Most of the county has a relatively low population density. Higher population densities are present in the main towns of Dungarvan, Tramore, Dunmore East and around the environs of Waterford City. These towns are located on the River Colligan, the coast and River Suir.

Table 4.1. Census 2006: Population of County Waterford's main urban centres 2002-2006.

City/Town	Population		% Change	
	2002	2006	Actual	Percentage
Waterford	46,736	49,213	2,477	5.3%
Dungarvan	7,452	8,362	910	12.2%
Tramore	8,305	9,634	1,329	16%
Dunmore East	1,750	1,547	-203	- 11.6%

County Waterford is part of the South East Regional Authority and the County Development Plan must have regard to the SERA Regional Planning Guidelines 2010-2022. The main aim of the RPGs is to develop the designated gateway in the region (Waterford City) in support of the aims of the National Spatial Strategy. A review of population figures in the 2006 census reveals that the growth of the South East Region and the Waterford Gateway is not achieving the projected population growth aimed for in the RPGs. In County Waterford the greatest level of population growth was in Tramore reflecting the trend of commuter belt living at distance from places of employment and key services. The promotion of a balanced regional development is a priority for the new Guidelines.

Reasons cited for poor growth in the Waterford Gateway may well be due to the fact that the South East Region is traditionally rural in nature with over 50% of its total population living in rural areas. A breakdown of population figures for the county from the CSO website reports population figures of 20, 327 and 41,886 for rural and urban areas respectively in County Waterford.

4.3.1 Human Health

Human health protection is a fundamental aspect of environmental protection. The Institute of Public Health in Ireland (IPH) is an all-island body which combats health inequalities and influences public policy in favour of health. Its remit is to promote cooperation for public health between the Republic of Ireland and Northern Ireland including areas of monitoring and surveillance. In 2005 an eData website was set up in support of a Population Health Observatory and this website www.inispho.org/edata brings together health-related data from a variety of sources. The IPH is also developing an Irish Health Poverty Index. A population's "health poverty" is a combination of its present state of health and its potential for future health. Health Poverty Indices are local area collections of measures of the complex health, social, economic, environmental and resourcing factors involved in the generation of health and ill-health. There is currently no system for monitoring local health and wellbeing across the island of Ireland. Such a system would provide a local picture as well as highlighting health inequalities from an all-island perspective.⁴

Availability of spatial data on human health on a county basis is limited however human health issues in County Waterford are generally concerned with water quality and quality of life which can be affected by factors such as commuting patterns and provisions for recreation and amenity in the locality. Due to the geology of Waterford radon gas may be an under-detected issue for human health in the county.

⁴ All-Ireland Health and Well-being Data Set (INISPHO) 2008

Radon, a naturally occurring radioactive gas **comes** from the radioactive decay of uranium in rocks and soils and rises up through the ground to disperse in the air. It only becomes a health hazard when it is trapped in buildings. To date, the RPII has measured 1040 homes in Co Waterford and found that over 1 in 5 homes are above the acceptable level. The RPII has identified the area south of the River Suir and bounded by and including Waterford City to the north-east, Tramore to the south-east, Bunmahon to the south-west and Kilmacthomas to the west as being at particularly high risk from radon. The Radiological Protection Institute of Ireland (RPII) believes there are many homes in Waterford high radon levels and urges local people to test for radon and reduce their risk of lung cancer. Nationally, radon is linked to 200 lung cancer deaths per year.

4.3.2 Existing Environmental Pressures/problems; Population and Human Health

Key issues with population and human health are the interrelationships of human health and water quality including drinking water, waste water treatment, recreational bathing waters, fisheries and shellfish waters. The expansion of residential development in towns and villages without full infrastructure requirements being developed for waste, wastewater, drinking water and transport can give rise to environmental pressures on water quality and is associated with increases in commuting distances, travel times and emissions of pollutants to air. There are also interrelationships with air quality in relation to build up of radon gas and climatic factors such as flood risk. With increasing incidence of flood events in recent years the issue of flood risk is one that is causing concern both in terms of impacts on property and human health particularly in areas such as Clonmel. Appendix 3 details a Strategic Flood Risk Assessment of County Waterford.

4.4 Water

An overview of water quality in Ireland is provided in the 2008 EPA report "Water Quality in Ireland 2004-2006". This report shows that on a national basis approximately 71% of river channel, 92% of lake area and 81% of estuarine and coastal waters monitored were of a satisfactory quality. During the review period, over 96% of the marine bathing waters monitored complied with the minimum mandatory standards set by the EU Bathing Waters Directive and national regulations. The main findings of the report were that there was an overall improvement in the quality of water in the state since the previous assessment period and that nutrient enrichment causing eutrophication is the main threat to these systems.

4.4.1 Surface Waters

County Waterford is characterized by a number of south flowing rivers the Blackwater, Colligan, Tay, Mahon and Suir. The Blackwater flows into Youghal, the Colligan drains in to Dungarvan Bay and the Suir to Waterford Harbour.

A number of lakes are located in the east of Co. Waterford and many serve as reservoirs for public water supplies e.g. Ballyscanlon lake, Belle Lake, Ballyshunnock, Carrigavrantry and Knockaderry. The largest lake is Knockaderry Reservoir with an area less than 30 ha in size. The Water Framework Directive reporting threshold for lakes is a minimum of 50 ha in surface area or location in a protected area. A new “water status” assessment approach was implemented in 2008 in Ireland as part of the Water Framework Directive. The approach incorporates chemical and biological monitoring into a status grade for each water body. These early results are based solely on one year’s data reflecting the best current understanding of status.

From the 2008 EPA “Water Quality in Ireland” report river water quality in Ireland between 2004 and 2006 showed some improvement over the 2001-2003 period with 71.4% unpolluted, 18.1% slightly polluted, 10.0% moderately polluted and 0.6% seriously polluted. Table 2 details summary of river water quality in County Waterford in 2008 extracted from the EPA report *River Water Quality in Southeast Ireland 2008*.

Table 4.2 River Water Quality in County Waterford

River	Remarks
<p>Araglin (Colligan)</p> <p>Tributary of the Colligan/Dungarvan Harbour</p>	<p>Results for 2008 are satisfactory</p>
<p>Ballyscanlon Lake</p> <p>(source of Tramore’s Water Supply)</p>	<p>BOD is elevated at times (this could be due to plankton)- but water quality generally satisfactory</p>
<p>Belle Lake</p> <p>(Source of Dunmore East Water Supply)</p>	<p>Water quality in Belle Lake is generally satisfactory</p>
<p>Blackwater (Munster) a designated salmonid river under EU Directive 78/659/EEC. Rises in Co. Cork and flows into Co. Waterford. Tidal below Lismore.</p>	<p>The east channel at Cappoquin has been seriously polluted for many years by effluent from local Poultry plant.</p>
<p>Brickey</p>	<p>The upper reaches have been drained and now</p>

Discharges to Dungarvan Harbour. Tidal in the lower reaches	comprise mainly drainage ditches and sluices. The Brickey is eutrophic and slow flowing- there is abundant weed growth and nitrates are elevated. Overall quality is mediocre
Bride a designated salmonid river under EU Directive 78/659/EEC. Tributary of Blackwater. Tidal below Tallowbridge.	Nitrates are elevated in winter. The last station is tidal and is slightly impacted by backup from the Blackwater Estuary. Quality was reasonably satisfactory in 2008.
Carrigavantry lake Source of Tramore's water supply	Water quality in Belle Lake was generally satisfactory in 2008. The lake has been subject to eutrophic pressures and outbreaks of cyanobacteria occurred in the past.
Carrickphilip Stream Small stream feeding. Knockaderry Reservoir in Co. Wateford.	Overall quality is mediocre. Nitrate levels elevated in winter and colour is naturally high. Low dissolved oxygen at times – could be due to groundwater inflow. High BOD phosphate at times.
Clodiagh Tributary of Suir, flows through Clonea and Portlaw	Very high ammonia in N branch at Portlaw (d/s old tannery landfill- closed since 1985) Poor quality d/s Clonea at times.
Colligan (Freshwater Reaches) The lower tidal/saline reach is incorporated into the sampling programme for Dungarvan Harbour	Water quality is generally satisfactory.
Dalligan To sea at Ballyvoyle Head (E of Dungarvan)	Water quality is generally satisfactory

<p style="text-align: center;">Dawn</p> <p>Tributary of Suir near Adamstown- includes Ballyshunnock Reservoir.</p>	<p>Overall water quality for 2008 was fair. Water quality is normally satisfactory- however the Dawn has been subject to intermittent moderate pollution- probably from agriculture. Ballyshunnock reservoir is eutrophic.</p>
<p style="text-align: center;">Dunhill Stream</p> <p>Flows to the sea at Annestown. Has a proliferation of Reed Beds(on farms and for sewage at Dunhill)</p>	<p>Seriously polluted at Dunhill village (ammonia is consistently high) – this is below Reed Bed for the village and there are also a number of Reed Beds on farms upstream. Nitrates are high and there are indications of eutrophic conditions. There is also a strong odour at Dunhill village at times from the reed bed</p>
<p style="text-align: center;">Finisk</p> <p>Drains area E of Cappoquin, tributary of Blackwater</p>	<p>Usually satisfactory- however quality can deteriorate during periods of high flow.</p>
<p style="text-align: center;">Glenary</p> <p>Suir Tributary Rises in the Comeraghs. Abstraction for Clonmel Water Supply</p>	<p>Water quality is usually satisfactory, but is subject to intermittent pollution from agricultural sources (organic phosphate is very high at times</p>
<p style="text-align: center;">Glendine</p> <p>Drains area N of Youghal. Tributary of Blackwater</p>	<p>Water quality is generally satisfactory. Colour is naturally high during periods of high flow.</p>
<p style="text-align: center;">Glennafallia</p> <p>Rises in the Knockmealdowns, Trib of the Blackwater at Cappoquin</p>	<p>Colour is naturally high at times. Otherwise water quality is generally satisfactory.</p>
<p style="text-align: center;">Goish</p> <p>Drains area E of Villierstown , Trib of Blackwater</p>	<p>Usually satisfactory- however quality can deteriorate occasionally</p>

<p>Kilmurrin Cove Stream</p> <p>To sea at Kilmurrin Cove</p>	<p>Receives effluent from Kill village and may also be affected by intermittent agricultural discharges.</p> <p>Moderately elevated nitrates</p>
<p>Lickey</p> <p>Drains area near Clashmore, tributary of Blackwater</p>	<p>Colour is naturally high during periods of high flow- otherwise water quality is generally satisfactory</p>
<p>Mahon</p> <p>Rises in the Comeragh Mountains and flows through Kilmacthomas to the sea at Bunmahon</p>	<p>Overall conditions are satisfactory. Biological data (for 2007) indicate a slight loss of quality d/s Kilmacthomas and there are indications of eutrophic conditions</p>
<p>Nier</p> <p>Rises in the Comeraghs, trib of Suir near Ballymacarbry</p>	<p>Water quality is satisfactory</p>
<p>Owennashad</p> <p>Rises in the Knockmealdowns, trib of Blackwater at Lismore</p>	<p>Water quality is generally satisfactory. Colour is naturally high at times</p>
<p>Suir</p> <p>(Not including Suir Estuary d/s of Carrick on Suir)</p>	<p>Overall 2006 to 2008 were bad years for water quality in the upper reaches of the River Suir</p> <p>Eutrophic in the lower reaches –near Carrick on Suir</p>
<p>Tay</p> <p>Rises in the Monavulagh Mountains and flows to the sea at Stradbally</p>	<p>Water quality is generally satisfactory</p>
<p>Whelans Bridge</p>	<p>Satisfactory on most sampling dates- however has been subject to intermittent pollution over the years-</p>

<p style="text-align: center;">Knockaderry Reservoir</p> <p style="text-align: center;">Tributary of Suir</p>	<p>with erratic results for BOD, phosphate, ammonia and nitrate.</p>
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The results show that the majority of rivers County Waterford have satisfactory water quality with localized incidents of unsatisfactory conditions near adjacent industrial use. Elevated levels of nitrates in the Bride, Brickey, and Dunhill Stream are likely affected by agricultural discharges.

According to the South West River Basin District Management Plan the River Blackwater is classified as having good groundwater status while its surface water requires ongoing protection. In the South Eastern River Basin District surface water quality in Dungarvan Bay and Waterford Estuary need to be restored and groundwater areas in the River Suir need to be restored.

4.4.2 Groundwater

Groundwater's cover several important aquifers in Waterford including the volcanic rocks and the limestone's underlying the lowland areas. Groundwater is an important source of drinking water but also makes an important contribution to river flows.

Since 2003, the Department of Environment, Heritage and Local Government has recommended that groundwater protection schemes are incorporated into County Development Plans⁵. Groundwater Protection Schemes are county-based projects that are undertaken jointly between the GSI and the respective Local Authority. The overall aim of the groundwater protection scheme is to preserve the quality of groundwater, particularly for drinking water purposes. A Groundwater Protection Schemes was prepared for Waterford in the 19990s.

4.4.3 Drinking Water Quality

The European Communities (Drinking Water) Regulations (No. 2) 2007 came into force in March 2007. In accordance with these regulations, the local authority must notify the EPA where there has been a failure to meet a quality standard. The EPA Report- *The Provision and Quality of Drinking Water In Ireland- A Report for the years 2007-2008* records the overall compliance rate of drinking water in the county in 2007 at 95.2% and below the national average although an improvement from a rate of 94.2% in 2006.

As part of their report the EPA also publish a **Remedial Action List (RAL)** which details water supplies requiring improvement in water quality standards. Inclusion of a public water supply on

⁵ (Circular Letter SP 5/03 – Groundwater Protection and the Planning System)

this list does not mean that the water produced by the supply is unsafe to drink but that some environmental criteria are unsatisfactory. The list is a working list with the possibility of supplies being added or removed as work is completed and further information becomes available. In County Waterford 28 public water supplies are detailed in the Remedial Action List for reasons including inadequate treatment of *Cryptosporidium*, failure to meet *E Coli* Standards, excessive levels of aluminium in treated water, and elevated levels of nitrate. A total of 12 supplies in Co. Waterford were added to the RAL in 2008 while none were removed. Of the supplies on the RAL it is the intention of the County Council that 21 supplies will be upgraded, one will be replaced while 4 will have operations improved to ensure the supply can produce safe and secure water.⁶ The most recent RAL for Water Supplies is presented in Table 4.3 below. Twelve supplies have been removed from the 2008 list and seven added.

Table 4.3. Remedial Action List for Water Supplies in 2011

Name of Water Supply	Population served	Primary reason for inclusion on Remedial Action List
Ballinacourty/Deelish	1,500	Poor turbidity removal
Ballyshunnock	10	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.
Inchinleamy	100	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.
LCB Lismore, Cappoquin, Ballyduff	4,532	Elevated levels of Nitrate above the standard in the Drinking Water Regulations
Rathgormack	127	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.
Tallow	1,164	Supply may not be capable of meeting the new THM standard coming into force at the end of 2008
Ballyduff / Ballylemon	650	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.
Ring / Helvick	1,100	Supply may not be capable of meeting the new THM standard coming into force at the end of 2008
Carrigavantry	2,500	Supply may not be capable of meeting the new THM standard coming into force at the end of 2008
Ballyhane	550	Elevated levels of Nitrate above the standard in the Drinking Water Regulations
Cappoquin	550	Elevated levels of Nitrate above the standard in the Drinking Water Regulations
Colligan	60	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.
Smoorbeg	40	Failed to meet E.coli standard as reported in the Drinking Water Report

⁶ EPA 2009

		and needs investigation and improvement if necessary to ensure that the root cause of the problem has been rectified.
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There were three incidents of *E.Coli* contamination in public water supplies in Waterford in 2007. These were in the Colligan, Currabaha West and Tallow Hill supplies. Although the number of supplies with incidents reduced compared to 2006 (down from 6 in 2006) the number of incidents remains high. Three of the 6 private group schemes monitored were found to be contaminated with *E.coli* in 2007.

4.4.4 Waste Water

The most recent report on *Urban Waste Water Discharges in Ireland Population Equivalents Greater than 500 persons - A Report for the Years 2006 and 2007* was published by the EPA in 2009. This is the first report on urban waste water since the Waste Water Discharge Regulations were introduced in 2007 to tighten controls over local authority operated waste water treatment plants. The report provides a baseline prior to the implementation of the new EPA licensing system for local authority waste water treatment plants. According to the report, continued investment in waste water treatment is required as well as a dramatic improvement by local authorities in the operation and monitoring of existing waste water treatment infrastructure. Key results from the report are as follows;

- 90% of waste water in the country received secondary treatment or better. There has been a noticeable trend of increasing provision of secondary treatment of waste water over the past 10 years.
- Waste water from 192 treatment plants (51%) did not meet the EU quality standards due to plants either not operating properly or being overloaded.
- Waste water was being discharged with either no treatment or basic treatment at 112 locations at the end of the 2007 reporting period. As of June 2009, 93 of these locations remain without treatment or with just basic treatment. In the majority of cases these discharges are to estuarine or coastal waters.
- 158 locations were required to have secondary treatment or higher by 31st December 2005 in accordance with the urban waste water treatment Directive. As of June 2009, 20 of these agglomerations remain without secondary treatment, although plans are in place for the provision of secondary treatment at all locations.

The EPA *Code of Practice: Wastewater Treatment and Disposal Systems Serving Single Houses* (CoP) establishes an overall framework of best practice in relation to the development of wastewater treatment and disposal systems in unsewered rural areas for protection of our environment and specifically water quality. The code replaces previous guidance issued by the EPA on wastewater treatment systems for single houses (EPA 2000) and incorporates the requirements of new European guidelines.

Table 4.4. Compliance of Waterford County Council with the overall requirements of the Urban Waste Water Treatment Directive

Local Authority	Total number of Agglomerations greater than 500 p.e.	Number of Agglomerations with no treatment or only basic treatment	Number of Agglomerations with secondary treatment that failed Standards/Guidance values	Total p.e.
Waterford County	12	7	4(80%)	34,750

Agglomerations without Secondary Treatment in 2007

Agglomeration	Agglomeration PE	Discharge to	Sensitive	Present Treatment
Ardmore	500	Coastal Water	No	Preliminary treatment only
Cappoquin	950	Freshwater (River)	No	Primary treatment only
Dunmore East	1,600	Coastal Water	No	Preliminary treatment only
Kilmacthomas	600	Freshwater (River)	No	Primary treatment only
Stradbally	500	Estuarine	No	Primary treatment only
Tallow	1,200	Freshwater (River)	No	Primary treatment only
Tramore	12,000	Coastal Water	No	New Secondary Treatment Plant commissioned in 2007

According to Circular L6/09 from the Department of Environment, Heritage and Local Government, agglomerations alleged to be not in compliance with Articles 3 and 5 of the EU Urban Wastewater Treatment Directive include Tramore River Valley.

Circular L6/09 also requires water services authorities to undertake a Needs Assessment to be submitted to the Department by October 23 2009. The Needs Assessment was prepared in support of four criteria which are;

1. Water conservation proposals which meet environmental and economic goals.
2. Works required to respond to ECJ judgments.
3. Environment/Public Health Objectives (arising from compliance with Water Framework Directive requirements, Regulations and EPA Reports)
4. Works to support sustainable development of hubs and gateways under the NSS, strategic Developing areas and works to support employment creation.

4.4.5 Estuarine and Coastal Waters

As detailed in the EPA *Ireland's Environment 2008* Report the waters surrounding Ireland support a rich diversity of marine life. According to this report the extensive offshore areas are generally not affected by pollution, while inshore, water quality in most estuarine and coastal waters remains high. A number of estuaries, however mainly in the south-east and south of the country continue to display symptoms of nutrient enrichment and have been classed as eutrophic. Levels of PCBs, dioxins and other contaminants in fish and shellfish are very low and the overall quality of Irish seafood produce remains high. The quality of bathing waters is high and while the bacteriological quality of shellfish in shellfish growing waters is reasonably good, it is likely that additional measures will be required to prevent further deterioration in certain areas. The challenge of implementing an ecosystem- based approach to ensure the sustainable management of Ireland's marine environment as envisaged by the new EU Marine Strategy Directive will be made even more difficult by climate change which is likely to add further complexity to the task of understanding how these systems function. According to this report the most seriously eutrophic water bodies in estuaries of major rivers in County Waterford include the Blackwater.

Table 4.5. Estuarine and Coastal water Quality (Trophic Status) in Ireland's Environment 2008

Site	Trophic Status
Upper Suir Estuary	Potentially Eutrophic
Lower Suir Estuary	Intermediate
Barrow Nore Suir Estuary (Outer)	Unpolluted
Outer Waterford Harbour	Unpolluted
Waterford Harbour Adjacent Coastal	Unpolluted
Colligan Estuary	Intermediate
Dungarvan Harbour	Intermediate
Upper Blackwater Estuary	Eutrophic
Lower Blackwater Estuary	Eutrophic

4.4.6 Shellfish Growing Areas

Dungarvan Bay and Waterford Harbour are shellfish growing areas as delineated by the Sea-Fisheries Protection Authority. The Sea Fisheries Protection Authority is responsible for classifying shellfish production areas as required under Directive 991/492/EEC) and by the 1996 Regulations (SI No 147 of 1996). Dungarvan Bay and Waterford Harbour are classified as Class B – requiring purification for 48 hours before shellfish can be placed on the market. The DoEHLG published Draft Pollution Reduction Programmes for Dungarvan Bay and Waterford harbour in November 2009 to ensure compliance with the standards and objectives established by the Quality of Shellfish Waters Regulations 2006 (S.I. No. 268) of 2001 as amended for the designated Shellfish growing waters.

4.4.7 Bathing Waters

EC Directive 2006/7/EC came into force on 24 March 2006 and repeals the existing Directive (76/160/EEC) with effect from 31 December 2014 and sets out standards for bathing water quality to protect public health and the environment. The new Directive is implemented in Ireland by the *Bathing Water Quality Regulations 2008 (S.I no 79) of 2000*. The purpose of the Bathing Water Regulations is the protection of human health and local authorities should ensure that where any bathing water fails the mandatory standards that the public are made aware of this fact by means of information posted at the bathing area. From the most recent EPA report on *Bathing Water Quality in Ireland- A Report for the year 2008* overall bathing water quality in Waterford appears to be good, however, Dunmore East, Bonmahon and Ardmore only reach the minimum quality standards with overall sufficient or poor water quality. This is of concern considering these towns are key tourist destinations in the county and for the wider region.

Table 4.6. Bathing Water Quality in County Waterford

Site	Compliance
Dunmore East Counsellors Strand	EU Guide Values (Sufficient Quality)
Dunmore East Main Strand	EU Mandatory Values (Good Quality)
Tramore	EU Guide Values (Sufficient Quality)
Bonmahon	EU Guide Values (Good Quality)
Clonea East	EU Guide Values (Good Quality)
Ardmore	EU Mandatory Values (Poor Quality)

Analysis of bathing water quality in the context of the directive and the associated national regulations is separate from though complementary to the European Blue Flag Scheme a voluntary public information and advice scheme administered by An Taisce. To receive a blue flag, a bathing site must, in addition to maintaining a high standard of water quality meet specified objectives with regard to the provision of safety services and facilities, environmental management of the beach area and environmental education. Table 7 below details trends in Co. Waterford's Blue Flag Beaches over the past 4 years.

Table 4.7. Blue Flag Beaches in County Waterford

Blue Flag Beaches in 2006 in County Waterford	Blue Flag Beaches in 2007 in County Waterford	Blue Flag Beaches in 2008 in County Waterford	Blue Flag Beaches in 2009 and 2010 in County Waterford
Dunmore East, (Counsellors Strand) Bunmahon Clonea	Dunmore East, (Counsellors Strand) Bunmahon Clonea	Dunmore East, (Counsellors Strand) Clonea East	Bunmahon Clonea East

4.4.8 Water Framework Directive

Article 6 of the Water Framework Directive requires each Member State to establish a Register of Protected Areas. These areas are considered to need greater protection because they contain sensitive habitats or wildlife species or the need to protect human health including drinking water sources, shellfish growing areas and bathing areas. Protected areas must achieve standards relevant to their designation which may be stricter than good or high status as defined under the Directive.

Table 4.8. Protected Areas under Water Framework Directive in County Waterford

Protected Area	Total Designated Areas
Drinking Waters	Dungarvan, Dunmore East, Tramore Knockaderry, Cappoquin-Kiltorcan, Lismore
Economically Significant Aquatic Species	None
Recreation and Bathing Waters	Bonmahon Ardmore Tramore Main Strand Dunmore East, Main Strand Dunmore East, Counsellors Strand Clonea East
Nutrient Sensitive Waters	River Suir- downstream of Clonmel sewage outfall, to Coolnamuck Weir Suir Estuary (Upper)-from Coolnamuck Weir to Mount Congreve Blackwater Estuary Upper-from Bullsod Island (1 km downstream Lismore Bridge) to Dromana Blackwater Estuary Lower-downstream of Dromana Ferry, to near East Point, Youghal Harbour
Salmonid Waters	River Blackwater
Water Dependant SACs	9
Water Dependant SPAs	6

4.4.9 Existing Environmental Pressures and Water

According to the South East River Basin District Management Plan in order to meet the requirements of the Water Framework Directive, Tramore’s bathing waters and the three Freshwater Pearl Mussel Catchments need to be restored to “good” status; for surface water quality Dungarvan Bay, and Waterford Estuary need to be restored and for groundwater, areas in the River Suir need to be restored.

Treatment of waste water is a significant issue in the county. This is within a national context where an estimated 500,000 houses in Ireland are serviced by on-site sewage systems of which about 75% are traditional septic tanks the majority of which do not work properly. Septic tanks

and sewage systems that operate poorly can lead to water pollution and frequently contamination of drinking water as many reports have highlighted over the years. In 2006 the EPA reported 57% of groundwater sampling locations in the country were contaminated by faecal coliforms. In the absence of or delayed provision of waste water treatment capacity in larger towns and villages an increasing demand for rural housing is anticipated in the coming years which may add to the existing pressures on groundwater quality. The need for regulation of wastewater services is critical to address potential worsening of the situation and was the subject of an ECJ ruling against Ireland in October 2009.

Tramore River Valley has been cited in recent ECJ cases for non compliance with Articles 3 and 5 of the EU Urban Wastewater Treatment Directive. Financial penalties are a potential consequence of failing to meet our environmental protection commitments.⁷

Elevated levels of nitrates and phosphates as a result of agricultural discharges are also a continuing issue for river water quality and requires comprehensive application of the Nitrates Regulations.

Areas in the county that failed EU Bathing Water Standards in recent years are Dunmore East which failed EU Mandatory Standard for faecal coliforms in 2006 and Ardmore which failed EU Mandatory Standard for faecal coliforms in 2006 and failed EU Guide values for total and faecal coliforms in 2007. These issues should be addressed by proposed new treatment plants for Dunmore East and Ardmore which are to be operational by 2011 subject to approval and funding by the DoEHLG.

The local authority prepared an Assessment of Needs for Water Services submitted to the DoEHLG under the Department's Water Services Investment Programme in November 2009. These needs are prioritised under four themes ;

1. Water Conservation Proposals which meet environmental and economic goals
2. Works required to respond to ECJ judgements
3. Environment/Public Health Objectives
4. Works to support sustainable development of hubs and gateways under the NSS

Of current relevance is the Seven Villages Scheme which involves an upgraded sewer network and new Wastewater Treatment Plants in the following towns and villages:

⁷ Irelands Environment 2008, EPA

Table 4.9. Villages scheduled for new Wastewater Treatment Plants

Village	Capacity in Population Equivalent
Ardmore	3,377 p.e
Ballyduff/Kilmeaden	1,098 p.e
Cappoquin	2,556 p.e.
Dunmore East	8,314 p.e.
Kilmacthomas	1,902 p.e.
Stradbally	1,185 p.e.
Tallow	2,527 p.e.

The contract has been progressed to the Contract Document Stage and these documents have been submitted to the DoEHLG for approval in accordance with the requirements of Circular L5/09, subject to the required Foreshore Licences being issued by the Department of Agriculture, Fisheries and Food. Current estimate is that construction of this contract will commence in mid-2011.

4.5 Air and Climate

Air quality in Ireland is generally of a high standard across the country. County Waterford lies in Zone C. EPA monitoring results for 2006 at Zone C demonstrate compliance with the Air Quality Standards limit values for all pollutants.

Global climate change is now recognized as the primary environmental challenge of this century. The European Union is taking the lead in this regard with the adoption of climate changes strategies, including the Kyoto Protocol, aimed at reducing the level of greenhouse gas (GHG) emissions. Under the Kyoto Protocol, the EU has agreed to reduce its GHG emissions by an overall 8%. Ireland's target in the EU "burden sharing" agreement is to limit increases to 13% above 1990 levels by 2008-2012. For the period beyond 2012, the EU Council of Ministers has committed to achieving at least a 20% reduction of greenhouse gas emissions by 2020 compared to 1990 levels.

To ensure Ireland reaches its target under the Kyoto Protocol the Government published a reviewed National Climate Change Strategy 2007-2012. Policy statements such as the White Paper, *Delivering a Sustainable Energy Future for Ireland* sets out the Government's Energy Policy Framework 2007-2020 to deliver a sustainable energy future for Ireland. Local Authorities are working in collaboration with their local energy agencies to implement Climate Change Strategies at local level and a County Climate Change Strategy has been prepared by the Waterford Energy Bureau.

4.5.1 Existing environmental pressures air and climate

Currently there are no significant concerns with regard to air quality in County Waterford. Awareness of Radon gas and need for monitoring in areas containing geology with high uranium content should be promoted. Radon rises up through the ground to disperse in the air and only becomes a health hazard when it is trapped in buildings.

However climate change impacts present real challenges to future land use and location of development in the county. Predicted impacts from projected temperature rises include more concentrated periods of higher rainfall, more exposure to flood risk and increasing coastal erosion pressure in County Waterford along with lower river flows potentially affecting fish spawning and water supply.

4.6 Cultural Heritage

4.6.1 Archaeological Heritage

County Waterford contains over 3,000 Recorded Monuments protected under the National Monuments Acts 1930-2004. A significant number of archaeological sites and monuments have been added to the Record of Monuments and Places as a result of extensive excavations from roads programme in the county in recent years. The County Archaeological Inventory for Waterford was published by the National Monuments Service of the DoEHLG in 1999. There are over 100 known historic graveyards in the county.

Sites of significant cultural heritage value occur in Ardmore and Lismore. The heritage tourism value of these sites is recognised in the Fáilte Ireland South East Tourism Plan 2008-2010. The significant find of Viking material at Woodstown along the River Suir in Co. Waterford indicates potential for an interpretive project about the site in association with a dedicated regional Viking museum/ outreach branch of the National Museum of Ireland in Waterford City.

The coastal aspect of the county provides interest in underwater archaeology along with archaeological potential in intertidal areas. A Shipwreck Inventory is being collated by the Underwater Archaeology Unit of the National Monuments Service.

4.6.2 Architectural Heritage

County Waterford contains a fine stock of architectural heritage including many large country houses and their associated demesne landscapes, ecclesiastical sites and other sites of industrial and vernacular heritage. There are over 500 structures listed in the Record of Protected Structures. Parts of the streetscapes of many of the towns in the county contain groups of buildings which make an important contribution to the streetscape. These significant areas of the built environment have potential to be designated Architectural Conservation Areas (ACAs).

The County is notable for its stock of Thatched houses and Industrial Heritage features along with historic demesnes. Baseline surveys were carried out on Thatch and Industrial Heritage in 2006 and 2007 under the County Heritage Plan to inform their future use and conservation. The most significant Industrial Heritage Sites in Co. Waterford include Portlaw Industrial Village centred around Mayfield House and the mining history of the Copper Coast

County Waterford has been surveyed under the National Inventory of Architectural Heritage and an inventory of architectural heritage was published by the DoEHLG in 2004. A desk survey has also been carried out on historic gardens and demesne landscapes by the NIAH. Waterford has a rich heritage of historic gardens and designed landscapes. Most of Waterford's Demesnes were located in the in the west of the county and along the Suir Valley.

Waterford is noted for the great gardens located in the county including the world rated horticultural collection at Mount Congreve, Curraghmore Estate, Lismore Castle, Cappoquin House, Dromana House, Tourin House and Fairbrook Mill. A Garden Trail is being developed with the assistance of Waterford County Council to promote access to these heritage sites.

4.6.3 Existing environmental pressures/ Cultural Heritage

The maintenance and conservation of the county's Cultural Heritage is key in order to maintain an irreplaceable resource, sense of identity for the county and as a source of visitor interest and tourism revenue. Key issues include the conservation of thatch, conservation and future use of industrial heritage sites, maintenance and conservation of historic graveyards, conservation and access to archaeological sites and monuments, conservation and additions to Record of Protected Structures and maintenance and future use of Demesne Landscapes.

4.7 Landscape

Waterford has a varied landscape and is characterised by mountain ranges in the north- west and centre of the county, several south-flowing river systems and a rugged coastline with many coves and beaches.

The steep sandstone Comeragh Mountains with their dramatic glaciated hollows and lakes are visible from most parts of County Waterford, forming a north-south chain that divides the county into distinct eastern and western parts. The highest point is at 789 m O.D.

To the west lies the limestone-floored valley of the Blackwater running eastwards, from the county boundary in the west, through Ballyduff and Lismore, as far as Cappoquin, where it turns abruptly south and cuts its way through several ridges of sandstone rock forming a steep-sided valley that nineteenth century writers admiringly called the "Irish Rhine". Its upper Waterford tributaries flow from the Knockmealdown Mountains which form the northern boundary of west

Waterford. The highest point occurs at 793m O.D. To the south, the Drum Hills and the peninsula of An Rinn fall sharply into the sea in tall cliffs. The Eastern end of the Dungarvan Valley contains the small Colligan river which empties into the estuary at the County town of Dungarvan and the Finnisk, a tributary of the Blackwater.

East of the Comeraghs the landscape is gentler, bounded to north and east by the Suir River and formed by the sandstone Rathgormack Plateau and by the shaley rocks of the Baronies of Gaultier and Middlethird. Volcanic outcrops among the shales form hills in several place like the Ballyscanlon Hills and the Carrickabansha to Sugar Loaf hills. Volcanic rocks are at their most spectacular and steepest along the cliffs of the south coast, except where the beds of softer shales have allowed the sea to form sheltered south facing coves and beaches. A number of river valleys occur between Dungarvan and Bunmahon namely the Dalligan River, River Tay and River Mahon and Anne stream. East Waterford is very low-lying and has a concentration of lakes and wetlands. Sheltered bays along this coastline provide some of the county's most extensive beaches at Passage East, Woodstown and Tramore.

The diversity of landscapes and natural heritage within the county enables views and prospects of areas of natural beauty from many public roads. Accordingly a number of scenic routes are designated throughout the county. Some of the most attractive landscapes in the county include the Copper Coast, the Blackwater Valley and the approach to the Vee.

4.7.1 Existing environmental pressures/ Landscape

Waterford's landscapes are of key importance to the county's tourism industry. Development of infrastructure including energy networks, wind energy and tourism developments all have the potential to impact on the uplands, waterway corridors, demesne and coastal landscapes of the county. Other environmental pressures on landscape in County Waterford include coastal development, forestry and increase in one-off rural housing.

4.8 GEOLOGY AND SOILS

4.8.1 Geology

The geology of Co. Waterford broadly consists of Old Red Sandstone in the Comeragh and Monavullagh mountains and also between Waterford Harbour and Tramore Bay while the vales of Dungarvan and the Suir are composed of limestone. Karst sites occur at Lismore, Glen Allen, Ballygambon, Ballynamelagh and Kilgreany. The south facing section of the Waterford coast is composed of sedimentary rocks including black shales, flagstones, impure limestone's, slate beds and sheets of volcanic rocks. Sea cliffs are low and alternate with sandy bays. A number of geological heritage sites have been identified by the Geological Survey of Ireland as requiring protection and these are listed for protection in the current County Development Plan. Some sites on the list are of international importance, others of national or county importance. The

stretch of coastline between Tramore and Clonea strand (Copper Coast) and the Comeraghs feature heavily among the sites.

The Copper Coast Geopark is one of only two UNESCO designated Geo-parks in the country in recognition of its long history of copper mining along the coast between Fenor and Stradbally. The aims of the geopark are to develop awareness and understanding of geology and all the other facets of the local heritage, as well as developing geotourism and sustainable economic activity in this rural area.

4.8.2 Soils

Waterford contains a range of soils, which support various habitats and land uses. The Soils of Ireland Map (1995) indicates that the east of the county is mainly covered by Acid Brown Earths with Gleys around Tramore and Brown Podzolics at Cheekpoint and Dunmore East. The peaks of the Comeraghs are covered with Blanket Peat along with Lithosols and Outcropping and flanked by Brown Podzolics. Acid Brown Earths occur around Lismore, Tallow and Dungarvan while Brown Podzolics occur between Tallow and Youghal. Teagasc and the EPA have developed a National Soil Mapping project to update and refine previous soil mapping work. County Waterford is covered by a national Nitrates Action Programme along with the entire state prepared in accordance with Article 5 of the Nitrates Directive.

4.8.3 Existing environmental pressures/ Geology, Soils

EU proposals are currently in train for a Directive that lays down a framework for the protection and sustainable use of soil. Issues concerning protection of soil include flood risk causing run off and siltation in alluvial areas. Eroded soil washed into rivers during heavy rainfall causes an increase in nutrients which can lead to eutrophication of rivers and lakes. Other issues relating to soil include the emerging development of bio-energy crops in the county. A Nitrates Action Programme has been prepared in accordance with Article 5 of the Nitrates Directive and will be applied to Ireland as a whole.

Coastal erosion arising from Climate Change will be a key environmental pressure on geology and soils. Many sites on the Geological Heritage Lists are coastal sites and will be exposed to coastal erosion.

4.9 Material Assets

Material assets is taken to include infrastructure and utilities including rail, road, water supply and wastewater treatment facilities. It also includes economic assets such as quarries, forest estate, agricultural lands, coastal and water resources which support fisheries and tourism industry.

National routes running through the county include the N25 (National Primary, E30 Euroroute), extending from the west at Youghal to the city boundary in the east, and the N72 National Secondary Route) extending from the N25 junction at Tarrs Bridge north of Dungarvan to the county boundary outside of Tallow. Under the infrastructure programme of the National Development Plan Co. Waterford is delivering a road-building programme including the N72 Cappoquin/Lismore Bypass, Waterford City Southern Link Road (partially within the County area) and the Waterford City Bypass linking the N25 to the N9 and N24 at Granagh, Kilkenny including a second bridge crossing to the north of Waterford City completed in 2009.

The South-East Regional Airport is located at Killowen, 12 km south of Waterford City. A local ferry runs between Passage East and Ballyhack. Fishing harbours exist at Helvick and Dunmore East. Coastal defences within the county consist of seawalls, embankments and rock armour. These defences are located along the coast including Tramore, Bunmahon and Clonea.

Water abstractions within the county are taken from a mix of groundwater, lake and river sources and are used for both public and private water supplies. There are over 75 abstraction locations in the county. Water treatment works are located at Adamstown, Portlaw, Tramore and Seafield, Bonmahon.

There are approximately 10 licensed waste facilities within the county which includes 2 landfills at Dungarvan and Tramore and now closed. Remediation works are being carried out at these landfills to address leachate and gas emissions. There are a number of pits and 18 quarries within the county.

Agriculture is the largest use of land cover in the county and consists of mainly pastureland and some tillage. Trends in agriculture are seeing a change from traditional tillage crops grown in the to bio-fuel crops such as Oilseed Rape, Willow and Miscanthus.

According to the 2007 Forestry Yearbook forest plantation occupies 15% landcover of Co. Waterford (28,319 ha) involving 18,693 ha. under public planting and 9,626 ha. private planting. Coillte manage five forest amenity areas in the county; Colligan, Dromana, Faithlegg, Glenshelane and Kilclown.

The use of Integrated Constructed Wetlands has been piloted and developed in Co. Waterford in the Anne Valley near Dunhill involving treatment of effluent from 13 farms.

4.9.3 Existing environmental pressures/ Material Assets

The development of the national road network through the county has facilitated more efficient access but can bring landscape changes in terms of loss of habitat and farmland and the local aggregate deposits that have gone into their construction. However they also facilitate travel by

private car, which has implications for air quality and Ireland’s obligations in terms of meeting agreements under the Kyoto Protocol. The County Waterford Climate Change Strategy sets out an action plan to offset carbon emissions in the county including transport. Remediation of landfill sites at Tramore and Dungarvan is complete and subject to ongoing monitoring of leachate and emissions.

4.10 Interrelationships between the above environmental factors

The interrelationships between the range of environmental topics is an important consideration in the environmental assessment. Table 4.10 below indicates the interrelationships identified between the environmental topics in this assessment. Direct relationships are highlighted in green while purple indicates a low level interrelationship.

Table 4.10 Inter-Relationships between Environmental Topics

Biodiversity, Flora, Fauna	√								
Population/ Human Health	√	√							
Soil	√	√	√						
Water	√	√	√	√					
Air	√	√	√	X	√				
Climate	√	√	√	√	√	√			
Material Assets	√	√	√	√	X	√	√		
Cultural Heritage	X	√	X	√	X	X	√	√	
Landscape	√	X	√	√	X	X	√	√	√
	Biodiversity, Flora, Fauna	Population/ Human Health	Soil	Water	Air	Climate	Material Assets	Cultural Heritage	Landscape

Declining water quality gives rise to associated impacts on population and human health from drinking water supplies (risk of *E-coli*, *Cryptosporidium*), treatment of waster, bathing waters and shellfish waters. Water quality is also linked to soil where inputs of excess nutrients such as nitrates and phosphates into soil cause eutrophication of water and wetlands. Water quality also impacts on biodiversity concerning water dependant habitats and species with concern for indicator species such as the Freshwater Pearl Mussel.

Climate change will impact on a range of environmental criteria from population and human health concerning increased incidences of flooding, impacts on habitats and species from changing temperature conditions, soil run off and coastal erosion.

4.11 EVOLUTION OF THE ENVIRONMENT IN THE ABSENCE OF THE PLAN

Under Section 11 (1) of the Planning and Development Act 2000 this Plan is subject to review and thus the absence of a review of the current County Development Plan would not be in compliance with statutory obligations under the Planning Acts.

In view of pressures on water supply and waste water treatment and the environmental issues detailed above, the consideration of de-zoning areas of land zoned in the current County Development Plan is appropriate to avoid further decline in water quality and pressure on groundwater. A review of zoned land in the current plan indicates there is approximately 800 ha of land currently zoned but not developed indicating adequate availability of zoned land for the medium-long term.

In the absence of policies in the County Development Plan which includes de-zoning of land in Ballinameela, Ballymacaw, Ballysaggart, Butlerstown, Faha, Fewes, Fourmilewater, Grange, Kilbrien, Kilrossanty, Knockanore, Melleray, Modeligo, Newtown, and Touraneena further development will bring pressures on water quality as many of these areas are in areas of high groundwater vulnerability (e.g. Grange and Modeligo) or are not served by wastewater treatment systems.

4.12 Conclusion – Significant Environmental Issues

In summary, key environmental pressures in the county relate to water quality with the need to restore surface water quality in Dungarvan Bay, and Waterford Estuary, groundwater's around the River Suir, Bathing Waters in Ardmore and Dunmore East, continued monitoring of public water supplies and provision of sufficient capacity in waste water treatment plants and the Seven Villages Scheme. The need to maintain water quality is key to conservation of biodiversity and water dependant habitats and species. Climate change impacts involving floodrisk and coastal erosion will also require to be considered in future land use and development patterns in the county.

4.13 CONSIDERATION OF ALTERNATIVE DIRECTIONS

It is required in the legislation that the Environmental Report must consider “reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme” and the significant environmental effects of the alternatives selected.

Alternative strategies that were considered are outlined below.

Alternative Strategy Option 1- Continue with existing zoning in Current County Development Plan

A review of the current County Development Plan showed that under the existing area of zoned land in the county (approximately 1,449 ha.) approximately 785ha remains undeveloped indicating adequate availability of zoned land for the medium-long term.

Continuation of and extension to existing areas of zoned land may give rise to environmental issues that are contrary to achieving the objectives of the Water Framework Directive, national energy policy, DoEHLG Sustainable Rural Housing Guidelines and in the immediate scenario of planned infrastructure for water supply and waste water treatment. Smaller towns and villages are unlikely to receive new infrastructure for waste water treatment in the short to medium term. While this will likely lead to an increase in demand for further dispersed settlement in rural areas the objectives of the Water Framework Directive and the 2009 Surface Water Regulations will preclude development in sensitive or protected areas.

Alternative Strategy Option 2- Reduce the area of zoned land in the current County Development Plan

De-zone lands in Ballinameela, Ballymacaw, Ballysaggart, Butlerstown, Faha, Fewes, Fourmilewater, Grange, Kilbrien, Kilrossanty, Knockanore, Melleray, Modeligo, and Newtown.

Retain settlements with some de-zoning at Aglish, Anestown, Ardmore, Baile na nGall, Ballinroad, Ballyduff West, Bunmahon/ Knockmahon, Clashmore, Clonea-Power, Clonmel Environs, Dunhill, Heilbhic, Lemybrien, Lismore, Rathgormuck, Passage East, and Sean Phobal.

Retain Settlements with phased zoning at Ballyduff East, Ballymacarbry, Bawnfune, Cappoquin Carrick on Suir, Cheekpoint, Clonmel Environs, Croke, Dunmore East, Dungarvan Environs Fenor, Kill, Kilmacthomas, Kilmeaden, Maoil a Choirne, Piltown, Portlaw, Stradbally, Tallow, Touraneena and Villierstown.

Preferred Option- Option 2

The County Development Plan aims to support growth in existing zoned settlements and where existing and proposed infrastructural capacities permit. A review of the current County Development Plan showed that of the existing 1,449 ha of residential zoned land in the county (this excludes Tramore and Dungarvan which are subject to their own Town Plans) approximately 785 ha. remains undeveloped. The Plan proposes to reduce the area of zoned land through de-zoning of 324 ha providing an area of 461 ha for residential development over the lifetime of the plan 2011-2017. Appendix 2 details water and waste water treatment capacity in

zoned settlements in the county and indicates the pressure areas where limits are in sight giving rise to potential water pollution problems. The Regional Planning Guidelines 2010-2022 set out a requirement of zoned housing land in the county of 85ha for the period 2010-2016 based on the county share out from the population projections established for the South East Region by the DoEHLG. Thus it is in the interests of the future settlement strategy for the county and wider region and in terms of environmental infrastructure to support a sustainable pattern and rate of future growth and accordingly Option 2 is the preferred option.

5 ENVIRONMENTAL PROTECTION OBJECTIVES RELEVANT TO THE COUNTY DEVELOPMENT PLAN 2011-2017

5.1 INTRODUCTION

The use of environmental protection objectives fulfils obligations set out in Section F, Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004. The environmental protection objectives are distinct from the County Development Plan objectives and provide a standard against which the policies and objectives of the County Development Plan can be measured in order to highlight those with the potential for environmental impact. They are used as a tool to cross check the policies of the County Development Plan in order to maximise the environmental sustainability of the County Development Plan. The cross checking process will help identify policies that will be likely to result in significant adverse impacts, so that alternatives may be considered or mitigation measures may be put in place.

The environmental protection objectives for the County Development Plan have been generated from European, National and Regional Policy and Guidance. Sample objectives are given in Table 4B of the SEA Guidelines produced by the DoEHLG in 2004 and these were amended to reflect the specific issues that are considered relevant to the Plan and the range of issues that are significant within the county. The scoping process informed the generation of appropriate objectives. The objectives are set out below, under a range of headings, which were taken from the SEA Regulations and the DoEHLG guidelines.

5.2 ENVIRONMENTAL PROTECTION OBJECTIVES

5.2.1 BIODIVERSITY, FLORA AND FAUNA

B1: Protect, conserve and enhance habitats, species and areas of national or international importance, including aquatic habitats and species and promote the sustainable management of habitat networks.

5.2.2 POPULATION AND HUMAN HEALTH

- P1: Facilitate a good standard of health for County Waterford's population through ensuring high quality residential, recreational and working environments and minimising water pollution.
- P2: Reduce the risk of flooding and harm to people, property and the environment.

5.2.3 WATER RESOURCES

- W1: Protect and where possible enhance the quality of surface and ground waters as sources of drinking water and as valuable assets for amenity and recreation.
- W2: Achieve and maintain required water quality standards and reduce discharges of pollutants or contaminants to waters.

5.2.4 AIR AND CLIMATE

- AC1: Support implementation of the National Climate Change Strategy 2007-2012.
- AC2: To improve travel choice and accessibility, reduce the need for travel by car and shorten the length and duration of journey.
- AC3: To increase energy efficiency and the proportion of energy generated from renewable sources in the county.

5.2.5 CULTURAL HERITAGE

- C1: Protect and conserve features of architectural and archaeological heritage.

5.2.6 LANDSCAPES

- L1: Protect and conserve the quality, character and distinctiveness of landscapes including uplands, waterway corridors, demesnes and coastal areas and minimise negative visual impacts.

5.2.7 SOILS AND GEOLOGY

- S1: Protect the quality of soils and prevent erosion of soils and geological sites in the county.

5.2.8 MATERIAL ASSETTS

- MA1: Maintain the quality of and access to assets such as open spaces, water resources and all other physical and social infrastructure.

5.3 Use of Environmental Protection Objectives

The above Environmental Protection Objectives have been used to carry out the SEA in accordance with the legislation. They provide a standard against which the policies of the County Development Plan were measured for their environmental sustainability. A crosschecking process has been used whereby the County Development Plan policies and development objectives and proposed material amendments were proofed against the Environmental Protection Objectives so that any policies/development objectives with the potential for significant adverse environmental impacts were highlighted in addition to significant positive impacts. Alternative strategic options were considered and mitigation measures proposed to counteract any adverse environmental effects identified, thereby maximising the environmental sustainability of the County Development Plan 2011-2017.

6 STRATEGIC ENVIRONMENTAL ASSESSMENT OF COUNTY DEVELOPMENT PLAN 2011-

6.1 Methodology for Assessment and Determination of Significance of Effects

Matrices are the mechanism by which conflicts or potential conflicts between the policies of the County Development Plan and the strategic environmental objectives have been identified. These matrices are provided in Appendix One to this Environmental Report. The likely significant effects that the policies contained in the County Development Plan will have on the environment were identified in this process.

Each strategic policy and objective and material amendment proposed in the Draft County Development Plan was assessed against the agreed SEA objectives.

The Draft produced was then formally assessed using the matrix (see Appendix One). The assessment of each was assigned a symbol;

- + Significant beneficial impact
- ? Uncertain impact
- X Significant Adverse impact
- O No relationship, or insignificant impact

Evaluation of significance requires consideration of various questions, which will establish the importance, or “significance”, of the predicted impact:

1. Will the policies and objectives in the Draft County Development Plan lead to a risk of environmental standards being breached?
2. Could it lead to failure to achieve environmental policies or targets?
3. Will it affect environmental resources, which are protected by laws or policies, e.g. Natura 2000 habitats, species, landscapes, water resources, agricultural resources and cultural heritage sites, etc.?
4. Could it lead to impacts on environmental resources, which, although not legally protected, are important or valuable?

As a follow on from the preparation and evaluation of the previous sections of the report, i.e. baseline data and trends, existing significant issues, environmental vulnerabilities, the above questions were considered in determining significance of environmental effects identified. Suggested alternatives, mitigation, and offsetting, to the potential identified significant effects were identified and amendments to the Draft County Development Plan 2011-2017 made where required.

6.2 Summary of Likely Significant Effects of Implementing the County Development Plan 2011-2017 on the Environment and Measures Proposed to Prevent, Reduce or Offset

6.2.1 Introduction

The full matrix and assessment of policies against environmental objectives is included in Appendix One of this report. A summary of the outcome of this assessment is provided in this section.

In accordance with the legislation, the likely significant effects on the environment of implementing the County Development Plan 2011-2017 are summarised under headings that include all of the issues required to be covered. Potential significant positive environmental effects are highlighted as well as uncertain, potential negative, and neutral impacts and full details of these impacts can be seen in the matrix in Appendix One.

Depending on the level of significance, which was determined based on the scale and cumulative nature of the potential impact, measures to offset or mitigate against significant negative environmental effects have been provided. For those with a higher level of significance, a recommendation will be made to remove or alter the policy so as to prevent or reduce the impact if possible.

Assessment of the policies and development objectives in the County Development Plan 2011-2017 shows that in the main, these policies and objectives will not pose a significant adverse impact on the environment. Many of the policies and objectives are considered positive, setting out to manage and protect aspects of the environment such as water quality, landscape, heritage resources and management of flood risk. Due to the strategic nature of the plan some of the broad range objectives cannot be accurately appraised to infer a definite positive or negative impact and so have been assessed as “uncertain” as a lower level tier assessment will be more appropriate to determine the precise nature of the impacts involved. This may relate to strategic policies/objectives concerning specific projects or other framework plans that may also require SEA at their inception.

To qualify “uncertain” impacts the range of issues for consideration under the various environmental topics is detailed below.

6.2.2 Biodiversity, Flora, Fauna

Impacts may be uncertain from policies and development objectives in the Plan in relation to biodiversity where objectives relate to strategic infrastructure projects such as harbours/marinas/energy and communications networks/road developments and these will be more appropriately assessed at the project level by EIA and Appropriate Assessment. Similarly, impacts from other strategic plans such as the Waterford Economic Development Plan and Coolnamuck Masterplan will involve environmental assessment of those plans and not through the County Development Plan assessment.

In fulfilment of the requirements of Article 6 (3) of the Habitats Directive an Appropriate Assessment was carried out to assess the impacts of the Draft Plan on the Natura 2000 network. The findings of the Assessment are brought forward through the Environmental Report and policy amendments as proposed in Appendix 1 of the Appropriate Assessment Screening Report are recommended to be incorporated in order to avoid any adverse impacts on the integrity of Natura 2000 sites and ensure compliance with Article 6 of the Habitats Directive.

Section 8.19 of the Plan and policy NH6 provide for compliance with Article 6 of the Habitats Directive.

In relation to objectives for riverside walkways/linear parks proposed in Cheekpoint DO2, Dungarvan DO2 and Kilmacthomas DO2, any potential impacts on biodiversity will be mitigated by the range of policies contained in Section 8 of the County Development Plan relating to Natural Heritage.

Screening was carried out on the proposed material amendments to the plan including policies, objectives and zonings in October 2010. The screening assessment recommends the proposed tourism zoning for Bonmahon excludes the area designated under the Mid-Waterford Coast SPA in order to avoid loss of integrity or impacts on the conservation objectives for the site (Appendix 2). Zonings proposed for Dungarvan Environs including Ballinure and Military Road and other settlements adjacent to Natura 2000 sites will be subject to provisions of 8.19 of the Plan regarding requirements for Appropriate Assessment under the Habitats Directive.

Positive impacts on biodiversity are identified through the proposal to protect sites of local biodiversity interest particularly wetland sites as listed in Schedule A12 of the Plan. Development Management Standards in the Plan (10.36.2) include de-exemption of drainage and infilling of wetlands that are listed for protection in the county Development Plan which is a further positive impact on the conservation of wetlands in the county.

6.2.3 Population and Human Health

Uncertainties in relation to human health arise where impacts on water quality and flood risk are to be determined. Water quality includes drinking water, bathing water and shellfish waters. Generally, impacts on population and human health should be positive as the County Development Plan seeks to provide for growth in existing towns and villages which can provide benefits and services while promoting enhanced travel choice, protection of heritage and environment, and access to amenity and recreation. The Settlement Strategy has been drawn up in recognition of the existing and future proposed capacities in water and waste water infrastructure and is designed to promote population growth in the interests of avoidance of environmental degradation and damage to human health.

Development Objectives for Ballyduff west, Ballymacarbry, Cappoquin, Carrick on Suir, Cheekpoint, Clashmore, Clonmel Environs, Dungarvan Environs, Lismore, Piltown and Tallow

include the protection of the floodplain in those settlements thus seeking to avoid flood risk to people and property in those settlements.

6.2.4 Water

Impacts on environmental objectives for water quality may be uncertain at the strategic level as significance of impact depends on the provision of adequate waste water treatment and capacity to service continued population growth in all of the zoned settlements.

While continued population growth promoted in the County Development Plan could give rise to deteriorating water quality standards it is considered the provisions of the 2007 Waste Water Discharge Regulations and priority scheme for the Water Services Investment Programme laid out in Circular L6/09 will set out to address any existing future deficiencies in the infrastructure required to service this growth.

A de-zoning of approximately 241 ha was proposed in the review of the County Development Plan 2005-2011. Mitigation for water quality issues was further addressed by policies in the County Development Plan 2011-2017 precluding further development until the appropriate level of capacity has been supplied and phased development requiring waste water treatment infrastructure to be in place prior to new development.

Strategic infrastructure may have impacts on run off and discharge to water bodies and this will be more appropriately assessed at the project level through EIA.

6.2.5 Air & Climate

Determining impacts on the environmental objective for Climate may be uncertain whereby objectives for upgrading roads may be conducive to further promoting use of the private car and thus increasing carbon emissions but this may be off-set by objectives promoting increased use of commuter rail services and promoting growth in existing towns and villages and providing for walkways and cycle paths thus providing services and opportunities that reduce the need for people to travel increased distances for education, work and leisure. It was recommended that the Draft Plan be amended to include an additional objective in Section 7 Infrastructure to support the policies of “Smarter Travel- A Sustainable Transport Future A New Transport Policy for Ireland 2009-2020” published by the Department of Transport and this was included in the proposed material amendments to the Draft Plan.

6.2.6 Cultural Heritage

Cultural heritage may be impacted by expanding development in towns and villages and increased recreational pressure subjecting sites and monuments to increased erosion and weathering. Development of urban settlements in areas of archaeological potential will require archaeological assessment and architectural heritage appraisal at the framework plan and project

levels to determine impacts on the cultural heritage. Development of harbours, piers and marinas will need to consider impacts on underwater archaeology through archaeological assessment in EIA.

6.2.7 Landscape

Impacts on landscapes may arise from a range of developments including communications networks, energy networks, forestry, recreational pressure and tourism developments. The nature and extent of impacts can be determined at project level by landscape impact assessment and landscape capacity studies. The development of a National Landscape Strategy and National and County Landscape Character Assessment will assist in informing such appraisal. Major infrastructure projects will be subject to EIA involving assessment of impacts on landscape.

6.2.8 Soil and Geology

Impacts on soils may be uncertain in the case of other strategic plans such as land use and bioenergy crops. Dependant on the scale of land-use devoted to growing bio-energy crops in the county this may or may not have long-term impacts on soil matter regarding content of organic matter. This will be more appropriately assessed through implementation of that particular plan and subject area. Similarly development of greenfield sites will be subject to environmental assessment through the planning process. The protection of alluvial soils will be enhanced by the required application of Strategic Flood Risk Assessment and flood risk mapping at the County Development Plan level and by OPW CFRAMS.

6.2.9 Material Assets

Impacts on material assets for some objectives may be uncertain and will require a flood risk assessment to be carried out to determine potential risk of flooding on coastal areas, infrastructure and agricultural lands.

6.1.1 Conclusion

SEA assessment of the Development Plan policies has determined that no significant adverse impacts are predicted from the Plan while positive impacts will be realised through proposed policies for protection of wetlands as sites of local biodiversity interest and protection of floodplains in zoned settlements.

The findings of “uncertain” impacts in the SEA matrix will be determined at a lower level of environmental assessment largely through EIA and AA at the project level. These assessments will involve application of Appropriate Assessment, landscape appraisal, archaeological and architectural heritage appraisal and flood risk assessment to accurately determine the impacts under the range of environmental headings detailed above.

The finding of uncertain impacts on Natura 2000 sites through the Appropriate Assessment process were addressed through the incorporation of amendments to Draft Plan policies as recommended in Appendix 1 of the AA report.

It was recommended that potential impacts on Air and Climate be further offset by inclusion of an additional objective in Section 7 Infrastructure of the Draft Plan to support the policies of Smarter Travel- A Sustainable Transport Future A New Transport Policy for Ireland 2009-2020” published by the Department of Transport.

Compilation of the Environmental Report and public consultation process informed the proposed material amendments to address key environmental issues in the county as highlighted in section 4.12 of the report. Table 6.1 below details the relevant policy and section in the Plan that addresses the key Environmental Topics.

Table 6.1

Key Environmental Issue		Relevant Co. Dev Plan policy
Water Quality	Surface Waters	Section 8.4
	Coastal & Estuarine Waters	Section 8.6
	Bathing Waters	Section 8,7 Obj ENV2
	Shellfish Waters	Section 8.15 CP6
	Groundwater	Section 8.4
	Drinking Water Quality	Section 7.15.1
	Waste Water	Section 7.15
	Water Conservation	Section 7.15
Biodiversity	Designated sites	Section 8 Policies NH1-NH7
	Local Biodiversity	Section 8.21
	Invasive Species	Section 8.26

7 MONITORING

7.1 Introduction

As part of the Strategic Environmental Assessment process, measures envisaged for monitoring the likely significant effects of implementing the County Development Plan must be included in the Environmental Report. The review of the County Development Plan 2011-2017 will include monitoring of any significant environmental effects.

Monitoring is often based on indicators, which measure changes in the environment, especially changes which are critical in terms of environmental quality. The Department of Environment Heritage and Local Government SEA Guidelines state that indicators that can be easily and realistically measured should be used. “Environmental indicators are key statistics, which describe an environmental issue. Their purpose is to communicate information on environmental issues in a simplified manner and over time to create a benchmark against which future progress towards sustainable development can be measured. To be effective they should be representative of the issue and be based on scientifically valid information. In this manner they can support policy development and reflect the interrelationship between society, the economy and the environment.”

Several kinds of indicators may be used to fulfil particular functions and measure the quality/quantity of environmental resources:

1. State of the environment indicators reflect environmental quality, or quantity of physical and biological or chemical phenomenon;
2. Stress indicators reflect development effects;
3. Performance indicators may be used to evaluate long-term achievements in environmental management and protection;
4. Sustainable development indicators introduce a new dimension to the provision of information, in that they seek to describe and measure key relationships between economic, social and environmental factors.

In all cases, indicators should both quantify and simplify information, thereby making it more accessible to policy-makers and the public.

Where new or improved monitoring measures come to light during the course of the Guidelines review they will inform monitoring for SEA, to ensure that monitoring of effects during the course of implementing the guidelines can be meaningful and effective.

The following measures are proposed as part of this SEA process, to monitor the effects on the environment of implementing the Draft County Development Plan 2011-2017, presented in terms of the achievement of the environmental protection objectives and the impact on the environmental factors that the SEA legislation requires to be considered.

7.1.1 Monitoring Proposals and Environmental Indicators

Environmental Objectives, Indicators and Targets

Biodiversity, Flora, Fauna					
Environmental Objectives	Indicators	Responsible Authority	Frequency of Monitoring	Targets	Intervention
B1: Protect, conserve and enhance the diversity of habitats, species and areas of national or international importance, including aquatic habitats and species and promote the sustainable management of habitat networks.	Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive.	NPWS of DoEHLG	Every 6 years. Next report due in 2014	Maintenance of favourable conservation status ⁸ for all habitats and species protected under national and international legislation.	Loss of favourable conservation status of protected habitats and species
	Reproduction in Freshwater Pearl Mussel populations.	NPWS of DoEHLG	Every 6 years under Article 17 Next report due in 2014	Compliance with Catchment Plans for Freshwater Pearl Mussel. Compliance with Water Framework Directive River Basin District Management Plans.	Increased mortality of Freshwater Pearl Mussel populations Non-attainment of targets set out in RBDMPs

Population and Human Health					
Environmental Objectives	Indicators	Responsible Authority	Frequency of Monitoring	Targets	Intervention
P1: Facilitate a good standard of health for the County's population through ensuring high quality residential, recreational and working environments and minimising water pollution..	Provision of employment, services and amenities within the county.	Central Government, IDA Ireland, Enterprise Ireland County Enterprise Board Waterford County Council	ESRI quarterly index Monthly Live Register CSO Ongoing	Increase in employment opportunities, services and public amenity within the county	Ongoing
	Quality of Shellfish Growing Areas in and implementation of Pollution Reduction Programmes for designated areas.	Marine Institute Water Quality Section, DoEHLG	PRPs reviewed every 3 years	No Shellfish Areas to be graded as Class C. Implementation of Pollution Reduction Programmes for designated areas.	Class C shellfish areas Loss of Blue Flag Beach Status
	Number of Blue Flag Beaches in the county	Waterford County Council EPA An Taisce	Annual	Restore Blue Flag Status to beaches that have lost Blue Flag.	
P2: To reduce the risk of flooding and harm to people, property and the environment.	Properties at risk of flooding. Number of Development Plans Local Area Plans and Development applications subject to Strategic Flood Risk Assessment. Areas of lands zoned for	Waterford County Council OPW	Ongoing	Reduction in incidents of flood damage to properties. SFRA's completed for all Development Plans and Local Area Plans at review stage. Minimal area of land zoned for	Flooding incidents that cause damage to people, property and the environment

	vulnerable development in lands classified as Flood Zone A or B as defined in DoEHLG Guidelines on Planning and Flood Risk Management.			vulnerable development in flood zones A and B. Completion of CFRAMS for River Suir, SE and SW River Basin Districts	
Water					
Environmental Objectives	Indicators	Responsible Authority	Frequency	Targets	Intervention
<p>W1: Protect the quality of surface and ground waters as sources of drinking water and as valuable assets for amenity and recreation.</p> <p>W2: Achieve and maintain required water quality standards in the South East and South West River Basin Management Plans and associated Programme of Measures and reduce discharges of pollutants or contamination to waters.</p>	<p>Water quality monitoring results by the EPA for:</p> <p>Surface Water Ecological and Chemical Status. Trophic Status of Estuarine and Coastal Waters. Bathing Water Quality. Groundwater Quality. Drinking Water Quality.</p> <p>Number of Public Water Supplies on EPA Remedial Action List.</p> <p>EPA data under <i>Urban Waste Water Discharges in Ireland Population Equivalents Greater than 500 persons - Reports for the Years 2008 and 2009 and 2010-2011</i>. Agglomerations over 500 without Secondary Treatment.</p> <p>Number of Discharge Licences granted by EPA.</p>	EPA Waterford County Council	Annual	<p>Protect and Restore areas identified in the River Basin District Management Plan required to achieve “good” status, i.e. 4+ for water quality by 2015 in line with the Water Framework Directive objectives.</p> <p>Improvement or at least no deterioration in levels of compliance with drinking water quality standards and promotion to above national average compliance rate.</p> <p>Commission secondary treatment plants in areas with inadequate treatment and capacity for waste water.</p>	Deterioration in Water Quality Standards Non attainment of WFD standards and River Basin Management Plans

Air and Climate					
Environmental Objectives	Indicators	Responsible Body	Frequency	Targets	Intervention
AC1: Support Implementation of National Climate Strategy 2007-2012.	National Level of Carbon Emissions.	EPA	Annual	20% reduction of greenhouse gas emissions from 1990 levels by 2020.	Ongoing efforts to reduce emissions
	Delivery of County Climate Change Strategy	Waterford Energy Bureau Waterford County Council	5 years	Full delivery of Co. Waterford Climate Change Strategy	Ongoing delivery of Climate Change Strategy
AC2: To improve travel choice and accessibility, reduce the need for travel by car and shorten the length and duration of journey	Average daily motor vehicle flow within county	Waterford County Council	Ongoing	To reduce road traffic in line with DoEHLG policy <i>Smarter Travel A Sustainable Transport Future</i>	Non-attainment of targets set out in <i>Smarter Travel A Sustainable Transport Future</i>
	Proportion of travel by mode	Dept. of Transport			
	Monetary investment in bus and rail, walking and cycling	National Transport Authority			
AC3: To increase energy efficiency and the proportion of energy generated from renewable sources in the county	Installed capacity for energy production from renewable source	Waterford Energy Bureau Waterford County Council		Increase in sources of energy production from renewable sources	Non-attainment of targets set out in National Climate Change Strategy and Waterford Climate Change Strategy

Cultural Heritage					
Environmental Objectives	Indicators	Responsible Body	Frequency	Targets	Intervention
C1 Protect and conserve features of architectural and archaeological heritage.	Number of structures in RPS in relation to Ministerial Recommendations arising from NIAH County Inventory	DoEHLG NIAH Waterford County Council	Ongoing	To increase the number of Protected Structures in line with ministerial recommendations arising from NIAH surveys.	Damage to or loss of Protected Structures
	Number and range of ACAs designated in the county (townscape/demesne landscapes).	Waterford County Council	Ongoing	To increase the number and range of ACAs in the county to conserve both townscapes and demesne landscapes.	Damage to or loss of ACAs
	Number of Monuments in the RMP and areas of archaeological potential which have been recorded or subject to exploration as a result of development.	DoEHLG National Monuments Service	Ongoing	To maintain and increase the number of archaeological features recorded and protected.	
	Number of protected structures or archaeological monuments damaged due to development.	Owners		No damage occurring to structures or monuments due to development.	Damage to or loss of Protected structures or national monuments

Landscape

Environmental Objectives	Indicators	Responsible Body	Frequency	Targets	Intervention
L1: Protect and conserve the quality, character and distinctiveness of landscape including uplands, waterway corridors, demesne and coastal landscapes and minimise negative visual impacts.	Area of landscape designated as scenic landscapes, sensitive and visually vulnerable. Preparation of Landscape Character Assessments	Waterford County Council	6 yearly at Dev. Plan review Once off	Increase in area in subject to landscape conservation. Preparation of a Landscape Character Assessment. Appropriate Heritage Appraisal and Landscape Capacity Assessment to inform any future development of uplands, waterway corridors, demesne and coastal landscapes.	Damage to or loss of scenic landscape value Review of County Development Plan Damage to or loss of landscape value

Soils and Geology

Environmental Objectives	Indicators	Responsible Body	Frequency	Targets	Intervention
S1: Protect quality of soils and prevent erosion of soils and geological heritage sites in the county	EPA/Teagasc National Soils Mapping project. Number/ Area of geological heritage sites mapped by Geological Survey of Ireland.	EPA/Teagasc GSI	Ongoing Ongoing	Conservation of soil quality re organic matter. Retain/ increase number of geological heritage sites in the county.	Loss of soil quality and soil erosion Review of County Development Plan

Material Assets

Environmental Objectives	Indicators	Responsible Body	Frequency	Targets	Intervention
MA1: Maintain the quality of and access to assets such as open spaces, water resources and all other physical and social infrastructure.	Access to public amenities and visitor numbers.	Waterford County Council Fáilte IrelandOPW	Ongoing	Increased visitor numbers to cultural heritage sites. Increased usage of Waterway Corridors as a public amenity .	Damage to or loss of sites of amenity value

Appendices

Appendix 1A SEA Assessment Matrix of County Development Plan Policies

Impacts	Neutral	Positive	Uncertain	Negative
Development Plan Policy/ Objective				
SS1		P1 P2 W1 W2 AC1 AC2 AC3 C1 L1 S1 MA1	B1 ⁹	
SS2	C1	B1 P1 P2 W1 W2 AC1 AC2 AC3 L1 S1 MA1		
SS3	C1 MA1	P1	B1 P2 W1 W2 AC1 AC2 AC3 L1 S1	
SS4		B1 P1 P2 W1 W2 AC1 AC2 AC3 C1 L1 S1 MA1		
SS5	C1 MA1	P1	B1 P2 W1 W2 AC1 AC2 AC3 L1 S1	
SS6		B1 P1 P2 W1 W2 AC1 AC2 AC3 C1 L1 S1 MA1		
SS7	MA1	B1 P1 P2 W1 W2 C1 L1	AC1 AC2 AC3S1	
SS8		P1 P2 W1 W2 L1 S1	B1 AC1 AC2 AC3 C1 MA1	
SS9	MA1	P1	B1 P2 W1 W2 AC1 AC2 AC3 C1 L1 S1	
SS10	AC1 AC2 AC3 C1 MA1	B1 P1 P2	W1 W2L1 S1	

⁹ AA report recommends wording amendment to section 1.3 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 site

H1	P2 W1 W2 S1 LI MA1	P1 AC1 AC2 AC3 S1	B1 ¹⁰	
H2	B1 P2 W1W2 AC1 AC2 AC3 C1 LI SI MA1	P1		
H3	B1 P2 W1W2 AC1 AC2 AC3 C1 LI SI MA1	P1		
H4	B1 P2 W1W2 C1 LI SI MA1	P1 AC1 AC2 AC3		
H5	B1 P2 W1W2 AC1 AC2 AC3 C1 LI SI MA1	P1		
H6	B1 P2 W1W2 AC1 AC2 AC3 C1 LI SI MA1	P1		
H7	B1 P2 W1W2 AC1 AC2 AC3 C1 LI SI MA1	P1		
H8	B1 P2 W1W2 AC1 AC2 AC3 C1 LI SI MA1	P1		
H9	B1 P2 W1W2 AC1 AC2 AC3 C1 LI SI MA1	P1		
H10	B1 P2 W1W2 C1 LI SI MA1	P1 AC1 AC2 AC3		
ECD1	P2W1 W2 C1 LI S1 MA1	P1	B1 AC1 AC2 AC3	

¹⁰ AA report recommends wording amendment to section 1.3 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 site

ECD2				
ECD3	B1 P2 W1 W2L1 S1 C1 MA1	P1 AC1 AC2 AC3		
ECD4				
ECD5	C1 MA1	P1 AC1 AC2 AC3	B1 P2 W1 W2 L1 S1	
ECD6	B1 P2 W1 W2 C1 L1 S1	P1 AC1 AC2 AC3 MA1		
ECD7		P1 MA1	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI S1	
ECD8	B1 P2 W1 W2 AC1 AC2 C1 L1 S1 MA1	P1 AC3		
ECD9	B1 P2 W1 W2 AC1 AC2 C1 L1 S1 MA1	P1 AC3		
ECD10		P1	B1 ¹¹ P2 W1 W2 AC1 AC2 AC3 C1 LI S1 MA1	
ECD11	AC1 AC2 AC3 C1 L1 S1 MA1	P1	B1 P2 W1 W2	
ECD12	B1 P2 W1 W2 AC1 AC2 AC3 C1 S1 LI MA1	P1		
ECD13		P1	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI S1MA1	
ECD14		P1	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI S1MA1	
ECD14o	B1 P2 W1 W2 C1S1	P1 AC1 AC2 AC3L1 MA1		

¹¹ AA report recommends wording amendment to ECD10 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

ECD15	B1 P2 W1 W2 C1 LI S1	P1 AC1 AC2 AC3 MA1		
ECD o2	B1 P2 W1 W2 AC1 AC3 C1 LI S1 MA1	P1 AC2		
ECD16	B1 P2 W1 W2 AC1 AC3 C1 LI S1 MA1	P1 AC2		
ECDo3	B1 P2 W1 W2 C1 LI S1	P1 AC2 AC1 AC3 MA1		
ECD17	B1 P2 W1 W2 AC1 AC3 C1 LI S1 MA1	P1 AC2		
ECD18	B1 P2 W1 W2 AC1 LI S1	P1 AC2AC3 C1MA1		
ECD19	C1 S1	P1 MA1	B1 P2W1 W2 AC1 AC2 AC3 L1	
ECD20	B1 P2 W1 W2 AC1 AC2 AC3 C1 S1	P1C1 L1 MA1		
ECD21	S1P2AC1 AC3	P1 C1 L1 MA1	B1W1 W2 AC2	
ECDo4	W1 AC3 S1	P1 AC1 AC2 C1 L1 MA1	B1 ¹² P2 W2	
ECDo5	P2 AC1 AC3	P1 AC2 L1 C1MA1	B1 ¹³ W1 W2 S1	
ECD22	P2 W1 AC1 AC2 AC3 C1	P1 MA1	B1 ¹⁴ W2 L1 S1	
ECD23A	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		

¹² AA report recommends wording amendment to ECDobj4 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

¹³ AA report recommends wording amendment to ECDobj5 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

¹⁴ AA report recommends wording amendment to ECD22 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

ECD06	P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1	B1	
ECD07	P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1	B1 ¹⁵	
ECD23B		P1 MA1	B1 ¹⁶ P2 W1 W2 AC1 AC2 AC3 C1 LI S1	
ECD24		P1 MA1	B1 ¹⁷ P2 W1 W2 AC1 AC2 AC3 C1 LI S1	
ECD25	AC1 AC2 AC3	P1 MA1	B1P2 W1 W2 C1 L1 S1	
ECD26		MA1	B1 P1 P2 W1 W2 AC1 AC2 AC3 C1 LI S1	
ECD27		P1	B1 P1 P2 W1 W2 AC1 AC2 AC3 C1 LI S1	
ECD28	P2 W1 AC1 AC2 AC3 C1 LI S1	P1	B1 MA1 W2	
ECD29				
INF1	AC2 AC3 C1 LI S1	P1 MA1	B1 P2W1 W2 AC1	
INF2	AC1 AC2 AC3 C1	B1 P1 P2 W1 W2 LI S1 MA1		
INF3	W1	P1 MA1	B ¹⁸ P2 W2 AC1 AC2 AC3 C1LI S1	
INF4	B1 W1L1 S1	P1MA1	P2 W2AC1 AC2 AC3	

¹⁵ AA report recommends wording amendment to ECDobj6 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

¹⁶ AA report recommends wording amendment to ECD23 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

¹⁷ AA report recommends wording amendment to ECD24 & ECD25, 26 &27 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

¹⁸ AA report recommends wording amendment to Section 1.3 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

			C1	
INF5	B1 P2 W1 W2C1 L1 S1	P1 AC1 AC2 AC3 MA1		
INF6	P2 W1 W2C1 L1 S1	P1 AC1 AC2 AC3 MA1	B1	
INF7	B1 P2 W1 W2C1 L1 S1	P1 AC1 AC2 AC3 MA1		
INF8	B1 P2 W1 W2C1 L1 S1	P1 AC1 AC2 AC3 MA1		
INF9	B1 P2 W1 W2C1 L1 S1	P1 AC1 AC2 AC3 MA1		
INF10	B1 P2 W1 W2C1 L1 S1	P1 AC1 AC2 AC3 MA1		
INF11	B1 P2 W1 W2C1 L1 S1	P1 AC1 AC2 AC3 MA1		
INF12	B1 P2 W1 W2C1 L1 S1	P1 AC1 AC2 AC3 MA1		
INF13	P2 W1 W2 AC1 AC2 AC3 C1 SI LI	P1 MA1	B1	
INF14	P2 W1 W2 C1 LI S1	B1 P1MA1 AC1 AC2 AC3		
INF15	B1 P2 W1 W2 C1 LI S1	P1MA1 AC1 AC2 AC3		
INF16	P2 AC1 AC2 AC3 CI LI	B1 P1 W1 W2 S1 MA1		
INF17	AC1 AC2 AC3 CI LI	B1 P1 P2 W1 W2 S1 MA1		
INF18	P2 AC1 AC2 AC3 CI LI	B1 P1 W1 W2 S1 MA1		
INF19	AC1 AC2 AC3 C1	B1 P1 P2 W1 W2 LI SI MA1		
INF20	AC1 AC2 AC3 C1	B1 P1 P2 W1 W2 LI SI MA1		

INF21	C1		B1 ¹⁹ P1 P2 W1 W2 AC1 AC2 AC3 LI SI MA1	
INF22	AC2 AC3 C1	B1 P1 P2 W1 W2 AC1 LI SI MA1		
INF23	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1		
INF24	W1 W2 AC1 AC2 AC3	MA1	B1 P1 P2 L1 S1 C1	
INF25	B1 P2 W1 W2 AC1 AC2 AC3 C1 S1 L1	P1 MA1		
INF26			B1 ²⁰ P1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI MA1	
ENV1		B1 P1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI MA1		
ENV2	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 LI SI MA1		
ENV3	P2 AC1 AC2 AC3 C1	B1 P1 W1 W2 LI SI MA1		
ENV4	AC1 AC2 AC3 C1	B1 P1 P2 W1 W2 LI SI MA1		
ENV5	AC1 AC2 AC3 C1	B1 P1 P2 W1 W2 LI SI MA1		
ENVo1	P2 AC1 AC2 AC3 C1 SI LI	B1 P1 W1 W2 MA1		
ENVo2	P2 W1 AC1 AC2 AC3 C1	B1 P1 W2 L1 S1 MA1		
ENV6	C1	P1 AC1 AC2 AC3 MA1	B1 P2 W1 W2 L1 S1	

¹⁹ AA report recommends wording amendment to Section 1.3 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

²⁰ AA report recommends wording amendment to INF26 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

ENV7	P2 W1 C1	AC1 AC2 AC3 MA1	B1 ²¹ P1W2L1 S1	
ENV8	B1 P2 W1 W2 C1 LI S1	P1 AC1 AC2 AC3 MA1		
ENV9	P2 W1 W2 C1	P1 AC1 AC2 AC3MA1	B1 L1 S1	
ENV10	W1 W2 C1	P1 P2 AC1 AC2 AC3 MA1	B1 L1 S1	
ENV11	W1 W2 C1 L1	B1 P1 P2 AC1 AC2 AC3 S1 MA1		
ENV12	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 SI LI MA1		
ENV13	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 SI LI MA1		
ENV14	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 SI LI MA1		
ENVo3	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 SI LI MA1		
ENVo4	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 SI LI MA1		
ENVo5	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 SI LI MA1		
ENVo6	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 SI LI MA1		
ENVo7	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 SI LI MA1		
ENVo8	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 SI LI MA1		
ENV9				

²¹ AA report recommends wording amendment to ENV7 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

NH1	AC1 AC2 AC3 SI MA1	P1 P2 W1 W2 C1 LI	B1 ²²	
NH2	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 SI LI MA1		
NH3	AC1 AC2 AC3	B1 P1 P2 W1 W2 C1 SI LI MA1		
NH4	P2 W1W2 AC1 AC2 AC3 C1 S1 MA1	B1 P1 L1		
NH5	P1 P2 W1 W2 AC1 AC2 AC3 C1 MA1	B1 L1 S1		
NH6	P2 W1 W2 AC1 AC2 AC3 C1 MA1	B1 P1 L1 S1		
NH7	P2 W1 W2 AC1 AC2 AC3 C1 MA1	B1 P1 L1 S1		
NH8	P2 W1 W2 AC1 AC2 AC3 C1 MA1	B1 P1 L1 S1		
NH9	P2 W1 W2 AC1 AC2 AC3 C1	B1 P1 L1 S1 MA1		
NH10	W1 W2 AC1 AC2 AC3 C1	B1 P1 P2 L1 S1 MA1		
NH11	W1 AC1 AC2 AC3 C1	B1 P1 P2 W2 L1 S1 MA1		
NH12	W1 AC1 AC2 AC3 C1	B1 P1 P2 W2 L1 S1 MA1		
NH13	W1 AC1 AC2 AC3 C1	B1 P1 P2 W2 L1 S1 MA1		
NH _o 4	W1 AC1 AC2 AC3 C1	B1 P1 P2 W2 L1 S1 MA1		
NH14	W1 W2 AC1 AC2 AC3 C1	B1 P1 P2 L1 S1 MA1		
NH15	W1 W2 AC1 AC2 AC3	B1 P1 P2 L1 S1 MA1		

²² AA report recommends wording amendment to ENV7 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

	C1			
NH16	W1 W2 AC1 AC2 AC3 C1	B1 P1 P2 L1 S1 MA1		
NH17	W1 W2 AC2 AC3 C1	B1 P1 P2 AC1 L1 S1 MA1		
NH18	W1 W2 AC2 AC3 C1	B1 P1 P2 AC1 L1 S1 MA1		
NH19	P2 W1 W2 AC2 AC3 C1	B1 P1 AC1 L1 S1 MA1		
NH20	W1 W2 AC2 AC3 C1	B1 P1 P2 AC1 L1 S1 MA1		
NH21	AC2 AC3 C1	B1 P1 P2 W1 W2 AC1 L1 S1 MA1		
NH22	P2 W1 W2 AC1 AC2 AC3 C1	B1 P1 L1 S1 MA1		
NH23	P2 W1 W2 AC1 AC2 AC3 C1 L1	B1 P1 S1 MA1		
NH24	W1 W2 AC1 AC2 AC3 C1	B1 P1 P2 L1 S1 MA1		
NH25	W1 W2 AC1 AC2 AC3	B1 P1 P2 C1 L1 S1 MA1		
NH26	P2 W1 W2 AC1 AC2 AC3	P1 C1 L1 S1 MA1	B1	
NH02	P2 W1 W2 AC1 AC2 AC3	B1 P1 C1 S1 L1 MA1		
BH1	P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1	B1 ²³	
BH2	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BH3	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		

²³ AA report recommends wording amendment to BH1 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

BH4	P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1	B1 ²⁴	
BH5	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BHo1	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BH6	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BH7	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BH8	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BH9	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BHo2	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BH10	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BH11	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BHo3	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BH12	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BH13	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
BH14	B1 P2 W1 W2 AC1 AC2 AC3 S1	P1 C1 L1 MA1		
CS1	B1 P2 W1 W2 AC1	P1 MA1		

²⁴ AA report recommends wording amendment to BH4 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

	AC2 AC3 C1 LI SI		
CS2	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1	
CS3	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI MA1	P1	
CS4	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI MA1	P1	
CS5	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI MA1	P1	
CS6	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI MA1	P1	
CS7	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1	
CS8	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1	
CS9	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1	
CS10	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1	
CS11	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1	
CS12	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1	
CS13	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1	
CS14	P2 W1 W2 AC3	P1AC1 AC2 L1 S1 C1 MA1	B1
CS15	B1P2 W1 W2 AC3	P1 AC1 AC2 L1 S1 C1 MA1	
CS16	B1 P2 W1 W2 AC1	P1 MA1	

	AC2 AC3 C1 LI SI			
CS17	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1		
CS18	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1		
CS19	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1		
CS20	B1 P2 W1 W2 AC1 AC2 C1 LI SI	P1 AC3 MA1		
CS21	B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI	P1 MA1		
DM1		B1 P2 W1 W2 AC1 AC2 AC3 C1 LI SI P1 MA1		
Appendix 1	C1 L1 S1	P1 AC1 AC2 AC3 MA1	B1 P2 W1 W2	
Appendix 7	P2 AC3 C1 L1 S1	MA1 P1	B1 ²⁵ W1 W2 AC1	
Appendix 8			B1 P1 P2 AC1 AC2 AC3 W1 W2 C1 L1 S1 MA1	
Appendix 9	P2	AC1 AC3	B1 ²⁶ P1 W1 W2 C1 L1 S1 MA1	
Apps 2-6 & 10-19 ²⁷				

²⁵ AA report recommends wording amendment to Section 1.7.3 of the Waterford Airport Business Plan to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

²⁶ AA report recommends wording amendment to ENV 7 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

²⁷ These appendices relate to schedules of information and list of sites designated for protection in the plan and so were not subject to SEA

Appendix 1B Strategic Environmental Assessment Matrix of Development Objectives for zoned settlements in the County Development Plan 2011-2017

This table sets out objectives which have been identified as providing overall positive impacts on the range of environmental objectives. The findings of the Appropriate Assessment are carried forward in relation to development objectives concerning amenity and walkways along riparian sites designated as Natura 2000 sites and are referenced in footnotes.

Dev Plan Obj	Environmental Objectives											
	B1	P1	P2	W1	W2	AC1	AC2	AC3	C1	L1	S1	MA1
Aglis	DO5	DO1 DO2 DO3DO4DO 6 DO7DO10D O11DO12DO 13					DO12		DO1DO2DO6 DO7DO9DO1 3	DO6 DO8 DO9DO12		DO1DO3DO4D O6DO11DO12 DO13
Annestown		DO2 DO3 DO6		DO3	DO3				DO1 DO4 DO5 DO6 DO7 DO8 DO9 DO10	DO4 DO7 DO8 DO9		
Ardmore		DO1 DO4 DO5 DO6 DO9 DO10 DO11 DO12 DO15		DO3 DO14	DO3 DO14				DO1 DO2 DO7 DO8 DO 16 DO17 DO18	DO8		DO5 DO6 DO10 DO13
Baile na nGall		DO1 DO2 DO3 DO4								DO5		DO3
Ballinroad		DO1 DO2 DO3 DO4 DO5 DO6 DO7 DO8 DO9					DO4 DO7					
Ballyduff (East)	DO11	DO1 DO2DO3 DO4 DO5 DO6 DO7 DO8 DO9 DO10 DO12		DO12	DO12		DO4			DO10		DO3 DO5 DO12
Dev Plan	B1	P1	P2	W1	W2	AC1	AC2	AC3	C1	L1	S1	MA1

Obj												
Ballyduff (West)	DO6	DO1 DO2²⁸ DO4 DO5 DO7 DO8 DO9 DO10 DO11 DO12	DO3				DO5		DO1 DO13DO14	DO11		
Bawnfune		DO1 DO2 DO3					DO2					
Ballymacarbr y	DO8	DO1 DO2 DO3²⁹ DO5 DO6 DO7 DO9 DO10 DO11 DO12	DO4						DO1DO14 DO15	DO2DO12		DO5
Bunmahon/Knockmahon		DO1 DO2 DO3 DO4 DO6 DO7 DO8 DO9 DO10 DO11		DO5	DO5				DO1 DO12 DO13 DO14	DO6	DO6	DO7
Cappoquin		DO1DO2³⁰ DO4 DO5 DO6 DO7 DO8 DO9	DO3	DO11	DO11		DO4 DO5		DO1 DO10 DO12 DO13 DO14	DO7		DO4
Carrick on Suir Environs	DO4 DO6	DO1 DO2	DO3						DO5			
Cheekpoint		DO1 DO2 DO4 DO5 DO6DO7 DO9	DO3						DO9 DO10	DO5 DO7 DO8		
Clonea-Power		DO1 DO2 DO3 DO4 DO5 DO6			DO4				DO7			DO2

²⁸ AA report recommends wording amendment to Ballyduff West DO2 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

²⁹ AA report recommends wording amendment to Ballymacarbr y DO3 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

³⁰ AA report recommends wording amendment to Cappoquin DO2 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

Clashmore		DO1 DO2 DO4 DO5 DO6 DO7 DO8 DO9	DO3				DO5		DO1 DO10 DO11			DO4
Dev Plan Obj	B1	P1	P2	W1	W2	AC1	AC2	AC3	C1	L1	S1	MA1
Clonmel Environs	DO4	DO1 DO4DO5	DO2 DO4 ³¹				DO1 DO4			DO3		
Crooke		DO1 DO2 DO3 DO4 DO5 DO6 DO7 DO8 DO9					DO3		DO1	DO6		DO2 DO3
Dungarvan Environs	DO4	DO1 DO2 DO5 DO6 DO7 DO8	DO3				DO7		DO9	DO4		DO1 DO5 DO6 DO7
Dunhill		DO1 DO2 DO3 DO4 DO5 DO6							DO1 DO3			DO1
Dunmore East		DO1 DO2 DO3 DO4 DO5 DO6 DO7 DO8 DO11 DO12 DO13 DO14		DO15	DO15				DO1 DO9 DO10 DO16 DO15	DO4 DO8		DO3 DO5 DO6 DO7 DO14
Fenor	DO5 DO6	DO1 DO2 DO3 DO4 DO7							DO6			DO2 DO3
Heilbhc		DO1 DO2 DO3 DO4 DO5							DO6	DO5		DO2 DO4
Kill		DO1 DO2 DO3 DO4 DO5 DO6 DO7 DO8							DO1 DO9			DO2 DO5
Kilmacthas		DO1 DO2 DO3 DO4		DO11	DO11				DO1 DO8 DO12	DO9		

³¹ AA report recommends wording amendment to Clonmel Environs DO4 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

		DO5 DO6 DO7 DO8 DO9 DO10 DO11 DO12							DO13 DO14			
Dev Plan Obj	B1	P1	P2	W1	W2	AC1	AC2	AC3	C1	L1	S1	MA1
Kilmeaden		DO 1 DO2 DO3 DO4 DO5 DO6 DO7 DO8 DO9 DO10 DO 11 DO12					DO3					DO2 DO3 DO4
Knockanore		DO1 DO2 DO3 DO4 DO5 DO6					DO4					DO3
Lemybrien		DO1 DO2 DO3 DO4 DO5 DO6 DO7					DO4			DO7		
Lismore	DO7	DO1 DO3 ³² DO5 DO6 DO8 DO9 DO10 DO11 DO13	DO4				DO5		DO1 DO2 DO7 DO11 DO12 DO14 DO15 DO17			DO5 DO6 DO16
Maoil a Choirne	DO5	DO1 DO2 DO3 DO4 DO6 DO7					DO3					DO2 DO3
Passage East		DO1 DO2 DO3 DO4 DO5 DO6						DO3	DO1 DO7 DO8 DO9			DO2 DO3 DO4 DO5

³² AA report recommends wording amendment to Lismore DO3 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

Piltown		DO1 DO2 DO3 DO4 DO5	DO6						DO4		DO2
Portlaw	DO8	DO1 DO4 ³³ DO5 DO6 DO7 DO9 DO10 DO11 DO12 DO13 DO14 DO15						DO1 DO2 DO3 DO8 DO9 DO14 DO16	DO4 DO12 DO13		DO5 DO6 DO15
Rathgormuck		DO1 DO2 DO3 DO4 DO5 DO6 DO7 DO8							DO8		DO3 DO4
An Sean Phobail	DO5	DO1 DO2 DO3 DO4 DO6 DO7									DO3
Stradbally	DO4	DO1 DO2 DO3 DO7 DO8 DO9 DO10		DO11	DO11			DO1 DO4 DO5 DO6 DO12	DO2		DO3 DO7
Tallow		DO1 DO2 DO3 DO4 DO5 DO7 DO8 DO10 DO12 DO14	DO14	DO13	DO13			DO5 DO6 DO9 DO15	DO9		
Villierstown	DO6	DO1 DO2 ³⁴ DO3 DO4 DO5 DO7 DO8 DO9 DO10 DO11 DO12					DO3	DO1 DO6 DO13 DO14 DO15	D13		DO3DO4
Waterford City Environs		DO1 DO2 DO3 DO4 DO5 DO6 DO10 DO11		DO8	DO8		DO5	DO6 DO7 DO9	DO6		DO1 DO2 DO4

³³ AA report recommends wording amendment to Portlaw DO4 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

³⁴ AA report recommends wording amendment to Villierstown DO2 to ensure compliance with Article 6 of the Habitats Directive and avoid adverse impacts on Natura 2000 sites

Appendix 1C SEA Assessment Matrix of Proposed Material Amendments (Policies and Objectives) to Draft County Development Plan

Impacts	Neutral	Positive	Uncertain	Negative
Development Plan Policy/ Objective				
Section 4.13. The Planning Authority shall subject to resources prepare a set of Rural Housing Design Guidelines within 1 year of adoption of Co. Dev Plan	P2 W1 W2 AC1 AC2 S1 MA1	B1 P1 AC3 C1 L1		
Section 4.13 Subject to resources the Guidelines will be subject to a specific design study of the vernacular architecture, design details and features of County Waterford	B1 W1 W2 AC1 AC2 AC3 S1 MA1 P2	P1 C1 L1		
Section 6.7.1 Agr. Dev Policy. The Planning Authority will support and facilitate agr. Developments and improvements where the developments are considered in relation to their likely impact on the character and amenity of the surrounding area.	W1 W2 AC1 AC2 AC3 C1 MA1 P2	P1	B1 L1 S1 ³⁵	
Section 6.11 To facilitate where possible the work of Fáilte Ireland in any analysis of the Tourism Activity/sector of County Waterford	B1 L1 S1 W1 W2 AC1 AC2 AC3 C1 P2	P1 MA1		
Section 6.13 The Council shall seek to record and map all public rights of way in the county during the lifetime of the plan	B1 S1 W1 W2 AC1 AC2 AC3 C1 P2	P1 L1 MA1		
Section 6.13 The Council supports the protection and sustainable development of coastal walkways in the interest of providing access to coastal heritage and scenic landscapes	W1 W2 AC1 AC2 AC3 P2	P1 C1 S1 L1 MA1	B1 ³⁶	
Section 6.21 The Council shall aim, subject to resources, to identify areas containing significant aggregate resources and to safeguard these valuable un-worked deposits for future extraction	P2 AC1 AC2 AC3		B1 P1 W1 W2 C1 L1 S1 MA1	
Section 7.2 It is an objective of the Council to protect the carrying capacity of the national road network and associated junctions in the interest of road safety	B1 P2 W1 W2 C1 L1 S1 AC3	MA1	P1 AC1 AC2	
Section 7.11 To assist the future expansion of services and routes at the Airport, the Council support the lengthening and widening of the runway, subject to compliance with proper planning and sustainable development and in compliance with Article 6	P2 W1 W2 AC3 C1 L1 S1	P1 MA1	B1 ³⁷ AC1 AC2	

³⁵ Impacts on biodiversity, soil and landscape will depend on the type of agricultural development and will be determined where necessary by EIA

³⁶ Development of Coastal Walkways will be required to take account of requirements of Articles 6 and 10 of the Habitats Directive

³⁷ Impacts on Biodiversity and Natura 2000 sites will be determined by AA

of the Habitats Directive.	1			
Section 7.13 It is an objective of the Council to support the policies of the National Cycle Policy Framework 2009-2020 Smarter Travel, Department of Transport, April 2009	B1P2W1W2AC3C 1L1S1	P1AC1AC2 MA1		
Obj INF3 It is an objective of the council to promote the development of safe and convenient pedestrian and cycling facilities in the towns and villages to minimise the dependence on private motor vehicles and to encourage an active and healthy lifestyle. New and upgraded road developments will be encouraged to integrate cycle lanes. These will include urban/village developments and short distance routes.	B1P2W1W2AC3C 1L1S1	P1AC1AC2 MA1		
Obj INF4 Require planning applications for residential, commercial, retail, community, educational and industrial developments to demonstrate the proposal's accessibility for pedestrians and cyclists Seek provision of appropriate, well designed pedestrian ways for residential development proposals to link with amenities and facilities. Such proposals shall adhere to the Guidelines on Sustainable Residential Development in Urban Areas and Urban Design Manual.	B1 P2W1W2AC3C1L 1S1	P1AC1AC2 MA1		
Section 7.16 To investigate over the lifetime of the plan suitable areas for the impoundment of surface water for the future provision of water supplies. Reservoir impoundments shall generally be favoured in agricultural /greenbelt lands or on other land uses which the Planning Authority may deem suitable.	P2AC1AC2AC3C1	P1 W1W2	B1S1 L1MA1 ³⁸	
Section 7.23 INF 26 To facilitate improvements in energy infrastructure and encourage the expansion of the infrastructure at appropriate locations within the County. To support and facilitate the future expansion of the natural gas pipeline. To facilitate, where appropriate, future alternative renewable energy developments throughout the County that are located in close proximity to the National Grid improvements so as to minimize the length and visual impact of grid connections. To collaborate with EirGrid in accordance with the Grid 25 Strategy to facilitate the delivery of quality connection, transmission and market services to electricity generators, suppliers and customers utilizing the high voltage electricity system at	P2W1W2AC2	AC1AC3 MA1	B1P1C1L1S1 ³⁹	

³⁸ Impacts on Biodiversity, soils, landscape and material assets will be determined by EIA and AA

³⁹ ³⁹ Impacts on Biodiversity, human health and population, cultural heritage. soils, and landscape will be determined by EIA and AA

appropriate locations within County Waterford.				
Section 7.3 Subject to appropriate funding the Council will continue to maintain and improve where possible the R 671-Regional road from Dungarvan to Clonmel.	B1P2W1W2AC1A C2AC3C1L1S1	P1MA1		
Section 7.3 Reservation of corridors for major road improvements: It is an objective of the Council to support major improvements by reserving such corridors of any such proposed routes free of developments that would interfere with Objective INF1 such improvements.	P2W1W2AC3S1	P1MA1	B1AC1AC2C1L1	
Section 7.13 Objective INF_ National Cycle Policy Framework It is the objective of the Council to support the policies of the 'National Cycle Policy Framework 2009-2020-Smarter Travel', Department of Transport, April 2009.	B1W1W2P2AC3C 1L1S1	P1AC1AC2 MA1		
Section 7.13 Objective INF_: Encourage Active and Healthy Lifestyle for residents of County Waterford It is the objective of the Council to promote the development of safe and convenient pedestrian and cycling facilities in the towns and villages to minimise the dependence on private motor vehicles and to encourage an active and healthy lifestyle. New and upgraded road developments will be encouraged to integrate cycle lanes. These will include urban/village developments and short distance routes.	B1W1W2P2AC3C 1L1S1	P1AC1AC2 MA1		
Section 7.13 Objective INF_: Pedestrian Linkages and Cycleways Require planning applications for residential, commercial, retail, community, educational and industrial developments to demonstrate the proposal's accessibility for pedestrians and cyclists. Seek provision of appropriate, well-designed pedestrian ways for residential development proposals to link with amenities and facilities. Such proposals shall adhere to the Guidelines on Sustainable Residential Development in Urban Areas and Urban Design Manual (DEHLG May 2009)	B1W1W2P2AC3C 1L1S1	P1AC1AC2 MA1		
Section 7.16 The Council will comply with the European Communities (Drinking Water) Regulations 2007 and maintain and enhance the quality and volume of drinking water supply in the County.	B1P2AC1AC2AC3 C1L1S1	P1W1W2 MA1		
Section 7.16 To address water supplies within the county listed on the EPA's Remedial Action List and take appropriate measures to upgrade treatment facilities and improve drinking water standards.	B1P2AC1AC2AC3 C1L1S1	P1W1W2 MA1		
Section 7.16.4 The Council will continue to implement a Water Conservation	B1P2AC1AC2AC3	P1W1W2		

Programme and take measures to redress water leakage rates in the County.	C1L1S1	MA1		
Section 7.21 Objective INF __: Co-location of telecommunication facilities It is the objective of the Council to encourage the clustering and co-location of telecommunication masts, antennae or ancillary equipment and more favourable consideration will be given to their location near existing similar type structures.	B1P2W1W2AC1A C2AC3C1S1	MA1	P1L1	
Section 7.21 Objective INF __: Temporary permissions It is the objective of the Council to ensure that where permission is granted for telecommunication masts that it will generally be for a temporary period not exceeding 5 years. This will enable the Planning Authority to review the situation considering changing technology and effect of the development on the amenities of the area. Subsequent applications may be for such longer periods as the Planning Authority may direct.	B1P2W1W2AC1A C2AC3C1S1	MA1P1	L1	
Section 7.22 Objective INF __: Broadband connectivity It is the objective of the Council to support the co-ordinated and focussed development and extension of broadband infrastructure throughout the County. To this end the Planning Authority will seek to ensure that there is ducting for broadband fibre connections: a) installed during the installation of services; and b) in all new commercial and housing schemes c) during any work on roadways	B1W1W2P2AC1A C2AC3C1L1S1	P1MA1		
Section 7.22 Objective IN __: Co-ordinated development It is the objective of the Council to facilitate developers and utility providers in meeting the requirements for utility services such as telecommunications, gas and electricity. Pre-planning application discussions with providers of telecommunication and ESB structures are encouraged.	B1W1W2P2AC1A C2AC3C1L1S1	P1MA1		
Section 8.9 It is an objective of the Development Plan: To encourage, where appropriate, proposals for renewable energy developments and ancillary facilities. To promote and facilitate wind energy production in the County in accordance with the County Wind Energy Strategy and the Wind Energy Guidelines (2004) produced	P2W1W2AC2C1	AC1AC3M A1	B1P1L1S1 ⁴⁰	

⁴⁰ Impacts on Biodiversity, human health and population, cultural heritage, soils, and landscape will be determined by EIA and AA

<p>by the Department of the Environment Heritage and Local Government.</p> <p>To facilitate, where appropriate, the development of small scale hydroelectric power generation, in particular when developed in combination with other forms of energy infrastructure, such as wind farms.</p> <p>to support and encourage the appropriate development of the bio-energy sector and facilitate its development for energy production, heat storage and distribution</p>				
<p>Section 8.13 To ensure that buildings are designed and constructed so as to maximise energy efficiency in line with Local Agenda 21 Principals</p>	B1P2W1W2AC2S 1	P1AC1AC3 C1L1MA1		
<p>Section 8.15 Objectives for Coastal Protection</p> <p>CP1 To explore the process of ICZM in the future management and sustainable development of the Waterford Coastline</p> <p>CP2 To include seascape assessment as part of a Landscape Character Assessment of the county to be prepared during the lifetime of the plan</p> <p>CP3 To recognise the value of the County's natural coastal defences including estuaries, dunes and sand dunes and ensure their protection</p> <p>CP4 To protect the scenic value of the Coastal Zone from Cheekpoint to Youghal including landward and seaward views and continuous views along the coastline and manage development so it will not materially detract from the visual amenity of the coast</p> <p>CP5 To facilitate public access to the coast and development of coastal walkways including recognition of public rights of way.</p> <p>CP6 To protect the designated shellfish waters in Waterford Harbour and Dungarvan Bay</p>	W2AC2AC3C1	B1P1W1A C1L1S1MA 1		
<p>Objective ENV 9</p> <p>It is the objective of the Council to prevent public noise and light nuisance through the regulation of industrial, construction and commercial activities.</p>	P2W1W2AC1AC2 AC3C1S1L1	B1P1MA1		
<p>Section 8.19 It is an objective of the Council to comply with Article 6 of the Habitats Directive at each level of the development planning process from County Development Plan, Local Area Plan to project level to ensure that there is no significant adverse impact on the integrity of Natura 2000 sites and that the requirements of Articles 6(3) and 6 (4) of the Habitats Directive are fully satisfied.</p> <p>It is an objective of the Council to comply with Article 6 of the Habitats Directive at each level of the development planning process from County Development Plan, Local Area Plan to project level to ensure that there is no significant adverse impact</p>	P2W1W2AC1AC2 AC3C1S1	B1P1L1MA 1		

on the integrity of Natura 2000 sites and that the requirements of Articles 6(3) and 6 (4) of the Habitats Directive are fully satisfied.				
Section 8.21 To develop a habitat map for County Waterford in collaboration with other agencies to record the range of habitats and network of ecological corridors and integrate this information in the development planning process.	P2W1W2AC1AC2 AC3S1C1	B1L1MA1		
Section 8.22 To protect riparian habitats along watercourses by maintaining an ecological buffer zone of at least 15m from the top of the watercourse riverbank. The Council will consult with the Fisheries Authority on the establishment and protection of riparian habitats where appropriate.	AC1AC2AC3C1	B1P1P2W1 W2 L1S1MA1		
Section 8.22 The preservation of riparian corridors is a requirement for the protection of aquatic habitats and facilitation of public access to waterways. No development shall take place within a buffer zone of 12m measured from the top of the riverbank	AC1AC2AC3C1	B1P1P2W1 W2 L1S1MA1		
Policy NH17 The Council will preserve and enhance the amenity and biodiversity value of the County by preserving as far as possible trees, woodlands and hedgerows and will consider Tree Preservation Orders in order to protect trees of significance throughout the County. Existing TPOs are listed in Appendix A13	P2W1W2AC1AC2 AC3C1	B1P1L1S1 MA1		
Section 8.26 The Council will promote awareness of invasive species and their management and work with other agencies in the County to address the issue	P2W1W2AC1AC2 AC3C1	B1P1L1S1 MA1		
Section 8.32 It is an objective of the Council to produce Guidance notes for the Appraisal of Historic Gardens, Demesne Estate and their Setting. These guidelines will provide advice on new development proposed in historic gardens and Demesne estates and their impact on existing heritage.	P2W1W2AC1AC2 AC3S1	B1P1L1C1 MA1		
Section 8.35 The Council shall support the preparation of Village Design Statements to contribute to a greater understanding of the townscape resources of the county and plan for future appropriate development.	P2W1W2AAC2AC 3S1B1S1	P1L1C1 MA1		
Section 8.38.2 It will be an objective of the planning authority to secure the preservation (ie: preservation in-situ or, as a minimum, preservation by record) of all archaeological monuments included in the Record of Monuments and Places as	B1P1P2W1W2AC 1AC2AC3SI MA1	C1L1		

<p>established under Section 12 of the National Monuments (Amendment) Act, 1994, and of site features and objects of archaeological interest generally.</p> <p>In securing such preservation the planning authority will have regard to the advice and recommendations of the Department of Environment, Heritage and Local Government, both in respect of whether or not to grant planning permission and in respect of the conditions to which permission, if granted, should be granted.</p>				
<p>Section 9.6 Objective CS_ : Playgrounds It is the objective of the Council to: Promote the increase of public high quality and safe play opportunities available to children.</p> <p>Ensure that surfaces and play equipment provided in public playgrounds or publicly funded playgrounds conform to the Irish standards for play equipment and surfacing.</p> <p>Continue to promote the objectives of the County Waterford Play Policy</p> <p>Seek the provision and suitable management of safe surfaced children’s play areas in new housing developments, and to implement measures to find suitable sites for their provision in existing residential areas.</p> <p>Engage with community to assist and support them in the provision of playground activities.</p> <p>Support playground and related development from the Development Contributions Scheme.</p>	P2W1W2AC1AC2 AC3C1LIS1	P1 MA1		
SEA Assessment Matrix of Proposed Material Amendments (Zoning)				
Proposed Amendment	Neutral	Positive	Uncertain	Negative
<p>Ardmore Lands at Farrangarrett Include 5.1 ha of R1 and 5.1 ha of R3 to north of L-6036 and south of R-673</p>	B1P1P2AC1AC2 AC3C1LIS1MA1		W1W2	
<p>Ballylaneen Rezone 1.21 ha from agriculture to Residential</p>	B1P1P2AC1AC2A		W1W2	

Rezone 0.1 ha of agricultural land as Town Centre	C3C1LIS1MA1			
Bunmahon Re-zone 1.5 acres of lands for Tourism	P1P2W1AC1AC2 AC3CILIS1		B1 ⁴¹	
Carrick on Suir Rezone 0.25 ha of green belt for agriculture	B1P1P2AC1AC2 AC3C1LIS1MA1 W1W2			
Cheekpoint Include 2.4 ha of R2 residential lands in south of settlement and east of L-4082 road.	P1P2AC1AC2 AC3C1LIS1MA1		B1 W1W2 ⁴²	
Clonea Power Re-zone 1.8 ha in Ballyneal for Institutional purposes	P1P2AC1AC2 AC3C1LIS1MA1		B1 W1W2 ⁴³	
Dungarvan Environs Duckspool Re-zone 3.37 ha from Institutional, Educational and Community to R1 Residential	B1P1P2AC1AC2 AC3C1LIS1MA1 W1W2			
Lands at Water's Edge, Knockateemore, Zone 0.53 ha as Residential R1	B1P1P2AC1AC2 AC3C1LIS1MA1 W1W2			
Gold Coast Road Removal of Green Belt strip from Barnawee Bridge to Gold Coast Hotel	B1P1P2AC1AC2 AC3C1S1MA1 W1W2		LI	
Ballinure Zone 19.23 ha from Green Belt to Residential R3	P2AC1AC2AC3SI MA1C1		B1P1W1W2L1 ⁴⁴	
Ballynacourty, Clonea Strand Extend Green Belt by .5 acre in Open Space	B1P1P2AC1AC2 AC3C1LIS1MA1			

⁴¹ Partial zoning of area designated for the Mid-Waterford Coast SPA. Impacts will require to be assessed by Appropriate Assessment. Zoning should exclude SPA.

⁴² Residential Zoning of R2 is appropriate until adequate WWTP is available

⁴³ Development in Clonea-Power will be required to be subject to AA at project level to ensure no adverse impacts on status of River Clodagh and Freshwater Pearl Mussel Catchment

⁴⁴ Current WWTP has adequate capacity and application of R3 zoning is appropriate pending future adequate capacity. Future development will be required to be screened for AA.

	W1W2			
Military Road Include 393 ha of agricultural zoning from Greenbelt to the north of the N72 Military Road	P2AC1AC2AC3SI MA1C1		B1P1W1W2L1 ⁴⁵	
Ballinroad Amend zoning from R3 to R1 on .72 ha north of the junction on the R675 and L3012	B1P1P2AC1AC2 AC3C1LIS1MA1		W1W2	
Burgery Zone 2.54 ha from Residential to Special Use north of the N25 junction with the L-3168	B1P1P2AC1AC2 AC3C1LIS1MA1 W1W2			
Dunmore East West of Foilakippen Hill zone 3ha of lands from Open Space to Tourism	B1P1P2AC1AC2 AC3C1LIS1MA1		W1W2	
Killea Parochial House Zone .11 ha from Residential to Institutional, Educational and Community	B1P1P2AC1AC2 AC3C1LIS1MA1 W1W2			
Kilmacthomas Zone .7 ha east of the GAA pitch and south of the old mil building from Open Space to R1 Residential	B1P1P2AC1AC2 AC3C1LIS1MA1 W1W2			
Kilmacthomas Zone .12 ha adjacent to Telecom Station from Open Space to R1 Residential	B1P1P2AC1AC2 AC3C1LIS1MA1 W1W2			
Knockanore Lands to south and east of church to be zoned as Institutional	B1P1P2AC1AC2 AC3C1LIS1MA1 W1W2			
Passage East Carrickannuigh Include .17 ha of R1 Residential lands to the west of the L-4076 road	B1P1P2AC1AC2 AC3C1LIS1MA1		W1W2	
Piltown	P1P2AC1AC2		B1W1W2 ⁴⁶	

⁴⁵ Change of zoning from Greenbelt to Agricultural will facilitate increase in provision for rural housing with associated potential for cumulative impacts on biodiversity, water quality, and landscape. Future development of this area will be required to be Screened for Appropriate Assessment and cumulative impacts monitored

Change zoning from R3 to R1	AC3C1LIS1MA1			
Portlaw Maher Coal Yard	B1P1P2AC1AC2 AC3C1LIS1MA1 W1W2			
Stradbally Woodehouse Estate- Equestrian Centre of Excellence	B1P1P2AC1AC2 AC3C1LIS1MA1 W1W2			
Stradbally Re-zone 2.76 ha from Residential R2 to R1 1	B1P1P2AC1AC2 AC3C1LIS1MA1		W1W2	
Touraneena- Additional strip of residential zoning along the road frontage to south of existing dwelling	P1P2AC1AC2 AC3C1LIS1MA1		B1W1W2 ⁴⁷	
Villierstown Amend .8 ha from R3 to R1	P1P2AC1AC2 AC3C1LIS1MA1		B1W1W2 ⁴⁸	
Waterford Airport Additional 5.34 ha of light industry adjacent to Airport Area	P2AC1AC2 AC3C1LIS1MA1 W1W2	P1	B1 ⁴⁹	

⁴⁶ Limited WWTP capacity and adjacent to River Blackwater SAC

⁴⁷ Constructed wetland wastewater treatment system is at capacity. Future development will be required to be screened for AA.

⁴⁸ AA screening will be required- 100m from River Blackwater SAC

⁴⁹ AA screening will be required

APPENDIX 2 SEA SCOPING REPORT

Introduction

Section (15b) of the Planning and Development (Strategic Environmental Assessment) Regulations, 2004 requires that a Strategic Environmental Assessment is carried out on the Draft County Development Plan. The aim of SEA is to enable better-informed decisions to be made by enabling the structured assessment of environmental impacts of policies and objectives in the Draft County Development Plan.

In preparation for the SEA process, a SEA Scoping Document was prepared by Waterford County Council and issued to a number of environmental organisations including the three prescribed Environmental Authorities: the Environmental Protection Agency, the Department of the Environment, Heritage and Local Government and the Department of Communications, Energy and Natural Resources. The SEA Scoping Document highlighted the range of environmental issues and level of detail under which these issues would be examined in the SEA process and invited comments on these. Five submissions relating to SEA of the Draft County Waterford Development Plan 2010-2017 were received from: The EPA, Department of Environment, Heritage and Local Government, Department of Communications, Energy and Natural Resources, An Taisce, and the Geological Survey of Ireland.

Key issues raised in the submissions include water quality in relation to waste water treatment, alteration of land use patterns and consequences for water flows and discharge, ecosystem health and biodiversity, fisheries, shellfish growing areas, marine and aquatic habitats. Planning for climate change in terms of energy and transport policy was also raised as a significant issue identifying the need to reduce energy consumption, increase renewable energy capacity and promote sustainable means of transport while planning for sustainable development in terms of reducing dependency on fossil fuels.

Recommendations were also made regarding range of issues to be considered including architectural and geological heritage while the SEA Pack issued by the EPA details best practise in the SEA process and the range of guidance and data that can be taken into account as appropriate.

The scoping process highlighted water and all its aspects including inter-relationships with biodiversity and aquaculture, and climate change as key issues to be addressed in the Environmental Report.

The following section presents submissions received relating to the SEA process.

**Waterford County EPA Submission SEA Scoping 25.05.09
Development Plan Review SCP090301.1**

Mr Brian White
Director of Services
Civic Offices
Dungarvan
Co. Waterford

8th June

Our Ref: SCP090301.1

Re: SEA Scoping for Review of Waterford County Development Plan 2005-2011

Dear Mr White,

I refer to and acknowledge your correspondence, dated 13/03/2009, in relation to the Strategic Environmental Assessment Scoping notification for the Waterford County Development Plan. Please find enclosed the EPA's submission including an SEA Pack to assist you in undertaking an environmental assessment as per the *Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004)*.

EPA SEA Pack

The Pack has been compiled by the EPA and is based on our experience to date as a statutory SEA Environmental Authority and on current best practice in the SEA process. As this SEA Pack is issued as part of statutory SEA Scoping consultation. It is a matter for the Plan-making authority and its SEA Team to ensure that the contents of the Pack are taken into account and followed as appropriate during the SEA process.

Scoping Meetings/Workshops

As part of the SEA Scoping process, we would suggest that the convening of a Scoping Meeting / Workshop with key staff within Regional Authority (planning, roads, environment, heritage etc.) be considered. There would also be merits in having personnel from National Parks and Wildlife Service (NPWS), Department of Communications, Energy and National Resources (DCENR), and Environmental Protection Agency, as appropriate, at this meeting. Subject to resources, the EPA will attend this meeting/workshop.

Possible Proposed Amendments to the Draft Plan

You are referred to the requirement for any amendments proposed to the Plan to be assessed for likely significant effects. This assessment should take account of the SEA Regulations Schedule 2A Criteria (S.I. No 436 of 2004) and should be subject to the same method of assessment as undertaken in the "environmental assessment" of the Draft Plan. Any proposed amendments

should also be screened with respect to the requirement for Habitats Directive Assessment, as required under Article 6 of the Habitats Directive.

SEA Statement

You are referred to the requirement to prepare an SEA Statement outlining “Information on the Decision” as required by Article 13(I) of Planning and Development Regulations as amended by Article 7 of the SEA Regulations. This should summarise the following:

□ How environmental considerations have been integrated into the Plan; How the Environmental Report, submissions, observations and consultations have been taken into account during the preparation of the Plan; The reasons for choosing the Plan adopted in the light of other reasonable alternatives dealt with; and, The measures decided upon to monitor the significant environmental effects of implementation of the Plan.

A copy of the SEA Statement with the above information should be sent to any environmental authority consulted during the SEA process.

Environmental Authorities

You are referred to the requirement, where appropriate under the SEA Regulations, to give notice to the following:

The Minister for the Environment, Heritage & Local Government where it appears to the Planning Authority that the proposed Plan might have significant effects in relation to architectural or archaeological heritage or to nature conservation, and

The Minister for Communications, Energy and Natural Resource (formerly Communications, Marine and Natural Resource), where it appears to the Planning Authority that the proposed Plan might have significant effects on fisheries or the marine environment.

The Agency may provide further comment as appropriate during the SEA and Plan-making process.

Should you have any queries or require further information in relation to the above please contact the undersigned.

Yours Sincerely,

Tadhg O’Mahony

Senior Scientific Officer

SEA Section - Environmental Research Centre

Office of Environmental Assessment

Environmental Protection Agency

Regional Inspectorate

Inniscarra, County Cork

email: t.omahony@epa.ie

From: Coordination Unit [mailto:Coordination.Unit@dcecr.gov.ie]
Sent: 19 May 2009 15:12
To: developmentplans
Cc: Gerry Clerkin; Aine McHugh; Seana McGearthy; Philip Earley
Subject: SEA Scoping for Review of Waterford County Development Plan 2005-2011

19th May 2009

County Development Plan
C/O Valerie Conway
Senior Executive Planner
Planning Department
Waterford County Council
Civic Offices
Dungarvan
Co. Waterford

Re: SEA Scoping for Review of Waterford County Development Plan 2005-2011 and preparation of a new County Development Plan 2011-2017

Dear Ms. Conway,

I refer to a letter of the 13th March 2009 in the above regard.

The Department of Communications, Energy and Natural Resources on behalf of the Engineering Division whose functions have been transferred to the Department of Agriculture, Fisheries and Food have the following comments to make at this time.

“The Minister, having reviewed the submission of 13/3/09 in relation to the Scoping of the Environmental Report in connection with the proposed SEA for the review of the existing Waterford County Development Plan (2005-2011) and the preparation of the New C.D.P 2011-2017 has the following observations.

- Consideration should be given for the potential for significant impacts on:
 - Water quality by surface water drainage and effluent discharges.
 - Interference with inland and marine waters morphology and aquatic habitats by watercourse diversions, channel diversions and alterations or removal of bank vegetation.
 - Reduction or diversion of water flows by alterations of land use patterns (leading to alterations in flow regimes).
 - Fisheries and Aquatic habitats from increased surface water abstractions
 - Potential increased flood risks resulting from changed land use patterns, climate change and predicted sea level rise. Potential increase Coastal Erosion.
 - The effects of zoning on land use and its potential disturbance of biodiversity.

- The following legislation may need to be considered.
 - Water Framework Directive (2000/60/EC)
 - Habitats Regulations
 - Fisheries Acts
 - Foreshore Acts
 - Urban Wastewater Treatment Regulations
 - Arterial Drainage Acts
 - Floods Directive (when enacted).
 - Quality of Salmonid Waters Regulations 1988
 - Phosphorous Regulations
 - Quality of Shellfish Waters Regulations 2006 (SI No. 268 of 2006).

- The following is a suggested list of Consultees
 - Southern Regional Fisheries Board
 - Office of Public Works
 - Waterford Port Co.

The Department has further specific comments as follows:

- (1) As an elaboration to the issues that need to be addressed as appropriate within the Environmental Report, in relation to the preservation and enhancement of existing water quality conditions and the safeguarding of the surface and marine water ecosystem/health/biodiversity from a fisheries perspective, it would be advisable to liaise closely with the Southern Regional Fisheries Board during the preparation of the Environmental Report.

- (2) Waterford Harbour/Estuary and Dungarvan Bay are prime shellfish growing area and so should achieve the standards set out under the EC (Quality of Shellfish Waters) Regulations 2006, SI No. 268 of 2006 and therefore they must be afforded a high level of environmental protection (see also '3' below).

- (3) The greatest threat to aquaculture (in this case oyster and mussel cultivation) comes from wastewater treatment plant discharges to the marine environment where: (a) development exceeds available or planned treatment plant capacity and/or (b) where inadequate levels of treatment are provided. It is imperative that at all times the level of Wastewater Treatment is adequate to cope with additional predicted loadings (both hydraulic and organic) and that no development should be permitted in the absence of available and suitable wastewater treatment plant capacity. The Environmental Report should take cognisance of this key issue in order to afford Waterford Estuary and Harbour and Dungarvan Bay maximum environmental protection in order to achieve the standards set out in the E.C (Quality of Shellfish Waters) Regulations 2006, SI No. 268 of 2006 (see also '2' above)."

The Department has no further comments to make at this time, other than to bring to your attention the Departments generic guidelines as to what should be contained in the preparation of any Environmental Report which are attached for reference.

The above is without prejudice to any comments that the Southern Regional Fisheries Board may have in this matter.

A hard copy of this letter has issued via post.

Kind regards,

Frances Heaslip
Coordination Unit
DCENR
Phone 01 6783084

18th May 2009

Our Ref: G2009/226

Director of Planning and Environment,
Planning Department,
Waterford County Council,
Civic Offices,
Dungarvan,
Co. Waterford.

Re: SEA Scoping Document and HDA Screening Document for review of the Waterford County Development 2005-2011

A Chara,

We refer to your notification in relation to the above-proposed documents for the Waterford County Development 2005-2011 review. Outlined below are the observations of the Department of the Environment, Heritage and Local Government.

Architectural Heritage:

Strategic Environmental Assessment (SEA) is intended to bring about improved decision-making and have a positive effect when plans and programmes are being developed. This development, and associated decision-making, continues until a plan or programme is formally adopted.

‘Architectural heritage’ is a material asset which is to be taken into account in SEA.

The built heritage of the County Waterford is a matter to be taken into account in setting out a new development plan.

The present built and natural environment is the point of departure in formulating any new plan. The recent past has been a time of unprecedented expansion and change in most areas of Ireland, including County Waterford. The rapid change which has taken place has, in some instances, diluted established character or has begun to establish new local identities. The opportunity exists in making a new plan to consolidate the built form of County Waterford and reinforce its sense of place and identity within the county at large.

There is a tendency to view 'heritage' as being something apart. In that regard any new Development Plan for County Waterford will intend to develop, improve and bring forward the current physical environment of the county. New development should enhance the local environment and, in so doing, contribute to creating a place of distinction. In that regard there is a need to develop in the development plan an architectural framework within the different parts

of County Waterford, which will guide development within the county and ensure good quality urban and rural design, which will enhance the public realm.

This framework should incorporate the contribution the built heritage of the county makes to its sense of place and identity. The new plan should attempt to make use of all features of built heritage merit in a locality to engender an evolving new identity as a familiar and recognisable of place to trade and reside.

While the making of a new development plan for County Waterford should mean that there should be little negative environmental effect, there is nevertheless the potential for the development plan to have a significant effect on the ‘architectural heritage’ of the county. This goes beyond simply giving protection to the county’s architectural heritage or the simple preservation of the character of the county as ends in themselves.

Local identity gives a sense of association and attachment. A significant part of local identity is the existence of built heritage features which provide a sense of the familiar. These features, both large and small, can be used as focal points to incrementally build an identity within the changed setting of recent development.

The present built form within the development plan area is the context within which new development will take place. In order to enhance local distinctiveness new development needs to respond to local character and respect the visual context of the plan area.

The opportunity exists in doing so to give increased recognition to the value of the architectural heritage component of the built environment of the county. Such recognition will underpin the maintenance of a sense of place and locality within the county and the wider region. In turn this will reinforce an inherent sense of identity for both the inhabitants of County Waterford and its visitors.

The following is put forward as guidance in this respect in terms of the basic Scoping required in relation to architectural heritage within the SEA process.

Scoping of Strategic Environmental Assessment - Architectural Heritage, Proposed Draft County Waterford Development Plan

1. Introduction

1.1 As set out in Section Table 4B of the *"Guidelines for Regional Authorities and Planning Authorities"*, among the list of Environmental Protection Objectives is *"Cultural Heritage"*, viz.

- *Promote the protection and conservation of the cultural, including architectural and archaeological, heritage*

1.2 It should be noted that the Guidelines also suggest in Table 4B that valued natural and historic landscapes, and features within them, should be conserved and enhanced. Some

of these historic landscapes and features may constitute part of the architectural heritage of a locality.

- 1.3 As set out in Section 1.7 of the Guidelines, Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan before a decision is made to adopt that plan.

The effect on architectural heritage should be taken into account as part of the systematic appraisal of policy options at the various stages in preparing the Draft County Waterford Development Plan (DCWDP). It should follow from this that any proposals included in the DCWDP relating to the physical form of parts of a locality are influenced in a positive manner by giving due recognition to significant elements of architectural heritage in that area. This should assist in establishing a better built and natural environment in County Waterford.

- 1.4 As noted in Section 3.14 of the Guidelines, certain strategic issues will already have been determined in the current County Waterford Development Plan and, in turn, will have set the parameters for the DCWDP.
- 1.5 The SEA process in relation to the DCWDP can be used to add value to plan-making by using the existing architectural heritage of the locality to establish both a sense of place and local identity in County Waterford.
- 1.6 The SEA process should also identify the implication of the scale, type and location of significant development envisaged in the vicinity of structures of architectural heritage merit, including institutional lands, during the life of a new County Waterford Development Plan and the perceived effect of that development on those elements of the architectural heritage.
- 1.7 Information in respect of the architectural heritage of a locality should inform the content of the DCWDP from the outset. In assembling the baseline description of the current physical environment, as recommended in Item B of Table 4A of the Guidelines, the extent of the architectural heritage can be described in general terms.

As structures of merit have a physical presence, much of the information relating to the architectural heritage of County Waterford will be evident on the maps used in the work of establishing new localised built-form layouts. In addition, any areas of architectural heritage significance, including institutional lands or structures in proximity to the extent of DCWDP, should be taken into account in this design work.

3. Defining Architectural Heritage

- 2.1 The term "*architectural heritage*" is defined in the Architectural Heritage (National Inventory) & Historic Monuments Act, 1999, as meaning – "*all*
 - (a) *structures and buildings together with their settings and attendant grounds, fixtures and fittings,*
 - (b) *groups of such structures and buildings, and*

(c) sites,"

which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

2.2 Section 10 (2) of the 2000 Planning and Development Act states that, among others, a development plan shall include objectives for-

“(f) the protection of structures, or parts of structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest;

(g) the preservation of the character of architectural conservation areas”.

2.3 For guidance on what is encompassed by the term “*architectural heritage*”, it is recommended that reference is made to Sections 2.5.4 to 2.5.20 of the “*Architectural Heritage Protection, Guidelines for Planning Authorities, 2004*” issued by the Department of the Environment, Heritage and Local Government.

2.4 For guidance on what is encompassed by Architectural Conservation Areas (ACA), it is recommended that reference is made to Sections 3.3 and 3.4 of the “*Architectural Heritage Protection, Guidelines for Planning Authorities, 2004*” issued by the Department of the Environment, Heritage and Local Government.

3. Level Of Detail And Datagaps

3.1 Depending on the nature and scale of the plan, Section 4.15 of the Guidelines suggests that some of the following baseline data may be relevant –

- A statistical overview of the area, taking in its physical size, its current and estimated future population, population density, settlement sizes, broad mix of land uses, etc.
- A description of the physical environment of the area, including topography, landscape characteristics, availability of natural resources
- Location and type of protected areas (Special Areas of Conservation, Architectural Conservation Areas, etc.) and Protected Species, and the extent to which they are experiencing, or are likely to experience, development-related pressures

3.2 Within the administrative area of County Waterford it may be that some structures, which could be considered to constitute the architectural heritage of County Waterford, may remain to be considered as such. The RPS is a subset of the architectural heritage of a locality which the planning authority considers specifically to of special interest under specific headings.

The opportunity exists to determine if other structures of architectural heritage merit exist and remain to be identified in the various localities taken in by the proposed DCWDP. It

should be recognised that structures of architectural heritage merit, though not put forward for inclusion in the RPS, may still contribute to the identity of a locality. This should be taken into account in the DCWDP. The built environment of County Waterford is unique in form and character. The contribution of any features which give identity to and enhance that uniqueness should be given recognition in the DCWDP.

- 3.3 Existing known datasets can be used to inform the work of identification of the architectural heritage of the locality. This include -
- survey work undertaken by the planning authority for the purpose of compiling the current County Waterford Development Plan and for setting out a new development plan
 - survey material relating to the National Inventory of Architectural Heritage and other surveys of the architectural heritage of County Waterford
 - survey work carried out by local interest groups or other parties
 - published sources
- 3.4 As noted by Section 4.7 of the Guidelines, Article 5 of the Directive states that the Environmental Report shall include information that may be “*reasonably*” required. As set out in Section 4.8 of the Guidelines, while this means is that SEA involves collating currently available, relevant environmental data; it does not require “*major new research*”. Where data deficiencies or gaps exist, the Guidelines accept that this can simply be acknowledged in the Environmental Report.
- 3.5 However, it is not expected that significant gaps in the dataset relating to architectural heritage should arise in the DCWDP. Consideration of the area to be taken in by the DCWDP, carried out for the purpose of planning a new or revised built form, is likely to identify most of the significant elements of the built environment to be taken into account. If a competent architectural heritage assessment is made of that information, it will identify any elements of significant architectural heritage merit. In turn these structures should be given due recognition, as appropriate, in setting out the physical land-use planning in the DCWDP.
- 3.6 An opportunity should also be taken as part of this process to identify any areas considered to be of special character within the DCWDP which should be preserved by means of one or more Architectural Conservation Areas of appropriate extent. The evolution of the built form of towns within County Waterford has given rise urban layouts which are significantly different. In that regard there is an opportunity to set out ACAs of suitable extent which give recognition to the separate character of each of these areas. The opportunity should be taken to set out one or more ACAs within the various urban locations with a view to preserving their character and increase the sense of identity of each.
- 3.7 This does not call for “*major new survey work*” but rather taps into standard procedures used in setting out the DCWDP. However, on foot of any survey work which is to be undertaken in any event, any particular structures which are identified and are, in the

opinion of the planning authority, are of special interest should be put forward for inclusion in the RPS in the development plan.

4. Scope of Baseline Information to be included in Environmental Report and “Do Nothing” Scenarios

4.1 It is suggested in Section 3.16 of the Guidelines that at the end of the scoping procedure, the plan-making authority should prepare a brief scoping report of its conclusions as to what information is to be included in the environmental report, taking account of any recommendations from the environmental authorities.

It is recommended that work on the DCWDP should proceed in parallel with making a continuous review of the effect of proposals in the draft plan on the architectural heritage of County Waterford.

4.2 As suggested in the Guidelines, Item B in Table 4A creates two main requirements, viz.

- a baseline description of the current physical environment in the area, with particular reference to those aspects of the environment which are experiencing plan-related problems at present, or are likely to be significantly affected by implementation of the plan.
- a "*do-nothing*" scenario: an estimate of how current environmental conditions would change over time without implementation of the plan, i.e. as if there were no plan.

4.3 Section 4.13 of the Guidelines states that the purpose of the baseline description is to identify the current state of the environment, against which the likely effects of implementing the plan can be assessed. It follows from this that the plan's impacts can be estimated as the difference in environmental conditions with and without implementation of the plan.

4.4 If the purpose of the DCWDP is to bring about significant and appropriate change in the built environment of County Waterford, then there will be implications for all structures of architectural heritage merit within the county area and beyond. However, the implementation of a DCWDP may represent a positive opportunity for those structures. In a "*do-nothing*" or "*do-minimum*" scenario it may be that under-use or a lack of use will mean that they have either no viable future or that their continued existence is threatened. This aspect should be addressed in the SEA process.

If structures of architectural heritage merit are incorporated, as appropriate, in new localised plan layouts within the County Waterford area, they can be promoted to have either a continued use or appropriate new use. This may present an opportunity for those structures to have a viable and continuous future while contributing to the sense of identity and establishing a sense of place in the locality.

5. Monitoring and Cumulative Effects

- 5.1 In monitoring the outcome of the DCWDP, it is likely that “*qualitative indicators*” rather than “*quantitative indicators*” are more appropriate in adjudging subsequent environmental impacts on the architectural heritage of the locality.
- 5.2 Section 1.9 of the Guidelines states that the SEA process will play an important role in addressing the cumulative impacts of individual projects. An influence in this respect will be the cumulative effect of new structures placed in proximity to structures of architectural heritage merit. Where the quality of design of new structures complements existing items of architectural heritage merit, these new structures will enhance the character of the area concerned. Indeed they may be recognised in time as constituting elements of the architectural heritage of the locality. Emphasis should therefore be placed in the DCWDP in setting standards for the quality of the design of all new structures within County Waterford.

Archaeological Heritage

In preparing the SEA assessment of impacts on the archaeological heritage should have regard to the following:

1.1.1.1 International Conventions

The European Convention on Protection of the Archaeological Heritage, known as the Valletta Convention of 1992. This was ratified by Ireland in 1997 and requires that appropriate consideration be given to archaeological issues at all stages of the planning and development process.

National Policies, Plans and Programmes

National Heritage Plan (2002) - accessible at www.environ.ie. The core objective is to protect our heritage. In this regard, the 'polluter pays' principle and the precautionary principle are operable. Specifically in regard to archaeological heritage the 'Framework and Principles for the protection of the archaeological heritage' document (1999) sets out the archaeological policies and principles that should be applied by all bodies when undertaking or authorising development.

Relevant Policies and Plans at County Level

County Development Plan and Local Area Plans - Drafts of these documents should always be forwarded to this department for comment.

Archaeological Heritage

The area's archaeological monuments can be identified from the Record of Monuments and Places for county Waterford; the published archaeological inventories for the county, the Urban Archaeology survey for the county, and the National Monuments Service monuments data on

www.archaeology.ie. Any monuments that are National Monuments in State ownership or guardianship and monuments subject to Preservation Orders should be identified and zones of visual amenity defined for them. National Monuments in ownership or guardianship of Local Authorities should also be identified. It should be noted that any direct impacts on national monuments in State or Local Authority care or subject to a preservation order would require the consent of the Minister for the Environment, Heritage and Local Government under Section 14 of the National Monuments Act 1930 as amended by Section 5 of the National Monuments (Amendment) Act 2004. Areas of high archaeological potential including subsurface archaeological structures should be identified.

A pointer to the potential for the occurrence of subsurface archaeology is the annual Excavations Bulletin, which contains brief accounts of excavations conducted in Ireland each year; these reports are also at www.excavations.ie. Information on occurrences of chance finds of archaeological objects is also a useful indicator of archaeological potential - information may be obtained from the National Museum and local museums. The archaeological potential of the coastal and inter-tidal zone should be carefully considered. Any potential impacts on archaeological heritage should be subject to full archaeological assessment.

Development Issues

Increased development pressure increases the potential for impact on the archaeological resource. Impacts can be avoided or lessened by following criteria set out in 'Framework and Principles for the protection of the archaeological heritage'.

The Development Plan

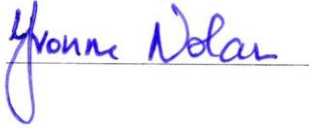
There should be liaison with National Monuments Section on the drafting of the archaeological content of the plan. The plan should address in detail the potential archaeological impacts of any proposed development.

Nature conservation observations will issue in due course.

Please acknowledge receipt of this submission and forward the relevant receipt to the following address:

The Manager,
Development Applications Unit,
Department of the Environment, Heritage and Local Government,
Dún Scéine,
Harcourt Lane,
Dublin 2.

Thank you for your cooperation regarding this matter.
Is mise le meas,



Yvonne Nolan
Development Applications Unit
01 8883193
Yvonne.Nolan@environ.ie

AN TAISCE SUBMISSION ON PREDRAFT WATERFORD COUNTY DEVELOPMENT PLAN 2009

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

While EU law now requires a strategic environmental assessment for a proposed new development plan, the use of SEA to date in Ireland has been no more than a waste paper generating exercise, without meaningful engagement with the evaluation, quantification and mitigation of environmental impacts. Environmental assessment indicators must be used robustly, must inform the decision making process and must really analyse policies in terms of their future sustainability.

While the objective of the SEA process 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 the plan with a view to promoting sustainable development’, we would be concerned that the emphasis on the SEA process tends to be on the preservation of the existing environment only, rather than on sustainable development per se. In 1987, the Brundtland Report defined the notion of sustainable development as being development that ‘meets the needs of the present without compromising the ability of future generations to meet their own needs’.

The first way in which we can compromise the ability of future generations to meet their own needs is if we do as little as possible about global warming and reducing carbon dioxide emissions by not actively curbing the use of fossil fuels. As the UK Stern Report concludes, acting now to avert climate change will be much more economical than asking future generations to pay for the mess created by a hotter and more unstable climate.

The second way in which we can compromise the ability of future generations to meet their own needs is if we continue as if cheap energy will always be available and do not prepare for the era where all forms of energy will be more expensive. If we fail to prepare Waterford for a postcarbon future and wait until it is forced upon us, we will be handing over to the next generation a county hopelessly dependent for its running on a fuel which is both too scarce and too expensive to buy. Sustainable Development means using the window of opportunity before peak oil really hits to wean the population off our dependence on cheap energy and to build the infrastructure for a low energy, post-carbon, resilient city.

Any further investment in infrastructure projects must pass a number of tests, including promoting the minimisation of greenhouse gas emissions to the atmosphere, reducing trip generation, trip length and the need for motorised transport, and promoting sustainable energy use/generation. For example, any infrastructural project that requires massive investment of fossil energy and material resources to construct, and then high inputs of fossil energy to operate and maintain, would by definition be hard to justify, since such a project may end up as a “stranded investment” once the effects of peak oil kick in.

Summary of Suggestions:

- Interpret the environmental indicators in terms of future sustainability as well as conservation – e.g. of a new indicator: “will this policy help develop a post-oil, postcarbon city or increase our vulnerability to imported oil and gas?”
- Make any proposed infrastructure project dependent upon an up to date cost-benefit analysis and also an ‘oil vulnerability’ analysis.
- Give all substantial policies in the next Plan a Policy Number, so that they have to go through the SEA process.

Geological Survey Ireland

The IGH Programme is in partnership with the National Parks and Wildlife Service (NPWS) of the Department of Environment, Heritage and Local Government (DEHLG). It aims to identify, document, and protect the wealth of geological heritage in the Republic of Ireland and conserve it against ever increasing threats, and also to promote its value with the landowners and the public.

The GSI provide scientific appraisal and interpretative advice on geological and geomorphological sites. They are responsible for the identification of nationally and internationally important sites that may be recommended to NPWS for designation as Natural Heritage Areas (NHA). The NPWS have the responsibility of designation and management of NHAs with appropriate advice from GSI.

The programme started a few years ago and has evolved with examination of the inventory and protection processes operating in other European countries (including the active participation with colleagues in the European Association for the Conservation of the Geological Heritage, ProGEO).

The geological heritage of Ireland is considered and evaluated within an overall framework of 16 themes:

- IGH 1 - Karst (completed)
- IGH 2 - Precambrian to Devonian Palaeontology (completed)
- IGH 3 - Carboniferous to Pliocene Palaeontology (in progress)
- IGH 4 - Cambrian-Silurian
- IGH 5 - Precambrian
- IGH 6 - Mineralogy (in progress)
- IGH 7 - Quaternary (in progress)
- IGH 8 - Lower Carboniferous
- IGH 9 - Upper Carboniferous and Permian
- IGH 10 - Devonian
- IGH 11 - Igneous Intrusions
- IGH 12 - Mesozoic and Cenozoic
- IGH 13 - Coastal Geomorphology
- IGH 14 - Fluvial and Lacustrine Geomorphology
- IGH 15 - Economic Geology
- IGH 16 - Hydrogeology (including warm springs)

Each theme considers specific aspects, such as stratigraphy, sedimentology, structural geology, volcanic rocks, etc. Each theme addresses all aspects of the particular geology involved, but some sites may be considered within two or more themes.

Under the IGH Programme, expert panels were set up for each theme, resulting in an indicative list of sites worthy of more detailed assessment within the relevant themes. This is a response to the present urgent demands for information for development projects, Environmental Impact Statements and planning, for which GSI is a prescribed body (under its parent Department, the Department of Communications, Energy and Natural Resources).

The site lists are now undergoing a final assessment, with individual Site Reports being written by various panel experts, currently for the IGH6 Minerals and IGH7 Quaternary themes. The site reports will then be followed up by fieldwork to assign boundaries.

Of the majority of geological sites not eventually selected for NHA designation, some are being promoted as County Geological Sites (CGS), which have no statutory protection, but may be included within County Development Plans. Many counties have now adopted County Geological Sites into their development plans, and are promoting their interest through Heritage Plans. A possible way of guaranteeing the survey of these sites and therefore ensuring the knowledge and protection of geological heritage at a county level is the co-funding of an audit of geological heritage sites. If you wish to organise an audit, please contact Sarah Gatley directly (details below).

Regarding the SEA scoping for the review of Waterford County Development Plan 2005-2011, please find attached the list of geological heritage sites for Co. Waterford as well as guidelines regarding geological heritage in local authority planning.

Some sites on the list are of International importance, others of national or county importance. The stretch of coastline between Tramore and Clonea strand (Copper Coast) and the Comeraghs feature heavily. This list of sites was previously circulated by Matthew Parkes to Dominic Berridge when he was county heritage officer, so I take this opportunity to copy it to Bernadette Guest, for information as the list has been updated.

Many sites on the attached list are coastal sites and would be exposed to coastal erosion. We would appreciate notification if new coastal defence work was undertaken by the County Council especially if they affect listed geological heritage sites. Our aim is not to prevent coastal defence work but we would be able to advise on how best to approach it if any site had to be covered by defence work, or at least that a full study/survey could be completed before coverage or destruction.

Through EIS, EIA, SEA consultation, IGH, part of GSI prescribed body, advise on the state of geological heritage and how it is affected or not by any development in the county. Other programmes in GSI (Groundwater, Minerals, Quaternary, Geotechnical...) would advise likewise on related issues to their programme. Any EIS, EIA, SEA document should be sent to Ronnie Creighton in GSI.

I hope these comments will be of any help in the preparation of Waterford County Development Plan 2011-2017.

If you require further information regarding geological heritage in your county, do not hesitate to contact me at sophie.preteseille@gsi.ie or Sarah Gatley at sarah.gatley@gsi.ie

Appendix 3 Strategic Flood Risk Assessment

1. Introduction

Flooding is a natural process that can happen at any time in a wide variety of locations and plays a role in shaping the natural environment. Flooding from the sea and from rivers is probably best known but prolonged and intense rainfall can also cause sewer flooding, overland flow and flooding from groundwater. Where it impacts on human activities, it can threaten people, their property and the environment. Of increasing concern are the consequences of climate change which is impacting on sea levels, the nature and pattern of rainfall events and general weather patterns. While the exact impacts of change are not known, it is widely agreed that climate change will result in higher risk of flooding of both inland and coastal locations. It is important therefore that this issue is addressed within the Draft County Development Plan 2011-2017 as decisions on the direction of future growth within County Waterford can impact on flood risk.

The Department of Environment, Heritage and Local Government and the Office of Public Works (OPW) published Planning Guidelines *The Planning System and Flood Risk Management*, in November 2009. These Guidelines recommend a clear and transparent assessment of flood risk at all stages in the planning process and set out that strategic flood risk assessment and flood management policies are necessary to set a policy framework for Development and Local Area Plans at the local level. Key guiding principles for Flood Risk Assessment are as follows.

- Avoid risk where possible.
- Substitute less vulnerable uses where avoidance is not possible.
- Mitigate and manage the risk where avoidance and substitution are not possible.

This document sets out an overview of flood risk areas in the county and how this risk will be addressed by the Draft County Development Plan.

2. Strategic Flood Risk Assessment of County Waterford

County Waterford covers an area of 1,839km² and includes a range of topographies, soil and rock types, water bodies and a coastal length of 147 km. In west Waterford the limestone-floored valley of the Blackwater runs eastwards from the county boundary through Ballyduff and Lismore as far as Cappoquin where it turns abruptly south and cuts its way through several ridges of sandstone rock forming a steep-sided valley by Villierstown, Clashmore and Aglish and flowing into the Blackwater Estuary at Youghal. The River Bride flows north of Tallow and joins the Blackwater at Camphire. The upper Waterford tributaries of the Blackwater flow from the Knockmealdown Mountains which form the northern boundary of west Waterford. The eastern end of the Dungarvan valley contains the small Colligan River which empties into the estuary at Dungarvan and the Finnisk, a tributary of the Blackwater. A number of river valleys

occur between Dungarvan and Bunmahon namely the Dalligan River, River Tay, River Mahon and Anne Stream. East Waterford is very low-lying and has a concentration of lakes and wetlands. Sheltered bays along this coastline provide some of the county's most extensive beaches at Passage East, Woodstown and Tramore. The County boundary between Waterford and South Tipperary is formed by the River Suir flowing by Clonmel, Carrick on Suir and Portlaw where it is joined by the River Clodiagh.

County Waterford is covered in the main by the South Eastern River Basin District- including the catchments of the rivers Mahon, Clodiagh, Suir and Waterford Estuary. West Waterford and the Blackwater River are within the South Western River Basin District.

2.1 Data Available

The Office of Public Works (OPW) has responsibility for flooding including fluvial flooding, tidal flooding and areas where tidal and fluvial influences interface. A number of flooding related projects have been undertaken by the OPW including the facilitation of a governmental review into flooding issues and management and the preparation of national flood risk maps due to be completed by 2013.

Work is ongoing at a national level on flood risk management and mapping of flood risk areas in fulfilment of the requirements of the 2007 EU Flood Directive. A range of data will be available from the OPW to local authorities to inform flood risk management in the county and includes:

- Predictive Modelling data on flood risk
- Individual area flood studies (Carrick on Suir, Clonmel)
- Historical recording in spatial point information from www.floodmaps.ie prepared by the OPW
- Benefitting Land Maps-these are maps indicative of areas possibly prone to flooding from rivers
- Alluvial Soils maps from the Geological Survey of Ireland
- OPW Coastal Protection Study of County Waterford
- Preliminary Flood Risk Assessment

The OPW are currently involved in preparing catchment-based flood risk management plans (Catchment Flood Risk Assessment and Management Studies (CFRAMs) with the relevant local authorities, the Environmental Protection Agency (EPA) and other key agencies, providing an integrated and pro-active approach to flood risk and the mechanism through which predictive flood maps and Catchment Flood Risk Management Plans (CFRMPs) are being developed. These CFRAM studies will establish a prioritised set of flood risk management measures for their relevant areas, including the use of physical and management responses.

The main aim of the River Suir Catchment Flood Risk Assessment and Management Study (CFRAMS) is to assess the spatial extent and degree of flood hazard and risk within the Suir Catchment, to examine future pressures that could impact on flood risk and develop a long-term strategy for managing flood risk that is economically, socially and environmentally sustainable. The study will focus primarily on developed areas subject to significant development pressure known to have experienced flooding in the past or believed to be at risk from flooding in the future.

Areas of potential significant flood risk within the Suir Catchment have been identified in scoping the CFRAMS and those within County Waterford are Clonmel Environs, Carrick on Suir and Portlaw. Draft maps for these risk areas will be available in late 2012/early 2013 from the OPW and will be used by Waterford County Council to inform and review flood risk management policies at a county and local area plan level. Catchment Flood Risk Management Plans will also be prepared for the SE and SW River Basin Districts.

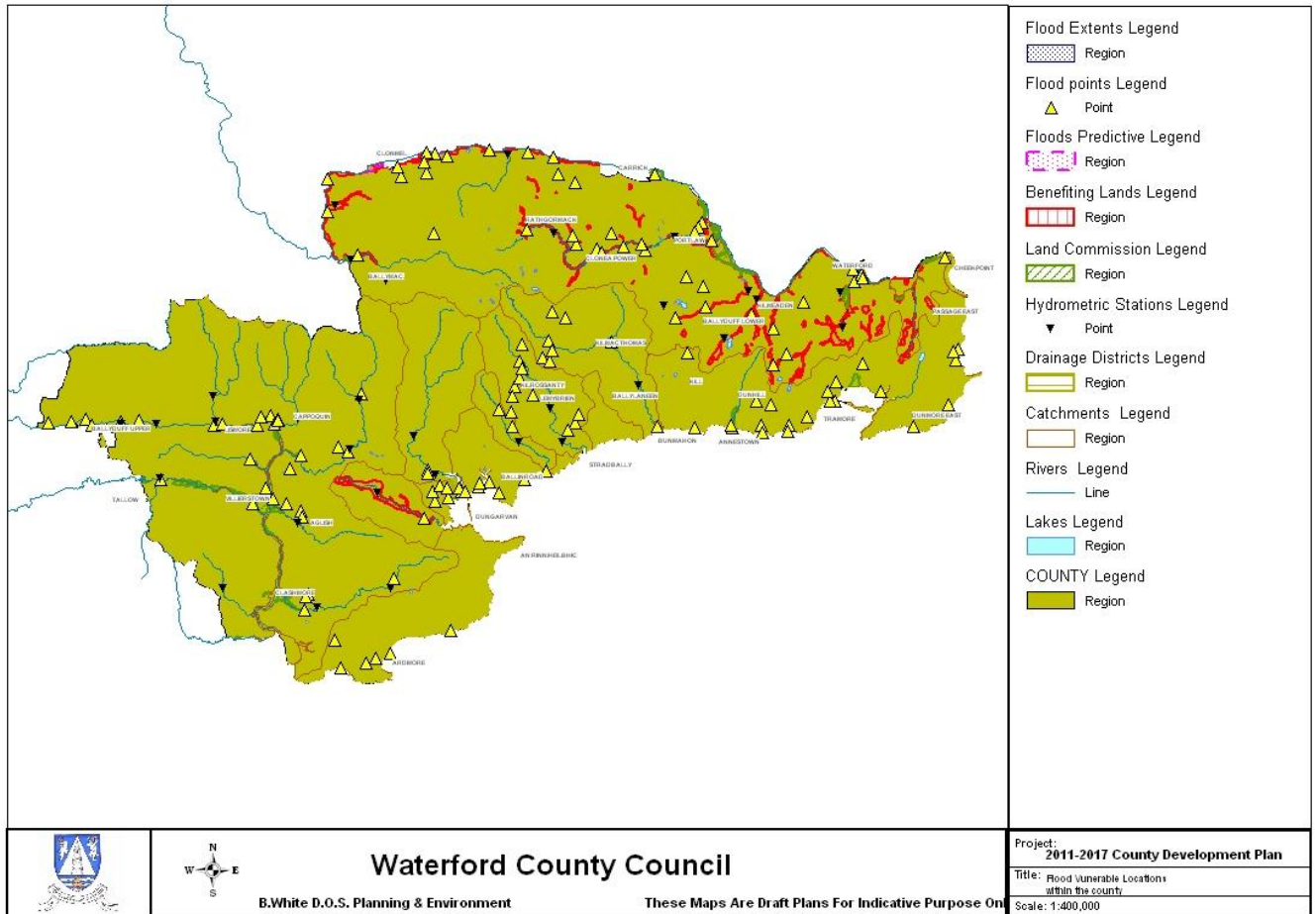
2.2 Assessment

A review of the data sources above (where available) has examined the major flood risk from river, estuarine and coastal flooding but does not include an assessment of groundwater or artificial drainage flood events.

The mapping of historical flood events in County Waterford is shown in Map 1 below and gives a general indication of where flood vulnerable locations are within the county.

As a topographically diverse county containing a number of rivers and with a coastline, County Waterford is subject to many risk areas for flooding. A review of the coastal flood maps shows that a section of the built up area in the County is vulnerable to flooding along the coast and from proximity to rivers flowing through the area.

Within the context of planning for future growth the general areas known to have flood risk have been overlaid on locations identified for growth and are towns and villages already developed. The general risk areas indicated are based on the historical flood maps and the existing reports available.



Map 3. Flood vulnerable locations within the county

2.3 Coastal Flooding

The coastline of County Waterford is experiencing both erosion and deposition and some flooding through normal coastal processes and is also at risk in the future from increased storm activity and sea level rise. Parts of the coast in Waterford are low lying and vulnerable to flooding in the long-term from sea level rise and it is essential that current and future plans and development now do not create significant problems in the future. Continued investment needs to be made in research on long term options for the protection of coastal towns from long term sea level rise and increased storm activity.

Coastal flooding and coastal erosion are issues with serious economic and social impact. In 2002 the Department of Communications, Marine and Natural Resources initiated a National Coastal Protection Strategy Study to review Coastal Protection generally, examine policy options and set out a basis for effective decision making in regard to resource allocation. Information is being assembled on the current and historic position of the coastline, the nature of the coast, its

vulnerability to erosion and flooding and the nature of the hinterland in terms of its economic, heritage and environmental assets.

The OPW are in the process of producing a national set of maps of areas prone to coastal flooding and erosion. These maps are available in draft form. A strategic level flood risk assessment for the coastline study has been completed and predictive floodplain maps prepared showing both the extreme flood outline representing the 0.1% AEP and the indicative floodplain representing the 0.5% AEP. A review of the predictive floodplain maps shows coastal flooding occurring in or near coastal settlements such as, Cheekpoint, Waterford City, Tramore and Dungarvan. A strategic level erosion risk assessment for the coastline has also been completed and predictive erosion maps prepared for the years 2030 and 2050. A review of the erosion risk maps shows that primary erosion risk areas identified included Tramore. In contrast to the assessment of coastal flood risk, the coastal erosion risk assessment along the south coast has indicated that there is generally little risk from erosion in the larger urbanised areas. This is primarily due to the fact that the urbanised coastline is mostly either naturally resilient or protected by man-made defences.

A study was carried out in 2006 for Waterford County Council on a review of the Tramore Coastal Protection and is available on www.waterfordcoco.ie.

3. Development within Flood Risk Areas

While a number of settlements within the county are vulnerable to fluvial and coastal flooding, wider, effective management of flood risk coupled with wider environmental, sustainability and economic considerations means that it is possible to facilitate the continued development of the existing settlement structure of the county.

In line with the sequential and justification criteria set out in the Department's Guidelines on the Planning System and Flood Risk Management it is considered that the core or centres of urban areas may be encouraged to continue to consolidate and grow in order to bring about a more compact and sustainable urban development form while at the same time managing flood risk appropriately. The Justification Test is not intended to promote inappropriate development on the outskirts or periphery of existing communities. Due to the landscape within which most of county's settlements are located, these areas are within a natural flood plain and are not avoidable. The section below outlines measures through which both the flood risk and the continued development of Dungarvan, Clonmel Environs and Carrick on Suir can be managed.

4. Flood Risk Assessment across Administrative Boundaries

Co. Waterford shares floodplains of two of its key rivers, the River Blackwater and River Suir with Counties Cork and South Tipperary respectively. An integrated approach to catchment management is essential to avoid increasing flood risk. Co-operation already exists in the Suir CFRAMS with South Tipperary, Kilkenny and Waterford City and County Councils represented on the committee.

5. Flood Risk Management Policies, Objectives and Monitoring

The impact of flood risk within the context of the County Development Plan and decisions regarding future directions of growth is recognised and has been incorporated into the policies of the County Development Plan Section 8 (Environment and Heritage Chapter). These policies aim to ensure that flood risk areas targeted for development will follow the sequential approach and will be planned, designed and constructed to reduce and manage flood risk and be adaptable to changes in climate.

Development Objectives for the settlements of Ballyduff West, Ballymacarbry, Cappoquin, Carrick on Suir, Cheekpoint, Clashmore, Clonmel Environs, Dungarvan Environs, Lismore, Pilltown and Tallow include the protection of the floodplain in those settlements.

As more up to date information and spatial data becomes available through Flood Risk Mapping, CFRAMS and the National Coastal Protection Strategy and where lands are already zoned for housing or other vulnerable development in the flood risk areas identification of flood zones in relevant settlements will be applied through a Stage 2 Strategic Flood Risk Assessment applying the sequential approach and justification test as per the DoEHLG Guidelines (2009)

Appendix 4. Waste water treatment and water supply status of residentially zoned land in towns and villages in County Waterford

Settlement	Env Capacity available - wastewater	WWTP facility	WWTP capacity	Available PE	Comments - waste water treatment	Water Supply Scheme	Availability of water - units	Source availability	Planned upgrades	Comments - Water supply
DUNGARVAN AREA										
Ardmore	yes	planned for 2013			WWTP to be provided under the 7 Villages scheme - 3377 PE planned	Local	10	limited	WSIP	Local interim measures
Baile na nGall	yes	yes	1600	650	Capacity to be shared across area incl Heibhic, Maoil na Choirme	Local	5	deficient	WSIP priority	Local interim measures
Ballinroad	Will be part of Dungarvan, awaiting confirmation of SLI for completion.					Ballinacourty	5	deficient	WSIP priority	Local interim measures on consideration
Dungarvan & Environs	Suggest orderly development where sewers are accessible					Dungarvan	100	sufficient	WSIP	Connection dependent on location and scale of development
Heilbhc	yes	yes	yes	yes	New WWTP, Heilbhc in catchment, zoned area not sewerred.	Local	5	deficient	WSIP priority	Local interim measures
Maoil na Choirnigh	yes	yes	1600	600	Current network problems with pumping stations.	Local	5	deficient	WSIP priority	
Piltown	limited	wetlands	250	none	Limited PE may be possible with modifications,	Clashmore	10	limited	none	By individual assessment
Sean Phobal	limited	yes/deficient	100	none	Limited PE may be possible with modifications, stream capacity limited	Local	5	deficient	???	Possible improvement under Rural Water Grant aided scheme, additional well needed
COMERAGH AREA										
Annestown	very limited	none	none	20 locally	Limited capacity - Proposals based on merits	Kill Bunmahon	10	limited	none	By individual assessment

Ballyduff East	none locally	yes	none	none	7 villages scheme dependant - 1098 PE planned	Local	5	limited	yes	Completion of scheme improvements under rural water scheduled for 2010
Ballymacarbry	yes	yes	used	none	Any major development needs new treatment plant.	Local	5	limited	none	By individual assessment
Bunmahon/Knockmahon	yes	yes	none	none	Public scheme in planning, likelihood uncertain	Ballyvaden	30	limited	none	By individual assessment
Clonea Power	yes	yes	none	none	Status of Clodiagh River - Restrict any further development.	Local	5	limited	???	Needs additional treatment and pumping to increase supply.
Clonmel Environs	Discharge to South Tipperary wastewater treatment facility					By application				
Dunhill	limited	yes	used	none	No further development - receiving waters currently overloaded.	Local	3	deficient	none	Dependent on proposals for permanent solutions from developers
Kill	yes	yes	500	200	Any future development should have regard to total loading on area.	Kill Bunmahon	5	limited	none	By individual assessment
Kilmacthomas	yes	planned for 2013			WWTP to be provided under the 7 Villages scheme - 1902 PE planned	Local	5	deficient	WSIP	By individual assessment
Kilmeaden	used locally	planned for 2013			WWTP to be provided under the 7 Villages scheme - 1098 PE planned	Local off EWWS	5	sufficient	???	Needs additional works and pumping to increase supply.
Lemybrien	limited	yes	180	none	Further development would necessitate major sewage works.	Local	5	limited	???	Possible additions under rural water
Portlaw	yes	yes	used	none	Additional capacity not expected under public finances in short term	Local	10	limited	WSIP	No further connections until new public water supply in place
Stradbally	yes	planned for 2013			WWTP to be provided under the 7 Villages scheme - 1185 PE planned	Local	5	limited	none	Supply under strain for a number of years - limited

Rathgormuck	no	none	none	none	Provision of waste water facilities unlikely - no further development	Local	3	limited	none	connections
TRAMORE AREA										
Bawnfune	very limited	yes	150	Possibly 30	Limited development at low density only	EWWS	yes			
Cheekpoint	yes	planned	700	Possibly 300	Awaiting provision of WWTP.	Dunmore Reg.	10	yes	WSIP	Additional pipe upgrades for large developments
Crooke	yes	yes	750	Possibly 200	There is a limit to capacity with limited scope for development	Dunmore Reg.	50	yes	no	
Dunmore East	yes	planned for 2013			WWTP to be provided under the 7 Villages scheme - 8314 PE	Tramore	50	yes	WSIP	Excessive development load would cause problem in Tramore
Fenor	no	none	none	none	Suitable for limited individual wastewater treatment plants only	None	none	none	none	
Passage East	yes	yes	limited	limited	Topography limits any further development.	Dunmore Reg.	50	yes	none	Topography limits any further development.
LISMORE AREA										
Aglish	limited	yes	700	300	Restrict further development to low density/limited area limited capacity.	Aglish	10	limited	none	Dependent on proposals for permanent solutions from developer
Ballyduff West	yes	yes	none	none	Assess future development on merits of proposals	Aglish Glencairn	20	limited	WSIP	
Cappoquin	yes	planned for 2013			WWTP to be provided under the 7 Villages scheme - 2556 PE planned	LCB	20	limited	WSIP	Quality issue with water, no large reserve
Clashmore	limited	yes	700	Possibly 300	Limit future development. Treatment in place will have an ultimate limit.	Local	10	limited	no	Additional wells may be considered
Knockanore	limited	none	none	none	Discharge for wastewater not readily accessible.	Local	10	limited	no	New Source needed if development proposed
Lismore	yes	yes/deficient	none	none	Plant capacity may be available if SLI application is approved.	LCB	20	limited	WSIP	Availability is location dependant,

										upgrade on network parts required
Tallow	yes	planned for 2013			WWTP to be provided under the 7 Villages scheme - 2527 PE planned	Local	10?	limited	WSIP	Supply under strain for a number of years - limited connections
Touraneena	no	yes	used	none	Suitable for limited individual wastewater treatment plants only	Local	5	limited	no	
Villierstown	yes	yes	700	300	Take care with total development exceeding capacity of plant.	Local	10	limited	???	Possible improvement under Rural Water grant aided scheme, additional well needed

Appendix 5 List of Consultees for SEA Scoping of County Development Plan

Environmental Protection Agency,

Development Applications Unit,
Department of the Environment, Heritage and Local Government,

Department of Communications, Energy and Natural Resources,

Office of Public Works,

Environment Unit, Fáilte Ireland,

Southern Regional Fisheries Board,

Dr. Jervis Good, National Parks & Wildlife Service,

South Eastern River Basin District,

South Western River Basin District

An Taisce,

The Heritage Council,

Geological Survey Ireland