



# **Kerry County Council Draft County Development Plan 2009-2015**



## **Draft for Public Consultation**

### **Volume 3**

## **Strategic Environmental Assessment**


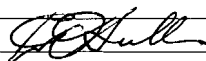
**Kerry County Council  
Planning Policy Unit  
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**STRATEGIC ENVIRONMENTAL ASSESSMENT  
FOR THE  
Kerry County Development Plan  
2009-2015**

**Environmental Report**

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## **1. SEA INTRODUCTION AND BACKGROUND**

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### **1.1. Introduction and Terms of Reference**

This is the Environmental Report for the Strategic Environmental Assessment (SEA) of the Draft County Kerry Development Plan (2009-2015). Its purpose is to set out the likely significant environmental effects of the proposed plan on County Kerry over the lifetime of the Plan. This report identifies the significant environmental effects of the Plan on the environment and discusses mitigation measures to reduce these effects. This report should be viewed in parallel with the draft County Kerry Development Plan 2009-2015.

The SEA process is being conducted in compliance with national legislation and guidelines to improve planning and environmental management in County Kerry.

The SEA and this report was conducted and prepared by Fehily Timoney and Co Ltd, Environmental and Engineering Consultants, Core House, Pouladuff Road, Togher, Cork, on behalf of Kerry County Council. Fehily Timoney and Co Ltd is referred to as FTC in this report.

This Environmental Report will go on public display with the Draft County Development Plan. Submissions received during this consultation period will be reviewed and an assessment of the environmental impacts of these submissions on the environment, if any, will be conducted. The Environmental Report will be amended accordingly and an addendum to it will be prepared.

This will be placed on public display during a second consultation period. Similarly, an assessment of the further submissions received during the second consultation period will be conducted and a second addendum to the Environmental Report will be prepared. Finally, when the County Development Plan is adopted an Environmental Report and the addenda will be published. This report will be accompanied with a non technical report and an SEA Statement.

Separate SEAs have been prepared for the Listowel, Killarney and Tralee Local Area Plans in 2008 and 2009.

### **1.2. SEA Definition and Role**

Strategic Environmental Assessment is a systematic process for predicting, evaluating and mitigating, at the earliest appropriate stage, the environmental effects of a national, regional or local plan or programme before it is adopted. Its purpose is to give the public and other interested parties an opportunity to comment, and to be kept informed of decisions about a Development Plan and how they were made. It allows the integration of environmental considerations into environmental decision making at an early stage.

The form and location of development in County Kerry will be determined by the implementation of the County Development Plan. In subjecting the preparation of the Plan to an SEA, development can be directed to where it is sustainable and compatible with land uses and to robust receiving environments.

### 1.3. Legislation and Guidelines

The SEA process is a requirement of European law. It is governed by Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment. The Directive was transposed into Irish land use planning law by the Planning and Development (Strategic Environmental Assessment) Regulations, 2004 (S.I. No. 436 of 2004). The regulations amend the Planning and Development Regulation 2001 in order to incorporate the SEA process into land-use planning. They will be termed "The SEA Regulations" in the Environmental Report. A SEA is required when County Development Plans are being drawn up.

The following sources of guidance have been used during the preparation of this Environmental Report and during the overall SEA process for the Development Plan for County Kerry.

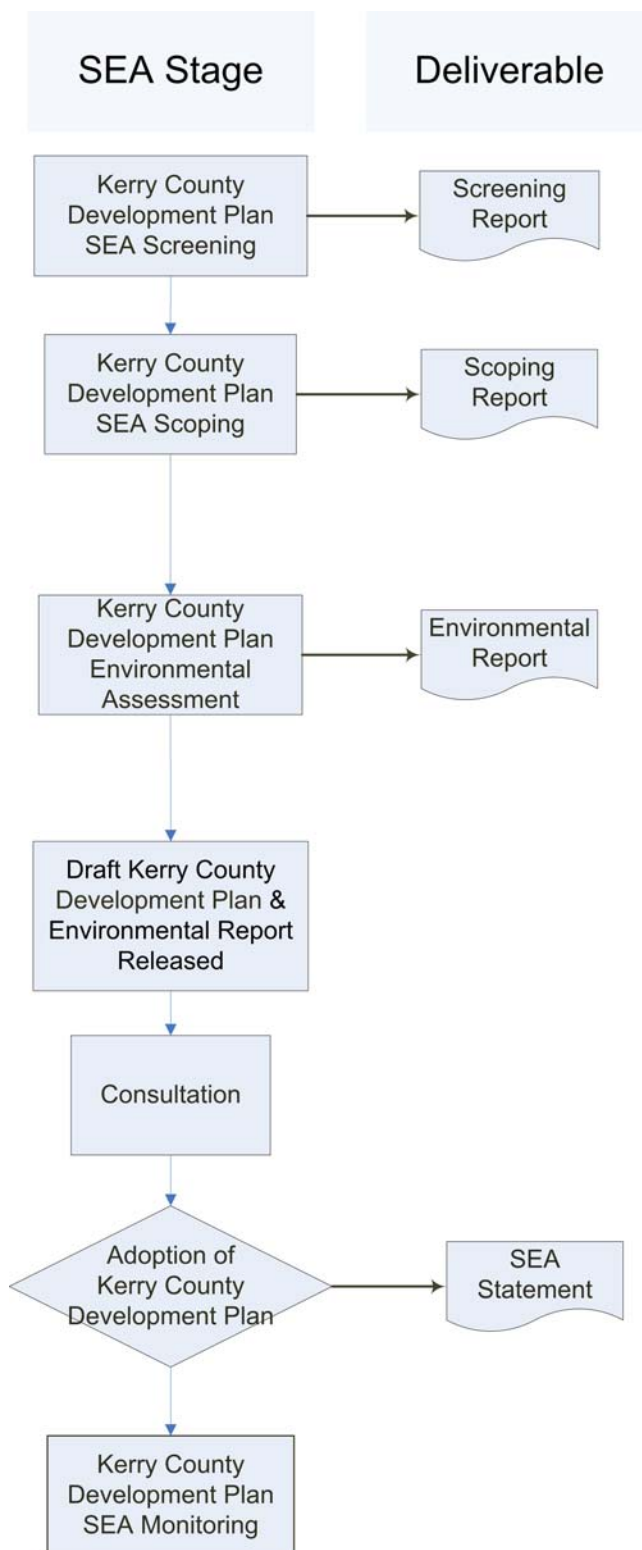
- The Department of the Environment Heritage and Local Government, Implementation of SEA Directive (2001/42/EEC) Assessment of the Effects of Certain Plans and Programmes on the Environment, Guidelines to Regional Authorities and Planning Authorities on the implementation of the Directive (2004)
- Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland, Synthesis Report, Environmental Protection Agency (2003)
- Environmental Assessment of Development Plans, Interim Planning Advice, Scottish Executive Social Research, August 2003.
- Environmental Protection Agency, SEA process checklist (Draft) (2008)

### 1.4. SEA Process

In the context of the production of a Development Plan, the SEA process comprises the following principal stages:

- Screening: to determine which plans and programmes are likely to have a significant impact on the environment
- Scoping: to liaise with statutory consultees to identify key issues of concern that should be addressed in the environmental assessment of the Development Plan
- Assessment: contains the findings of the assessment on the likely significant effects to the environment of implementing the Plan and describes the monitoring measures for the key effects that were identified
- Consultation: to allow for submission from the public and interested bodies of the Draft Plan and associated Environmental Report

- A SEA Statement: to identify how environmental considerations and consultations have been integrated into the final County Development Plan.



## 1.5. Integration of County Development Plan Review and SEA

This Environmental Report was prepared in parallel with the review of the County Development Plan, which was carried out between April and May 2008. The integration of the SEA and the review was achieved through close liaison between personnel delivering the SEA and the Development Plan itself. This included the key stages of scoping, the review of the existing situation in County Kerry and the assessment of County Development Plan objectives. Full details of how the SEA and the plan making process was integrated will be set out in the final SEA statement which will be published at the end of this process.

The following bodies were consulted with during the Environmental Report scoping process:

### Statutory Consultees

- Environmental Protection Agency
- Development Applications Unit, Department of the Environment, Heritage & Local Government
- Co-ordination Unit, Department of Communications, Marine & Natural Resources

### Non- Statutory Consultees

- Flooding Section, Office of Public Works
- South Western Regional Fisheries Board
- Cork County Council
- Clare County Council
- Limerick County Council
- South Western River Basin District
- Shannon River Basin District
- Failte Ireland
- Department of Community, Rural and Gaeltacht Affairs

The following people from Kerry County Council were also involved in the scoping of this report;

- Tom Sheehy, Director of Services, Kerry County Council
- Cathy Fisher, Heritage Officer, Kerry County Council
- Michael Connolly, Archaeologist, Kerry County Council
- Maeve Keegan, GIS, Kerry County Council
- Paul Stack, Senior Engineer, Planning Department, Kerry County Council
- Maura Joy, Water Services Section, Kerry County Council
- Denis O Connor, Senior Engineer Environment, Kerry County Council
- Donal Murphy, Forward Planning, Kerry County Council
- Marguerite Enright, Forward Planning, Kerry County Council
- Brian Sweeney, Water Services Operations, Senior Engineer, Kerry County Council
- John Breen, Director of Community & Enterprise, Director of Housing, Kerry County Council

In addition Fehily Timoney & Co. personnel met with Mr. Tadhg O Mahony of the EPA SEA section to discuss the SEA process in the context of the draft Development Plan for County Kerry and protection of the environment in County Kerry.





Fehily Timoney & Company

Study Area

Figure 1.1





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## **2. SEA METHODOLOGY**

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### **2.1. Introduction**

This section describes how the SEA was undertaken for the Kerry County Development Plan.

Since the Planning and Development Act was amended by the SEA Regulations, a SEA must be carried out as part of the preparation or review of a City and County Development Plan.

### **2.2. Scoping**

The SEA Regulations requires that a scoping report is prepared. The purpose of the scoping exercise is to ensure that the relevant environmental issues are identified so that they can be appropriately addressed in the Environmental Report.

In April 2008 an environmental scoping report was prepared in collaboration with Kerry County Council. The scoping report formed part of the official consultation documentation for the proposed Development Plan, which was sent for comment to the statutory consultees and other interested parties. Following from this a scoping meeting for the environmental report was conducted between FTC and Kerry County Council representatives in late April 2008. The outcomes of this exercise are detailed in Chapter 6 of this report.

The result of the scoping exercise was to focus on the environmental issues which are most likely to be significantly impacted upon as a result of implementing the Plan. These include, but are not limited to:

- Water quality for both surface water (rivers and lakes), groundwater, estuaries and coastal waters
- Biodiversity, flora and fauna within designated wildlife sites, non-designated sites and terrestrial habitats.
- Landscape
- Population and human health
- Material assets, particularly existing infrastructure and services
- Cultural assets including archaeology, architecture and the Irish language

The scoping process also considered the Plan alternatives, environmental objectives, targets, indicators and monitoring arrangements. The overall outcome of the scoping process was to focus attention and resources on the most important environmental issues facing the County as a result of implementing the Plan.

The results of the scoping exercise and consultation are set out in Chapter 6 of this report.

### 2.3. The Environmental Report Methodology

The methodology and sources used to gather baseline information, consider alternatives, develop objectives, targets, indicators and complete the environmental assessment are detailed in Chapter 5 and are summarised in Table 2.1 below. In addition, Chapter 6 of this Environmental Report describes the initial consultation process.

**Table 2.1: Relevant Chapters for SEA Key Stages**

Key SEA Stages	Chapter of Environmental Report
1. Contextual review to identify links with other International and national policies, local area plans and programmes and their potential influence on the Development Plan. Identify environmental objectives of relevance to the Plan.	Chapter 3
2. Describe the environmental baseline; identification of the most significant environmental issues and problems to be assessed and consider the likely evolution of the baseline in the absence of the Plan review	Chapters 7 - 15
3. Identify SEA objectives, targets and indicators against which to test the performance of the Plan and provide the basis for monitoring	Chapters 7 - 15
4. Identify alternatives for dealing with the key environmental issues and for implementing the Plan objectives	Chapter 16
5. Predict, evaluate and mitigate the significant environmental impacts of the Plan	Chapters 7 - 15
6. Compile an Environmental Report containing the above information	
7. Consultation: decide who to consult with, how to respond to comments and how to integrate them into the final Plan.	Chapter 6
8. Monitor the environmental impact of implementing the Plan.	Chapters 7 - 15

(Adapted from Therivel, 2004)

### 2.4. Difficulties Encountered

The SEA Regulations requires any difficulties encountered during the preparation of the Environmental Report to be recorded. No significant information gaps that affect the comprehensiveness of the data obtained or issues relating to mitigation were encountered. No other difficulties presented themselves.



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### **3. THE SEA PROCESS: RELEVANT NATIONAL AND INTERNATIONAL POLICY DOCUMENTS, STRATEGIES AND GUIDELINES**

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#### **3.1. Introduction**

A number of different articles in the Planning and Development Regulations 2001 specify the content of an Environmental Report that forms part of the SEA process. These all refer to the Regulations' Schedule 2B, which sets out the nature of these requirements in more detail. Paragraph (e) of that Schedule states that the report must contain:

*the environmental protection objectives, established at international, European Union or national level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation.*

The next section will list and summarise the national and international policy documents, strategies and guidelines that are relevant to the SEA process. Most of the documents set out below are specified in Appendix C of the Department of the Environment, Heritage and Local Government's SEA Guidelines for Regional Authorities and Planning Authorities<sup>1</sup>. More recently-published relevant materials have also been added as appropriate. Documents that are listed in Appendix C but which have been superseded since the SEA Guidelines were published in 2004 have been omitted.

The purpose of the contextual review is to take into consideration the policy and legislative framework within which the County Development Plan is developed. The Plan must, at a minimum, fulfil the European and National environmental requirements. It must meet the targets of these other plans and policies and must not be in conflict with them.

#### **3.2. National Policy Documents**

##### **3.2.1. The National Spatial Strategy**

The National Spatial Strategy 2002-2020 (NSS) is intended to provide a 20-year strategic planning framework to facilitate the development of a more balanced pattern of social, economic and physical development in Ireland. The NSS was a direct response to the concentration of development in certain areas of Ireland which has tended to occur at the expense of other locations, where economic weakness remains. Its goal is for a more balanced system of regional development, thereby facilitating all areas of the country contributing to their full potential.

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<sup>1</sup> Department of the Environment, Heritage and Local Government (2004) Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment.

The NSS is intended to provide an upper-tier of strategic guidance that feeds into general government policy-making and also into the regional and local Development Planning framework. Acknowledging both the critical influence of and the need for consolidation in the greater Dublin region, the NSS supports the development of regional gateways in Cork, Limerick/Shannon, Galway, Waterford, Dundalk, Sligo, Letterkenny/Derry and Athlone/Tullamore/Mullingar. These gateways are to be supported by nine hubs: Ballina/Castlebar, Cavan, Ennis, Kilkenny, Mallow, Monaghan, Tralee/Killarney, Tuam, and Wexford. In order to further these aims, the NSS sets down a series of policies in relation to employment, housing, rural development, access to services and quality of life/environmental quality.

### 3.2.2. National Development Plan (NDP) 2007-2013

The National Development Plan (NDP) was published in January 2007, replacing the earlier plan for 2000-2006. It proposes investment of some €184 billion in the economic and social infrastructure of Ireland. Unlike the 2000 NDP, which envisaged an extensive contribution from EU funding, the 2006 NDP indicates that this will be raised mainly from domestic sources. A particular emphasis is placed on economic and social infrastructure deficits in areas such as transport, energy, housing, water supply, education and health. The NDP interlinks with the regional development policies in the National Spatial Strategy, being intended to develop the gateway cities and hub towns to achieve the goals of economic growth in the regions and provide for major investment in the rural economy.

### 3.2.3. Transport 21

Launched in 2005, this policy initiative sets down how an intended sum of €34 billion will be spent on Ireland's transportation system. It covers national roads, rail and bus services and regional airports. It relates to the period from 2006 to 2016, comprising two investment programmes – a national programme and a separate programme for the Greater Dublin area. One of its key objectives is to support the National Spatial Strategy by developing connectivity between the Greater Dublin Area and the identified centres which comprise the NSS' gateways and hubs.

### 3.2.4. Regional Planning Guidelines

The National Spatial Strategy is required to be reflected in the Regional Planning Guidelines (RPGs) produced by each of eight regions in Ireland<sup>2</sup>. The RPGs act as the key policy bridge between national development priorities and local authority-based planning and are intended to establish policies which translate the content and priorities of the NSS into regional and local policies. The RPGs provide detailed regional level strategic guidance, assisting planning authorities in framing County, City and Local Area Development Plans.

<sup>2</sup> See Department of the Environment Heritage and Local Government (2005) Implementing Regional Planning Guidelines Best Practice Guidance, February 2005

### 3.2.5. County and City Development Plans

The Planning and Development Act 2000 introduced a more tiered and plan-led system for development control, cascading down from national strategies to local area plans. The Development Plan is the foundation of this system, transposing national and regional policies into practice. The scale, location and nature of virtually all forms of new development is determined in the context of the content of the Development Plan, with compatibility with the Development Plan being a key factor in the consideration of planning applications. Development Plans have a six year life and replacement plans are required to be drawn up in accordance with the Department of the Environment, Heritage and Local Government's 2007 document Development Plans - Guidelines for Planning Authorities.

### 3.2.6. Local Area Plans

Local area plans (LAPs) are required for locations that have a population in excess of 2,000 people and which are designated as towns in the most recent census. They may also be developed for towns that are to be located on substantial brown-field or green-field sites. The purpose of LAPs is to facilitate the sustainable development of the area, thereby avoiding piecemeal and incoherent expansion and ensuring that the social or physical infrastructure required is provided alongside residential development. LAPs also are intended to give infrastructure providers forward-planning information that is relevant to their investment programmes in future service provision.

### 3.2.7. Sustainable Development: A Strategy for Ireland

Covering some 200 pages, Ireland's 1997 Sustainable Development Strategy sets down a strategic framework for all of the main sectors of this Irish economy. The key aim of this document – which is developed upon by a number of the other, more recent, national policy documents discussed in this section – is to achieve sustainable development by the balancing of economic growth with a continued commitment to promoting environmental quality.

### 3.2.8. Making Ireland's Development Sustainable Review, Assessment and Future Action

Making Ireland's Development Sustainable: Review, Assessment and Future Action was published as the country's contribution to the World Summit on Sustainable Development in 2002. It develops upon the 1997 report, Sustainable Development: A Strategy for Ireland, being intended to place sustainable development principles more centrally in response to the national environmental challenges associated with economic growth. Having reviewed progress to-date since the World Summit, the implications of current national and international environmental challenges are analysed, with a series of priorities for sustainable development policy being set out for a period to 2010.

### 3.2.9. The National Climate Change Strategy 2007 - 2012

This National Climate Change Strategy 2007-2012 develops from the 2000 Climate Change Strategy, taking into account the review contained in Ireland's Pathway to Kyoto Compliance (2006). Its purpose is to demonstrate how Ireland is to meet its 2008-2012 Kyoto commitments and to identify further policy measures needed for the period from 2012 and after 2020.

The Strategy shows, sector by sector, how the 2008-2012 commitment is to be met by a range of existing and additional measures which collectively will cause Ireland's greenhouse gas emissions to reduce by over 17 million tonnes of carbon dioxide equivalent. For the period from 2012 to 2020, the Strategy describes a number of possible avenues to respond to the EU's commitment to reduce greenhouse gas emissions by at least 20% of the 1990 level.

### 3.2.10. Government White Paper – Delivering a Sustainable Energy Future for Ireland

Sub-titled the Energy Policy Framework 2007–2020, this document addresses how Ireland is to respond to international energy supply issues in the context of severe limitations on indigenous fuel supplies. Recognising that 90% of energy is currently imported, the White Paper sets down a series of strategic goals. These include actions relating to security of energy supply, of which the development of additional electrical inter-connectors with other European Countries is a particular priority. Other measures include ensuring fuel diversity, the upgrading of the national transmission networks, stimulating hydrocarbon exploration and contingency planning in respect of possible energy supply disruption. The sustainable supply and use of energy is also a theme, with policy proposals to address climate change and energy efficiency. In relation to the use of renewables, a highly ambitious 33% contribution to electricity generation by 2020 is proposed.

### 3.2.11. Discussion Paper – Strategy to Reduce Emissions of Transboundary Air Pollution by 2010

The Government's 2003 Discussion Paper, entitled Strategy to Reduce Emissions of Transboundary Pollution by 2010 to comply with National Emissions Ceilings, sets out how Ireland intends to meet its commitment to reduce, by 2010, the level of emissions of four transboundary air pollutants: nitrogen oxides, volatile organic compounds, ammonia and sulphur dioxide. This is a requirement of the 1999 Gothenburg Protocol, as these pollutants contribute to regional acidification, eutrophication and local air pollution across Europe. This commitment is additional to the separate undertakings relating to the Kyoto Protocol. The Discussion Document summarises the present and future obligations on Ireland, analysing the potential for emission reductions in the context of the economic costs and benefits of the necessary measures. The Paper concludes that meeting the nitrogen oxides and volatile organic compounds will be most challenging, with the ammonia and sulphur dioxide targets being met with relative ease.

### 3.2.12. National Programme for Ireland on Transboundary Pollutants – Update and Revision

The 2007 publication, Update and Revision of the National Programme for Ireland under Article 6(3) of Directive 2001/81/EC for the Progressive Reduction of National Emissions of Transboundary Pollutants by 2010, sets out Ireland's progress in reducing four transboundary air pollutants: nitrogen oxides, volatile organic compounds, ammonia and sulphur dioxide. Significant reductions are documented from the power generation, transport and agriculture sectors and projections suggest that emissions of all four pollutants will continue to fall in the period up to 2010 and beyond. With the exception of nitrogen oxides, Ireland is noted to on target to comply. However, further additional measures are stated to be required to ensure that the required reduction of nitrogen oxides takes place in accordance with EU law.

### 3.2.13. National Biodiversity Plan (2002)

Ireland's National Biodiversity Plan was launched in April 2002, being prepared as a response to the UN Convention of Biological Diversity. The plan sets down the framework for conservation and the sustainable use of biodiversity over a five-year period. Its fifteen themes and sectors contain 91 detailed actions that are required to further these objectives.

### 3.2.14. An Interim Review of the National Biodiversity Plan

An Interim Review of the National Biodiversity Plan was launched in November 2005. The review documents the progress achieved in respect of the 91 actions of the original National Biodiversity Plan. In total, 23 actions were found to have been implemented, with 60 more where implementation was on-going. Eight actions were found not to have progressed substantially.

### 3.2.15. Development Management Guidelines (DEHLG, 2007)

Development Management - Guidelines for Planning Authorities was published in June 2007, replacing former "yellow book" entitled Development Control Advice and Guidelines which was issued in 1982. These Guidelines are of relevance to all types of planning application, being intended to assist both the technical and administrative staff of planning authorities, as well as applicants and their advisers, on the operation of the planning process. They are also intended to promote best practice within planning authorities. Unlike many of the other guidelines on development control, Development Management - Guidelines for Planning Authorities focuses on the planning process rather than planning policy. They therefore act as an essential guide to anybody who wishes to interact with the planning system.

### 3.2.16. Guidelines on Architectural Heritage Protection

The 2004 document, Architectural Heritage Protection - Guidelines for Planning Authorities provides relevant guidance in the context of Part IV of the Planning and Development Act 2000. These guidelines are a response to Section 52 of the Act, which requires that guidelines are issued to planning authorities on the need to protect structures of architectural, historical or other importance and on the preservation of the character of architectural conservation areas. These Guidelines contain criteria to be applied when a local authority is selecting buildings for inclusion in its Record of Protected Structures. Guidance is also offered about the issuing of declarations on protected structures, as well as in respect of determining planning applications affecting both protected structures and the exteriors of buildings within Architectural Conservation Areas.

A separate publication originally covered issues relating to churches and cathedrals: Architectural Heritage Protection for Places of Public Worship - Guidelines for Planning Authorities. This has now been included as Chapter 5 of the Architectural Heritage Protection - Guidelines for Planning Authorities.

### 3.2.17. Guidelines for Planning Authorities – Wind Energy Development

These guidelines offer advice to planning authorities on how wind energy should be embraced in Development Plan policies and on the consideration of applications for planning permission for wind farms. An objective is to ensure a national consistency of approach in the identification of appropriate locations for wind farm development and in the treatment of planning applications. They replaced earlier guidelines issued in 1996.

### 3.2.18. Guidelines on Residential Density

Residential Density - Guidelines for Planning Authorities was published in 1999 in the context of concerns about uncontrolled urban sprawl. This publication stresses the need for Development Plan policies to promote higher residential densities in appropriate areas such as brownfield locations, as well as at sites in proximity to town centres or to public transport corridors. Planning authorities were also required to review their policies in relation to densities permitted for development on greenfield locations.

In respect of their development control functions, planning authorities are required to be more sympathetic to proposals involving high residential density, albeit that high densities are recognised as inappropriate in some circumstances. Where high densities are considered desirable, the Guidelines stress the need for quality design and layout, as well as a good quality living environment, including the availability of adequate retail, social, transport and leisure infrastructure. While much of the content of these Guidelines is still relevant, it is intended that the forthcoming Sustainable Residential Development Guidelines (see below) will develop national policy further.

### 3.2.19. Guidelines on Retail Planning

Published in January 2005, Retail Planning - Guidelines for Planning Authorities, set out national planning policy in relation to the retail-related content of Development Plans and on how planning applications for retail development should be considered. They are a response to a greatly increased demand for retail outlets due to the booming national economy, the need for a balance to be struck between the provision of large and small-scale retail units and pressure for the development of out-of-town centres.

### 3.2.20. Guidelines on Sustainable Rural Housing

Sustainable Rural Housing – Guidelines for Planning Authorities was published April 2005, having relevance to both the content of Development Plans and also to development control and the consideration of planning applications. The Guidelines address the difficult political issue of how the strong national demand for rural-based housing should be matched with environmental objectives and the need for sustainable development. A balance needs to be struck between the need to prevent rural decline against inappropriate development in the countryside which causes negative impacts such as environmental damage, visual intrusion and road safety issues. Overall, the document cautions against the implementation of rigid, over-prescriptive development control policies which fail to take into account local needs.

### 3.2.21. Guidelines on Telecommunications Antennae and Support Structures

These 1996 guidelines are intended to assist planning authorities in balancing the need for the comprehensive national provision of telecommunications services against local environmental and public health-related concerns. While upland areas are often favoured for technical reasons, there is an obvious need to consider other relevant impacts; similarly the location of free-standing masts in residential areas or in proximity to schools is discouraged. Mast sharing by different service providers is also stressed.

### 3.2.22. Guidelines on Quarries and Ancillary Activities

The document Quarries and Ancillary Activities – Guidelines for Planning Authorities was published in April 2004, coinciding with the commencement of section 261 of the Planning and Development Act 2000. That section introduced a system for the registration for all quarries other than those which had been granted planning permission in the last five years. Besides providing guidance on the operation of the registration system, this publication also covers the quarry-related policies to be contained in the Development Plan and relevant issues relating to the content and consideration of planning applications for new quarries. The Guidelines contain a series of best practice recommendations, including those relating to noise, dust and vibration management, traffic management, groundwater protection and landscape conservation. Guidance is also provided on the assessment of environmental impact statements.

### 3.2.23. Guidelines on Design Standards for New Apartments

These guidelines were published in September 2007. They are intended to promote sustainable urban housing, by ensuring that the design and layout of new apartments provide satisfactory accommodation for a variety of household types and sizes – including families with children - over the medium to long term.

### 3.2.24. Delivering Homes, Sustaining Communities

The 2007 policy statement Delivering Homes, Sustaining Communities provides a key foundation in the policy framework for an integrated approach to housing and planning. Continued strong demand for housing is recognised as presenting major challenges in respect of the planning of new housing and associated services. Sustainable neighbourhoods involve the efficient use of land and quality urban design, effectively integrated with the supply of appropriate physical and social infrastructure. By providing a quality environment, sustainable neighbourhoods also contribute to the provision of attractive locations to support the NSS' objectives for a more coherent form of future regional development.

### 3.2.25. Sustainable Residential Development in Urban Areas – Draft Guidelines

These draft guidelines were published for consultation purposes in February 2008. They address the prediction that national housing needs may increase from the current level of 1.8 million units to over 2.5 million by 2020. This very considerable increase in housing stock is acknowledged as needing to be accommodated in a way which supports the development of sustainable, integrated neighbourhoods within Irish cities, towns and villages. The draft guidelines describe the key planning principles which must feature in Development Plans and local area plans, and which will later act as reference points in the process of the preparation and assessment of planning applications for residential development in urban areas. Planning authorities are urged to ensure that an adopted local area plan is the only effective policy framework within which to consider major development proposals.

The draft guidelines are accompanied by a residential design guidance document, which gives examples of good practice in a variety of urban contexts, which stretch from major urban brown-field sites to village infill developments. Although not formally adopted (April 2008), planning authorities have been requested to consider the recommended design standards when preparing or varying Development Plans and local area plans, particularly when their current plans refer to the older standards.

### 3.2.26. National Urban Waste Water Study

This study was published in 2005, being the most comprehensive examination of Ireland's public waste water infrastructure. The study involved the collation, mapping, assessment and analysis of urban drainage systems including waste water treatment facilities. An inventory of all waste water infrastructure was prepared, which also covered its condition and performance. Sewerage system and treatment plant deficiencies were analysed, having regard to the relevant legislation and the assimilative capacity of the receiving waters.



Recommendations are made in respect of the need for a national programme of waste water infrastructure rehabilitation and guidelines for the funding of future developments are included.

### 3.2.27. Changing Our Ways (1998)

Published in 1998, Waste Management - Changing our Ways, sets out a national policy framework for the adoption and implementation by local authorities of their waste management plans. It emphasises the pressing need for Irish waste management to move away from landfill, viewing the ultimate role of landfill as acting as a disposal outlet only for residual waste that cannot be reclaimed or recycled. It specifies that a small national network of regional landfill sites is required, with this network being served by increasing numbers of more localised waste recovery facilities and composting plants. Changing Our Ways reiterates the targets for the progressive reduction of the use of landfill for biodegradable waste which are set down in the EU Landfill Directive, but adds further national targets such as for the reclamation of construction and demolition waste.

### 3.2.28. Preventing and Recycling Waste: Delivering Change

Building on Changing Our Ways, the 2002 policy statement Preventing and Recycling Waste – Delivering Change focuses on the non-landfill alternative waste infrastructure that is required in Ireland, as well as on ways of improving waste handling systems such as segregated waste collection and recycling, waste prevention initiatives and so on. It points to the need to develop a national network of new facilities for the collection, sorting and treatment of recyclables, as well as a series of new biological treatment facilities to process organic and green wastes.

### 3.2.29. Taking Stock and Moving Forward

Waste Management – Taking Stock and Moving Forward involved a 2004 review of national progress in the development of non-landfill based waste infrastructure. It notes the need for a much greater level of investment in organic waste collection and biological waste processing. This is viewed as particularly necessary as biodegradable waste not only makes such a significant contribution to the municipal waste stream, but constitutes material that can be readily recovered. This publication also points to the need to provide additional non-landfill waste management infrastructure for handling commercial and industrial wastes.

### 3.2.30. National Strategy for Biodegradable Waste

The National Strategy for Biodegradable Waste was published in April 2006, being an obligation on Ireland under the Landfill Directive. An aim is to set out how the three progressive landfill diversion targets of the Directive are to have effect. While significant progress in the development of recycling and waste reclamation initiatives is noted, the continuing national dependency on landfill is described as substantial. It states that a major increase in recycling and biological treatment capacity is necessary in order to facilitate the EU requirements for the diversion of biodegradable municipal waste away from landfill.

## **3.3. Key European Legislation and Policy Documents**

Appendix C of the Department of Environment's Guidelines to planning authorities on the SEA process also contains a short list of key EU legislation.

### 3.3.1. Habitats Directive

The Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna (92/43/EEC) is the most important EU initiative to support national and international biodiversity. Its purpose is to both protect and restore the conservation status of a list of key habitats. For Ireland, these include raised bogs, active blanket bogs, turloughs, sand dunes, machair (flat sandy plains on the north and west coasts), heaths, lakes, rivers, woodlands, estuaries and sea inlets. The Directive requires Ireland and other EU member states to designate these habitats as special areas of conservation (SACs). In conjunction with the Special Protection Areas (SPAs) under the EU Birds Directive, the SACs make up the so-called Natura 2000 network.

The Directive requires EU states to draw up a preliminary list of proposed SACs and notify these to the European Commission. Once a site's importance has been agreed with the Commission, a system that formalises the designation of the site as an SAC is required to follow. If formally designated, the site must be protected and, where necessary, additional conservation objectives addressed. The effects of any plan or project that may impinge upon a site's conservation status must be formally assessed.

The Directive is transposed into Irish law by the amended European Communities (Natural Habitats) Regulations 1997 (S.I. No 94 of 1997).

### 3.3.2. Birds Directive

The Council Directive on the Conservation of Wild Birds (79/409/EEC) obligates EU states to preserve, maintain and re-establish sufficient areas in order to safeguard the habitat for all bird species. Additional requirements are mandated in relation to a list of key bird species set down in the Directive's Annex 1, with EU states being required to designate special protection areas (SPAs) for them. For Ireland, this causes protection to be conferred on such species such as the whooper swan and migratory species such as ducks and geese.

Key wetland areas, especially those which attract large numbers of migratory birds each year, are required to be designated. In a similar manner to the requirements on SACs under the Habitats Directive, plans or projects which are likely to affect an SPA are required to undergo a formalised assessment of their environmental implications on the designated site. The Directive is transposed into Irish law by the European Communities (Natural Habitats) Regulations 1997.

### 3.3.3. Water Framework Directive

Directive 2000/60/EC establishing a Framework for Community Action in the Field of Water Policy was agreed in 2000. It rationalised a number of earlier Directives, taking into account nearly 20 years' experience of water-related EU legislation. The Directive is intended to establish a comprehensive framework for the management of water resources in each EU state, covering inland surface waters, the estuarine and coastal environment and groundwater. Key objectives are to maintain good water quality where it already exists, as well as to cause a substantial improvement where water quality has deteriorated. EU states have to ensure that a co-ordinated approach is adopted for the achievement of the objectives of Directive. Besides protecting and enhancing water quality and aquatic ecosystems, the Directive also is intended to promote the sustainable use of high quality water resources. The Directive is transposed into Irish law mainly by the European Communities (Water Policy) Regulations 2003 (S.I. No 722 of 2003).

### 3.3.4. Urban Waste Water Directive

The Directive concerning Urban Waste Water Treatment (91/271/EEC) entering into effect in June 1993. Its purpose is to ensure that aquatic water quality is not negatively affected by uncontrolled urban waste water discharges, such as from sewage treatment plants. It mandates that appropriate collection and treatment systems are put in place by a series of deadlines which relate to the size of an urban area. It also requires secondary treatment to be deployed by a series of specified dates. Where the receiving environment is sensitive, and subject to certain exceptions, additional treatment measures need to be put in place.

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

### 3.3.5. Nitrates Directive

The Council Directive concerning the Protection of Waters against Pollution caused by Nitrates from Agricultural Sources (91/676/EEC) was finalised in 1991. Its purpose is to protect all aquatic ecosystems from pollution caused by livestock effluents and the excessive use of fertilisers. These materials all contain significant levels of nitrogen, with the Directive requiring EU states to designate sensitive aquatic environments as nitrate vulnerable zones. Action programmes are to be put in place to safeguard and improve water quality. A code of practice is required to be drawn up, covering relevant protection measures such as appropriate periods for fertilizer spreading and storage vessel construction.

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

### 3.3.6. Directive on Waste

The Directive on Waste (2006/12/EC) was originally issued in 1975 and revised in 1991. It mandates that EU states publish waste management plans. It requires a system of permits and registrations to be put in place to authorise all waste management infrastructure, as well as setting down the basic requirements that need to be satisfied for these statutory authorisations to be issued.

### 3.3.7. Landfill Directive

Besides setting EU-wide standards for landfill design and operation, the Council Directive on Landfill (91/31/EEC) mandates a series of targets to cause a substantial reduction of the landfilling of biodegradable municipal waste by EU countries. Using the amount of waste landfilled by each EU state in 1995 as a baseline, it requires that biodegradable waste passing to landfill sites is reduced progressively to 35% of the 1995 level over a period of some 15 years. A national strategy is required to be published by each EU member on how this is to be achieved.

### 3.3.8. European Convention on the Protection of the Archaeological Heritage

European Convention on the Protection of the Archaeological Heritage was drawn up in Valletta in 1992 and entered into force in 1995. Ireland signed the Convention in 1997. Replacing an earlier Convention that was agreed in 1969, its scope was extended to address damage to archaeological assets resultant from construction projects. It requires signatories to establish legal systems to protect this heritage, setting down the basic scope of the required arrangements. These include requirements on persons conducting archaeological investigations to obtain a permit, that the investigation must be conducted by persons who are duly qualified, that environmental impact statements must embrace archaeological considerations and so on.

### 3.3.9. Granada Convention for the Protection of the Architectural Heritage of Europe

Ratified by Ireland in 1997, the 1985 Convention for the Protection of the Architectural Heritage of Europe is intended to reinforce and promote policies for the conservation and enhancement of Europe's heritage. The Convention is dual-purpose, involving the promotion of architectural heritage policies while fostering European-wide co-operation measures. Covering monuments, groups of buildings and sites of importance, the Convention requires a national inventory of architectural heritage to be developed. Legal protection measures must be established, with a system of formal authorisation being required for works affecting protected sites and structures. Architectural heritage conservation considerations are required to feature in the Convention signatories' town and regional planning processes.

### 3.3.10. European Landscape Convention

The 2000 European Landscape Convention was adopted in Florence and was ratified by Ireland in 2002. It promotes the protection, management and planning of EU landscapes, being a response to European-wide concerns that the quality and diversity of landscapes were deteriorating. The underlying purpose of the Convention is to encourage public authorities to adopt policies and measures at local, regional, national and international level to protect and manage landscapes throughout Europe. It requires the landscape dimension to feature in a country's spatial planning and environmental policies and for landscape quality objectives to be drawn up.

## **3.4. International Conventions and Treaties**

### 3.4.1. Agenda 21

Agenda 21 was the main outcome of the United Nations' Conference on Environment and Development that was held in Rio de Janeiro in 1992. That Conference endorsed the concept of sustainable development, requiring that economic growth must be compatible with the needs of both present and future generations and that environmental protection should form an integral part of the development process. These principles are required to be supported by a precautionary approach, which ensures that an absence of complete scientific certainty is not a justification of postponing measures to prevent environmental degradation. The key role of environmental impact assessment is stressed in respect of activities that may have a significant affect on the environment. Local Agenda 21 aims to promote sustainable development at local and regional level.

### 3.4.2. Kyoto Protocol

The Kyoto Protocol is an agreement made under the United Nations' Framework Convention on Climate Change. It was decided in December 1997 and entered into force on 16 February 2005. Its objective is to substantially reduce greenhouse gas emissions as a response to climate change. Developed countries, the so-called Annex I states, have to reduce their greenhouse gas emissions by a collective average of 5% below their 1990 levels. An Annex I country which fails to meet its Kyoto obligation is subject to possible penalties, although the Protocol also makes provision for flexible mechanisms which permit the purchasing of greenhouse gas emission allowances from other states. The National Climate Change Strategy sets out how Ireland is participating in this process.

### 3.4.3. Johannesburg Plan of Implementation

This international policy initiative sets out an action plan for the implementation of the activities adopted at the World Summit on Sustainable Development in 2002. It covers topics such as poverty eradication, changing unsustainable patterns of production and consumption, managing natural resources, sustainable development and other aspects of the implementation of Agenda 21.

#### 3.4.4. UN Convention on Biological Diversity

The UN Convention on Biological Diversity was a direct result of the Earth Summit in Rio de Janeiro. It came into force in 1993, being ratified by Ireland in 1996. Its objective is the conservation of global biodiversity, as well as to ensure equitable access to the world's genetic resources. It requires each party to develop strategies, plans or programmes for the conservation and sustainable use of biological diversity and that these should be integrated into other national initiatives that may have biodiversity implications. Monitoring programmes and appropriate designations for protected areas must be established, while undesirable alien species which threaten ecosystems should be controlled. In April 2002, the Parties to the Convention committed themselves to achieve, by 2010, a significant reduction of the current rate of biodiversity loss at global, regional and national levels.

#### 3.4.5. OSPAR Convention

The purpose of the 1992 OSPAR Convention is to encourage international cooperation to protect the marine environment of the North-East Atlantic. It replaced the earlier 1972 Oslo Convention on dumping waste at sea and the 1974 Paris Convention on land-based sources of marine pollution. It was ratified by Ireland in 1997 and entered into force in 1998. Convention signatories are required to take steps to prevent and eliminate marine pollution and to protect the maritime area, thereby safeguarding human health and conserving marine ecosystems. Where practicable, damaged marine areas are to be restored. Both the precautionary principle and polluter pays principle are to apply. All possible steps are to be taken to prevent and eliminate pollution from land-based sources, with joint assessments of the quality of the marine environment being undertaken by party states.

#### 3.4.6. ESPOO Convention

The Convention on Environmental Impact Assessment in a Transboundary Context is also known as the ESPOO (EIA) Convention. The Convention entered into force in September 1997, being ratified by Ireland in 2002. It requires Parties to put in place appropriate and effective measures to prevent, reduce and control significant adverse transboundary environmental impacts from proposed industrial and other activities. This must be achieved in the context of each country having legal and other measures in place to ensure that specified projects which may cause significant adverse transboundary impacts are subject to environmental impact assessment (EIA) prior to any formal approval being granted on their commencement. States that may be affected by a proposed project must be notified and may participate in the EIA process. The Convention also promotes EIA procedures being extended to cover not only projects but also a state's policies, plans and programmes.

#### 3.4.7. Protocol on Strategic Environmental Assessment (SEA)

The Protocol was adopted at a meeting of the Parties to the ESPOO Convention on 21 May 2003 during a Ministerial Environment for Europe Conference in Kiev. It develops from the ESPOO Convention by requiring Parties to evaluate the environmental and health-related consequences of their official draft plans and programmes using strategic environmental assessment (SEA). It was signed by Ireland in 2003.

#### 3.4.8. UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage

This Convention was drawn up in 1972 and ratified by Ireland in 1991. It covers not only monuments, groups of buildings and sites which have outstanding universal value but also natural sites of major importance. Parties are required to identify these locations and to ensure that they are protected and conserved for future generations. A World Heritage Committee has been established to approve the inclusion of individual Convention party states' proposals onto a World Heritage List.





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## 4. KERRY COUNTY DEVELOPMENT PLAN 2009 – 2015 IN SUMMARY

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### 4.1. Introduction

The Planning and Development Act (2000-2007) requires a planning authority to make a Development Plan every six years. The purpose of the Plan is to set out the overall strategy for the proper planning and sustainable development of the area. The Plan must consist of a written statement and maps that give a graphic representation of the objectives contained within it.

The draft Kerry County Development Plan (CDP) has been prepared in response to:

- The requirements of the Planning and Development Acts as set out above
- The need to provide a framework for the future development of the County that is consistent with higher level strategic planning policies including the National Development Plan 2007-2013, National Spatial Strategy 2000-2020, the Regional Planning Guidelines 2004-2020, the Meitheal Chiarrai 2002-2011, Kerry Local Authorities Access for All Implementation Plan 2008-2015 and the Udaras na Gaeltacht – Beartas Forbartha 2005-2015.

The current County Development Plan was adopted in November 2003. Its replacement has been prepared in accordance with the requirements of Section 10 (2) of the Planning and Development Acts and provides for the proper planning and sustainable development for County Kerry for the years 2009-2015. The following sections of this chapter summarise the very elements of the Plan.

### 4.2. Kerry County Development Plan Contents and Objectives

The replacement County Development Plan for County Kerry is founded on the following strategic framework for the policies and objectives needed to develop the county.

*“The principal aim of the County Development Plan is to provide for an improved quality of life for all people in the county while regulating development in a sustainable manner. This can be achieved through the promotion of its social, cultural and employment opportunities, efficient transportation, sufficient housing and community facilities as well as health, safety and clean environment which all contribute to a good quality of life. The County Development Plan promotes these goals.”*

The contents of the draft Development Plan are listed in Table 4.1.

**Table 4.1: Strategy Contents of the Draft Kerry County Development Plan**

- Overall Strategy
- Settlement Strategy and Rural Development Policies
- Housing
- Employment, Economic Activity and Retail
- Tourism
- Natural Resources
- Transport and Infrastructure
- Social, Community, Culture, Recreation, Amenity and the Gaeltacht
- Built Heritage
- Natural Environmental
- Zoning and Landscape
- Urban Design and Development Management

The strategic objectives of the new Development Plan are detailed in Table 4.2.

**Table 4.2: Strategic Objectives of the Draft Kerry County Development Plan (2009 – 2015)**

- Provide an improved quality of life for all citizens of the area by promoting the area's economic potential, protecting its natural and built environment and safeguarding its cultural heritage.
- Provide for the development of the area in a manner which is sustainable and protects its social, cultural, environmental and economic assets for future generations.
- Provide for balanced growth throughout the area by promoting the strengthening of rural communities and provide the infrastructure to facilitate job creation in these areas.
- Strengthen towns and villages throughout the county, improve the infrastructure provided, develop the critical mass necessary to maintain and expand the service provision within them, and make them more attractive places in which to live.
- Promote the development of the Tralee Killarney Hub as a means of strengthening the economic base of the County and acting as a focus for inward investment.
- Ensure that the existing provisions, including land-use zoning, of the adopted Local Area Plans will remain in force pending their review during the lifetime of this Plan.
- Provide a high quality of design in private and public development, increasing the quality of the public realm while maintaining the character, form and settlement pattern of the villages.
- Provide the infrastructure and support for the development and expansion of employment opportunities, including indigenous knowledge based industries.
- Protect the linguistic and cultural heritage of the County and promote Irish as the living community language.
- Promote renewable energy measures and sustainable settlement patterns in order to promote energy conservation and sustainable communities and travel patterns in the future.

- Protect the landscape of the County as an economic asset in addition to its intrinsic beauty and amenity value
- Facilitate where possible in accordance with proper planning and sustainable development, family members on their own land

### **4.3. Forward Planning Strategic Actions**

#### **4.3.1. Introduction**

The Kerry County Development Plan is situated within a hierarchy of National and Regional policies (see Chapter 3). The Plan must be consistent with the objectives of these higher-level strategic actions, whilst any programmes and projects must in turn be driven by the CDP. These policies are described in the following section which demonstrates how the objectives in the draft County Development Plan were formulated.

#### **4.3.2. National Spatial Strategy (NSS) 2000-2020**

The National Spatial Strategy (NSS) sets out a 20 year planning framework designed to achieve a better balance of social, economic and physical development and population growth in Ireland. The NSS provides guidance for future development by identifying settlements to accommodate future growth in order to achieve balanced regional development. These locations are termed regional gateways and hubs. The formulation of policies and objectives in the draft County Development Plan had regard to this document.

#### **4.3.3. National Development Plan 2007 – 2013**

The National Development Plan 2007 – 2013 promotes a framework for the regional development with a particular focus on investment in the National Spatial Strategy (NSS) gateways and hubs. These development locations are designated to act as development growth areas where infrastructure and investment will be promoted to act as economic drivers for the region as a whole. The formulation of policies and objectives in the draft County Development Plan had regard to The National Development Plan.

#### **4.3.4. Regional Planning Guidelines for the South West Region 2004 - 2010**

To give effect to the NSS, Regional Planning Guidelines (RPGs) have been published for the eight regions of Ireland. The RPGs for the South West Region covers the Counties of Cork and Kerry and Cork City. This document sets out a planning framework for the period 2004 – 2020 and is designed to achieve a better spatial balance for social, economic and physical development throughout the region.

Several sub-strategies/ projects have been proposed as part of the Regional Planning Guidelines which are of relevance to County Kerry. These are set out in Table 4.3.

**Table 4.3: Strategies/Projects proposed as part of the RPG for County Kerry**

- To promote the sustainable development of Mallow and Tralee/Killarney as a vibrant hub town, creating a critical mass of population, employment and services that enable them to attract investment and people, supporting the roles of the Gateways and delivering balanced regional development within the South West, through energising smaller towns and rural areas within their sphere of influence.
- To secure development of other towns and rural areas and their maximum potential, to support the Hubs and Gateways and to ensure a sustainable future for the rural areas of the Region.
- To establish upgraded quality transport systems, linking the Gateway and Hubs to facilitate their growth and development.
- To build the South West as a knowledge based economy through the sharing of knowledge and know-how, at all levels.
- To provide appropriate levels of services in selected towns and villages outside the Gateway and Hubs, to enable the towns and villages to develop a critical mass population, employment and services, to act as service centres for their rural hinterland.

#### **4.4. Location and nature of proposed development during the lifetime of the Plan**

##### **4.4.1. Population Profile**

Data prepared by the Central Statistics Office (CSO) from the 2006 Census shows that the population growth in County Kerry between 2002 and 2006 was 5.5% (Table 4.4). Table 4.5 shows the growth patterns at nine key locations in County Kerry. Table 4.6 shows a range of forecasts for populations levels for 2011, suggesting increases from 1.9% to 9.3%.

**Table 4.4: Population increases between 2002 and 2006, County Kerry**

2002	2006			Percentage Change 2002-2006
Persons	Persons	Males	Females	
132,527	139,835	70,641	69,194	5.5 %

**Table 4.5: Population trends between 2002 and 2006**

Electoral Division (ED)	2002	2006			Percentage Change 2002-2006
	Persons	Persons	Males	Females	
Killarney Town	12,087	13,497	6,668	6,829	11.7 %
Listowel Town	3,589	3,901	1,863	2,038	8.7 %
Tralee Town	20,375	20,288	9,886	10,402	-0.4 %
Caherciveen Rural Area	8,828	9,152	4,744	4,408	3.7 %
Dingle Rural Area	9,228	9,496	4,809	4,687	2.9 %
Kenmare Rural Area	7,198	6,987	3,621	3,366	-2.9 %
Killarney Rural Area	26,097	28,413	14,469	13,944	8.9 %
Listowel Rural Area	18,774	19,441	10,049	9,392	3.6 %
Tralee Rural Area	26,351	28,660	14,532	14,128	8.8 %

(Source: Census 2006, Volume 1 Population Classified by Area, CSO, April 2007)

**Table 4.6: Predicted Population in County Kerry – 2011**

Lowest prediction	Medium – low prediction	Highest prediction
142,500	146,600	152,800

(Source: Central Statistics Office (1999) Population and Labour Force Projections 2001-2003, Stationery office, Dublin)

#### 4.4.2. Housing

The 2006 census data shows 2.74 persons per house in County Kerry. The most dominant form of residence is a house/ bungalow accounting for 92% of total accommodation types. The accommodation breakdown is presented in Table 4.7.

**Table 4.7: Accommodation Type Breakdown in County Kerry**

Accommodation	House/ Bungalow	Flat/ Apartment	Bed-sit	Caravan/Mobile	Not stated	Total
No. of private households in the County	44,333	2,176	150	367	1,084	48,110

#### 4.4.3. The Settlement Strategy

The overall strategy for County Kerry provides a coherent, integrated statement of policies and objectives that need to be implemented in order to achieve the vision of how the County is to develop in the future. The development and settlement strategy which forms part of the Plan has as its primary aim to consolidate the County as an attractive place in which to live, work and recreate, and to facilitate the achievement of a high quality of life for residents and visitors through the sustainable development of further economic and social activities in a quality environment.

In order for the County to achieve these goals it needs to attract and maintain a certain population level within the County. While the level of population or critical mass will vary depending on whether it is a town or village, it is imperative that policies are in place at each level of settlement within the settlement strategy.

The settlement strategy for the Plan has identified one hub area, six primary functional areas and five local functional areas. These areas are outlined in Table 4.8 below.

**Table 4.8: Function Areas and Complimentary Role**

Hub Area	Primary Functional Area	Local Functional Area
Tralee Killarney hub	An Daingean	Ballybunion
	Caherciveen	Castlegregory
	Castleisland	Rathmore
	Kenmare	Sneem
	Killorglin	Waterville
	Listowel	

The Department of the Environment and Local Governments publication – Sustainable Rural Housing Guidelines (2005) outlines the key National policies which relate to rural housing. The document has prompted planning authorities to identify areas that are under urban pressure and to regulate development at these locations by reserving their development for people having traditional links with this locality. Kerry County Council has prepared Local Area Plans for the settlements throughout the County which identifies lands for residential development.

#### **4.5. Environmental Protection Objectives**

In addition to the settlement objectives set out in the Plan, it also contains an array of international, European and national environmental protection policies and attendant objectives. For example Ireland is signatory to the Kyoto protocol and the Habitats Directive. The legislation governing the production of a Development Plan requires that the Plan be consistent with these objectives.

Chapters 7 - 15 of this report cover these matters in more depth.

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## 5. STRATEGIC ENVIRONMENTAL IMPACT ASSESSMENT OF THE KERRY COUNTY DEVELOPMENT PLAN

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### 5.1. Introduction

Schedule 2B of the SEA Regulations prescribes the information that must be contained in an Environmental Report. This is described in the following sections.

### 5.2. Baseline Assessment

Schedule 2B of the SEA Regulations requires details on the current state of the environment. A baseline assessment for each of the environmental aspects including biodiversity, population, human health, flora/ fauna, soil, water, air and climate, material assets, cultural heritage, landscape and interrelationships is required. The regulations require an assessment of the evolution of the environment in the absence of the Plan, and identification where data is not available.

### 5.3. Significance Testing

Section (f) of the Schedule 2B of the SEA Regulations requires an assessment of the likely significant effects of the Plan on the environment. The following criteria have been used to determine the significance of an impact.

- Positive or negative impacts  
A positive impact improves the quality of the environment by, for example, improving water quality, protecting sensitive habitats, or providing amenities for people.  
  
A negative impact diminishes the quality of the environment by, for example, reducing species diversity or habitat loss, reducing air quality or water quality. A negative impact can be sufficiently minimised or eliminated by the adoption of appropriate mitigation measures.
- Long-term and short-term impacts  
A short-term impact will usually last for the duration of a project for example the construction of a road or a wastewater treatment plant.  
  
A long-term impact is normally the residual impact that remains after mitigation measures have been put in place. It may last 10 years or longer.

- Significant impact

The overall significance of an impact is dependant upon two factors – the size of the disturbance caused (magnitude) and the sensitivity of the receptor. The sensitivity of a receptor may be based on the legal status of a site, for example, a Natura 2000 site or a Natural Heritage Area. It may also be based on the proximity to population centres, schools, hospitals etc. Or it may be based on the importance of a resource, for example, groundwater for public supply drinking water supply or a site of archaeological importance. The magnitude of an impact will be dependant upon its duration and frequency.

The likely significant effects of the implementation of the Plan on the environment, including impacts on biodiversity, population, human health, ecology, soil, water, air and climate, cultural heritage, landscape and the interaction of the above, must be investigated. The effects of the Plan on these topics should include quantification of the impacts as short-term, long-term, temporary, permanent and positive and negative.

The assessment criteria used are based on the determination of the 'likely significant' impact of the Plan's policies and objectives on the environmental objectives as shown in Table 5.1. The likelihood of a significant impact occurring on any of the environmental objectives is determined based on expert judgement of the SEA team and the significance and duration of the likely impact.

#### **5.4. Mitigation Measures**

Section (g) of Schedule 2B of the SEA Regulations requires information of the mitigation measures that will be put in place to minimise/eliminate any significant adverse impacts due to implementation of the Plan.

#### **5.5. Environmental Objectives, Targets and Indicators**

Section (e) of Schedule 2B of the SEA Regulations requires environmental protection objectives, targets and indicators to describe and monitor change and predict impacts of the proposed Plan on the environment.

Objectives and targets set aims and thresholds that should be taken into account when assessing the impact of a proposed Plan on the environment. Indicators are used to illustrate and communicate impact in a simple and effective manner. Indicators can also be used to form the basis of a monitoring programme for the Plan, the results of which will inform the next review. The proposed monitoring programmes for each of the environmental topics will be outlined in more detail in Chapters 7 - 15.

As part of this Environmental Report two assessments have been carried out:

- An examination of the internal compatibility of the environmental objectives contained in the Environmental Report to identify potential areas of conflict in relation to each objective



- Examination of the compatibility of the environmental objectives in the Environmental Report and the Plan policies and objectives to identify potential areas of conflict between the Plan and the SEA.

## 5.6. Development of SEA Objectives

The environmental objectives are derived from International, European and national policies on various aspects of the environment. Many of these policies have been transposed into Irish Law and are now mandatory and need to be integrated and implemented in Development Plans at a County level.

The list of environmental objectives used in this report is based on the environmental topics set out in Paragraph F of Schedule 2B which is contained in the SEA Regulations which might be significantly impacted upon by the Plan. These include:

- biodiversity (flora & fauna)
- population/human health
- geology/soil
- water
- air/climatic factors
- material assets
- cultural heritage
- landscape
- and the interrelationships between these factors.

In the policy context review outlined in Chapter 3, the full set of environmental objectives of relevance to the Plan is set out. As part of the scoping exercise undertaken for this SEA and in consultation with the statutory consultees, the initial set of environmental objectives has been refined. This is described in Chapter 6. The focus is on those of most relevance to this Plan, namely water, biodiversity, population, cultural heritage, material assets and landscape. These environmental objectives are further explained in the second column of Table 5.1. Issues such as air and climatic factors have been determined not to be of major significance in the County and are more appropriately assessed at a higher level by the EPA and the DoEHLG. However, some environmental objectives relating to greenhouse gas emissions are included in this assessment.

**Table 5.1: Relevant Environmental Objectives**

<b>Water</b>	Prevent any deterioration in the status of any waters and to achieve at least "good status" in all waters by 2015
<b>Biodiversity</b>	Maintain and enhance biodiversity.
<b>Cultural Heritage</b>	Promote the protection and conservation of cultural heritage including architecture, archaeology, history and language
<b>Landscape</b>	Conserve and enhance valued natural and historic landscapes and features within them
<b>Population and Human Health</b>	Improve people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns
<b>Soils and Geology</b>	Maintain the quality of soils and conserve geological resources

<b>Material Assets</b>	Maximise the use of existing infrastructure and plan for future needs
<b>Air and climate</b>	Reduce all forms of air pollution and control greenhouse gas emissions

### 5.7. The internal compatibility of the SEA objectives

The internal compatibility of the SEA objectives has been examined to identify potential areas of consistency and conflict between them, so that subsequent decisions can be firmly founded. In general the eight environmental objectives in Table 5.1 are compatible with each other. For example the objective to improve water quality is consistent with enhancing biodiversity and protecting human health. In some cases, there is no obvious relationship between the objectives, such as no direct link between improving soil quality and influencing climate change. However there may be some conflict between material assets, landscape and soils. This is because for example the removal of rock from the ground during quarrying operations will result in the removal of soils and could potentially cause a visual impact. In respect of these conflicts mitigation measures will be suggested by this Environmental Report.

**Table 5.2: Internal compatibility between SEA objectives**

	Water	Biodiversity	Cultural Heritage	Landscape	Population & human health	Soils	.Material assets	Climate & air
<b>1. Water</b> Achieve at least 'good status' in all waters as per the Water Framework Directive		✓	0	✓	✓	✓	✓	✓
<b>2. Biodiversity</b> Maintain and enhance biodiversity	✓		✓	✓	X	✓	?	✓
<b>3. Cultural Heritage</b> Protection & conservation of cultural heritage	0	✓		✓	✓	✓	?	0
<b>4. Landscape</b> Conserve and protect natural & historic landscapes	✓	✓	✓		X	X	X	✓
<b>5. Population &amp; human health</b> Improve quality of life	✓	X	✓	X		✓	✓	✓
<b>6. Soils and geology</b> Maintain quality of soils and conserve geological resources	✓	✓	✓	✓	✓		X	0
<b>7. Material assets</b> Max existing infrastructure and plan for future needs	✓	?	?	X	✓	X		✓
<b>8. Climate &amp; air</b> Reduce all forms of air pollution Reduce carbon footprint	✓	✓	0	✓	✓	0	✓	

**Key**

✓	Objectives are mutually supportive
✓	Objectives are consistent
?	Situation cannot be determined
0	No obvious relationship between the objectives
X	Objectives in conflict

### **5.7.1. Development of environmental objectives, targets and indicators**

The purpose of indicators is to monitor the effectiveness of the Plan in meeting the environmental objectives and targets identified in this report. The methodology for the development and selection of the SEA indicators for the Development Plan in County Kerry has been based on:

- Identification of existing environmental problems
- The short-listing of a limited number of key indicators to keep the monitoring process manageable

The determination of the set of indicators used in this report has been informed by the baseline assessment and the scoping process. However, it should be noted that the final set is also influenced by the availability of existing and relevant indicators and the current monitoring programmes. Where data has not been available one of the recommendations of this report is to put a collection and monitoring system in place.

## **5.8. Monitoring Programme**

Under Article 10 and Section (i) of Schedule 2B of the SEA Regulations, monitoring is required in order to identify at an early stage any unforeseen adverse effects caused by the Plan. This allows remedial action to be taken. Monitoring prevents the actual impacts of the Plan to be measured against those that were predicted. It allows major problems to be identified and dealt with in a timely fashion, and environmental baseline information to be gathered for future Plan reviews. It also ensures that proposed mitigation measures are carried out and that no unforeseen impacts occur (Therivel, 2004).

The methodology used in the development of the monitoring programme for the Development Plan for County Kerry is based on the use of indicators and targets, the assignment of responsibilities and the setting of appropriate time lines. It also includes intervention in the event of an unforeseen occurrence.

Monitoring is carried out by reporting on the set of indicators and targets drawn up for the various environmental aspects and used to describe future trends in the baseline, which enable positive and negative impacts on the environment to be measured. The indicators that are used show changes that would be attributable to implementation of the Plan. In particular, the indicators can also in certain circumstances act as an early warning system should unforeseen impacts occur or conditions deteriorate further or faster than anticipated. For example, water quality indicators describe trends in both improvements and deterioration in water quality. If quality targets are not being reached and water is seen to be unexpectedly deteriorating immediate intervention will be required.

Monitoring will focus on aspects of the environment that are likely to be significantly impacted by the Plan. Indicators and targets have been identified for the main environmental issues in the study area, namely water, biodiversity, cultural heritage and landscape (Chapter 7-15).

The indicators chosen are at a level, which is relevant to the Plan, and are collated and reported on by a variety of Government Agencies, such as EPA, OPW, National Parks and Wildlife Services and different sections within Kerry County Council.

Much of the indicator information required is already being actively collected and reported at a level sufficient to meet the needs of this Plan. The frequency of monitoring is set by relevant legislation.

## **5.9. Strategic Environmental Assessment**

Chapters 7 to 15 of this Environmental Report will assess the impacts of the Plan on the environmental objectives. Each of the chapters will constitute a single environmental topic such as water, biodiversity, population etc. The content of the assessment will cover the topics required by Schedule 2B of the Regulations. The content of the chapters will follow the following format.

- **Baseline Assessment**

This section will describe the current baseline for the topic under discussion. It will identify any existing problems particularly those related to designated sites such as Special Protection Areas or Special Areas of Conservation. The likely evolution of the existing environment without the implementation of the Plan will be described and data gaps in environmental information will be identified.

- **Existing Environmental Problems**

The information gathered during the baseline assessment identified existing environmental problems. These are used to set the environment objectives for their rectification.

- **Evolution of the Existing Environment in the Absence of a CDP**

The Regulations require a statement on how the existing environment would evolve in the absence of the plan.

- **Environmental Objectives**

Based on the information contained in the baseline assessment and any existing environmental problems identified, a list of environmental objectives, targets and indicators is prepared.

- **Impact Assessment**

An assessment of the policies contained within the Development Plan on the environmental objectives is undertaken. The impact assessment sheets are provided in Appendix 1 but will be described in this section of the Environmental Report. The significance testing will follow the guidelines given in Section 5.5.

- **Mitigation Measures to reduce/remedy significant impacts**

This section will propose mitigation measures that are available to Kerry County Council or to developers to help reduce/eliminate significant impacts.

- **Monitoring Programme**

A monitoring programme to evaluate future trends in the baseline assessment of the impacts of the Plan on the environment.



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## 6. CONSULTATION

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### 6.1. Introduction

Under Article 13D of the SEA Regulations 2004, there is a requirement on Kerry County Council to give notice to the environmental authorities and scope the Environmental Report. Section (c) of this article allows the environmental authorities to make a submission or observation on the information to be included in the Environmental Report. Kerry County Council has used this stage to consult with the prescribed environmental authorities and other potentially interested bodies prior to preparing this Environmental Report. Kerry County Council notified the three statutory environmental authorities in December 2007. In addition a scoping report was sent to a list of consultees (statutory and interested bodies) detailed in Section 6.2 in April 2008.

### 6.2. Consultation during the SEA process

The SEA Directive makes provision for consultation with the following prescribed bodies during the SEA process:

- Prescribed environmental authorities (Article 6)
- Transboundary consultation (Article 7)
- The general public (Article 6)

In this SEA the prescribed environmental authorities consulted with have been:

- Environmental Protection Agency
- Development Applications Unit, Department of the Environment, Heritage & Local Government
- Co-ordination Unit, Department of Communications, Marine & Natural Resources

Additional consultees to the SEA process were:

- Flooding Section, Office of Public Works
- Southern Western Regional Fisheries Board
- Eastern Regional Fisheries Board
- South Western River Basin District
- Shannon River Basin District
- Failte Ireland
- Department of Community, Rural and Gaeltacht Affairs

Transboundary consultations were undertaken with neighbouring counties who might be affected by elements of this Plan, e.g. infrastructural provision. These were Clare, Cork and Limerick County Councils.

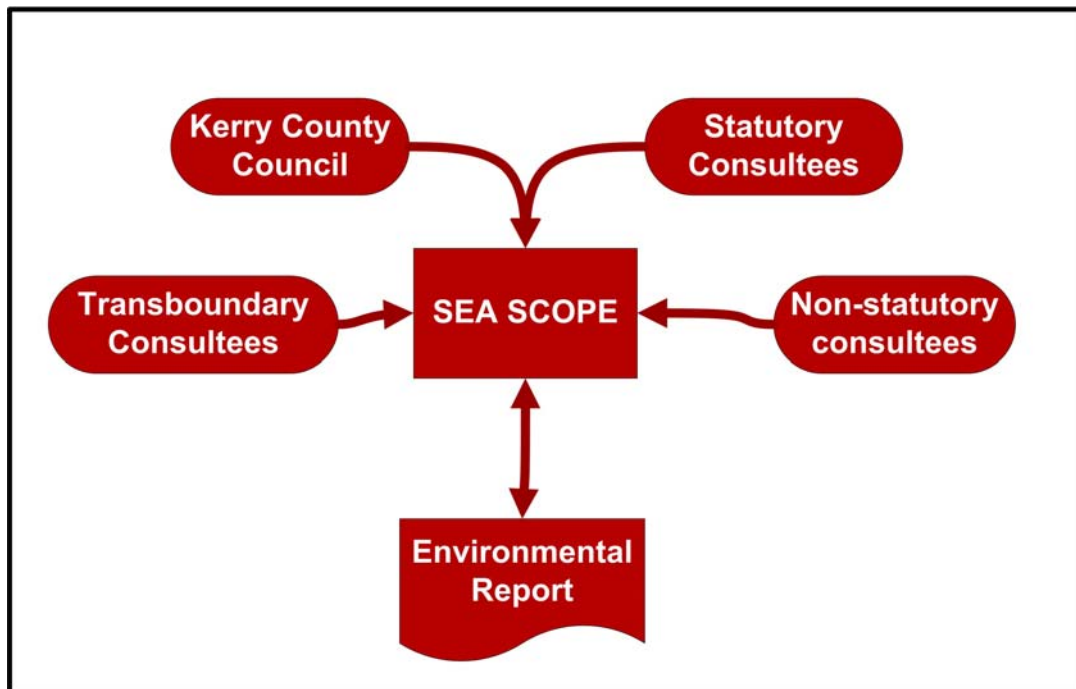
In addition extensive internal consultation was conducted between the SEA team, the Plan making team and those Sections within Kerry County Council with an interest in the SEA.

A full list of Kerry County Council personnel involved during the consultation process is given below:-

- Tom Sheehy, Director of Services, Kerry County Council
- Cathy Fisher, Heritage Officer, Kerry County Council
- Michael Connolly, Archaeologist, Kerry County Council
- Maeve Keegan, GIS, Kerry County Council
- Paul Stack, Senior Engineer, Planning Department, Kerry County Council
- Maura Joy, Water Services Section, Kerry County Council
- Denis O Connor, Senior Engineer Environment, Kerry County Council
- Donal Murphy, Forward Planning, Kerry County Council
- Marguerite Enright, Forward Planning, Kerry County Council
- Brian Sweeney, Water Services Operations, Senior Engineer, Kerry County Council
- John Breen, Director of Community & Enterprise, Director of Housing, Kerry County Council

The inclusion of the views and opinions of these various sections has been ongoing and central in the preparation of this Environmental Report. A schematic of this process is outline below in Figure 6.1.

**Figure 6.1: Schematic of Scoping Consultation**





### 6.3. Time frame for Completing Consultations

The time frame allowed for consultation in Ireland must be in accordance with the statutory time frames for the preparation of the Development Plan set out in the 2000 Planning and Development Act (DoEHLG, 2004). A consultation plan was devised for this SEA, which has run in parallel with the Development Plan process. The SEA consultation plan is outlined in Table 6.1.

**Table 6.1: Overview of Consultation Plan for SEA of Draft County Development Plan**

Stages of SEA	Who to consult in domestic situation	Transboundary consultation	Output
SEA Scoping	Consult and meet with Statutory Authorities, Planning team and internal consultees. Take account of views expressed	Consultation of authorities in other counties likely to be affected	SEA Scoping Report
Environmental Report and draft County Kerry Development Plan	Consultation with elected members of KCC and the general public. Take account of opinions expressed	Take account of results of transboundary consultation	Environmental Report
Adopted Plan SEA Statement Monitoring	Information made available to Statutory Authorities. Information made available to the public.	Information made available to the consulted neighbouring counties	-Amended Environmental Report or Addenda to the Environmental Report -Non-technical summary -SEA Statement

While consultation has been ongoing, the Scoping process has been one of the most central and fruitful exercises in this SEA and is detailed below.

### 6.4. Scoping Exercise

As part of the scoping exercise undertaken for this SEA a Scoping Report was prepared based on an extensive literature review of relevant documents including:

- Environmental datasets
- GSI database on groundwater vulnerability, subsoils and bedrock
- the Corine Landuse database
- the National Parks and Wildlife Service database for designated sites
- the OPW flooding database and
- the DoEHLG Sites and Monuments database.

## 6.5. Response to Consultations

A summary of consultee's responses to the SEA scoping report is given below. Table 6.2 illustrates where scoping responses have contributed to the development of objectives and indicators in the Environmental Report.

### 6.5.1. Environmental Protection Agency

A response was received from the EPA after the initial scoping submission by Kerry County Council. The response was a generic SEA response. The summarised comments are as follows;

- The SEA should take into account all relevant environmental objectives and standards set, for the environmental topics to be described and assessed, in all relevant EU and National legislation.
- The links between the Plan and other relevant environmental Plans and Programmes should be described e.g. –Flood Risk Management Plans, Land use Plans, Biodiversity/ Heritage Plans, Management Plans under the Habitats Directive etc.
- In describing the existing state of the environment the specific environmental topics should be described in the context of the following:
  - Current status of the environment,
  - Existing environmental problems and as appropriate any likely potential future issues
  - The evolution of the particular aspect(s) of the environment in the absence of the plan
  - Implications of the general objectives of the Development Plan on specific aspects of the environmental topics being described.
- The current state of the environment should be described using most recent and up-to-date environmental data, information and reports.
- Water Framework Directive data, information and reports should form a significant part of the description of the relevant aspects of the current state of the water related aspects of the environment.
- In undertaking the SEA, all the environmental data and information presented on GIS based maps should be taken into account.
- Where significant data gaps are identified, state whether these can reasonably and realistically be addressed during the SEA process.
- In describing the current state of the environment, the inter-relationships between the relevant different aspects of the environment should be described.
- In consultation with the Department of the Environment, Heritage and Local Government, a determination should be made on the requirement for an Appropriate Assessment of the Development Plan in accordance with Article 6(3) of the Habitats Directive.
- For those Natura 2000/ European sites within the area of the Development Plan and likely to be impacted by the Development Plan, the availability and status of Management Plans in accordance with the Habitats Directive should be determined. Where Management Plans are available, the objectives and management practices proposed/ set out should be taken into account in the Appropriate Assessment where required, SEA, and in the preparation of the Development Plan.

- For any environmental issue(s) determined to be scoped out of the SEA process, clear justification should be included in the Environmental Report as to why the specific environmental issues were not considered likely to be potentially affected by the Development Plan.
- Following completion of the initial SEA scoping exercise, it is recommended that the Plan-making authority and/or their agents/consultants, where possible and appropriate, arrange and facilitate formal SEA Workshops with key personnel within statutory and non –statutory authorities.
- In considering and assessing alternatives within the Development Plan the alternatives proposed should be reasonable and realistic.
- In order to promote Best Practice in SEA in the context of consultation, it is recommended that the public is given an opportunity to make submissions on the issues to be addressed in the SEA process.
- In assessing the likely significant effects of the Development Plan on the full range of environmental issues likely to be significantly affected, the full range of effects as set out in Annex I of the SEA Directive - likely significant effects should include- secondary, cumulative, synergistic, short, medium and long term, permanent, temporary, positive and negative effects, should be assessed and reported on.
- Where significant adverse effects are identified there should be a clear link with relevant and appropriate mitigation measure(s).
- Monitoring arrangements should be clearly set out along with responsibilities, frequency of monitoring, analysis, and reporting on monitoring. Maximum use should be made of existing environmental monitoring programmes. The monitoring arrangements and related programme should include relevant and appropriate thresholds which should trigger when remedial action should be undertaken for the particular aspect of the environment being monitored.
- The Environmental Report should be prepared in accordance with the specific information specified in Article 5 (1-3 inclusive) on Environmental Report and Annex I of the SEA Directive.
- Appropriate SEA Team / Development Plan Team Workshops should be held at key stages during both processes to ensure full engagement, interaction, and sharing of information with key members of both teams and to ensure full integration of environmental considerations.
- Where key decisions are made during the SEA process e.g. Scoping In/Out environmental topics, selection of preferred alternative (s) etc. these decisions should be documented as part of an overall SEA/ Development Plan process.
- You are referred to the following Guidance/ Methodology, which should be referred to along with other relevant and appropriate SEA and related Guidance during the SEA process.

#### 6.5.2. Department of the Environment, Heritage and Local Government

A response was received from the Development Applications Unit of the Department of the Environment, Heritage and Local Government. Their response addresses the requirements to ensure that archaeological heritage in the County should be protected.

### 6.5.3. Department of Communications, Energy and Natural Resources

An acknowledgement of receipt of the scoping report was received dated 15 April 2008.

### 6.5.4. Flooding Session, Office of Public Works

The OPW highlight in their response dated 01 May 2008 that there has been significant development in Kerry that carries higher than acceptable flood risk. The Commissioners of Public Works request that the Environmental Report section on flooding should reflect this situation.

### 6.5.5. Southern Western Regional Fisheries Board

A response was received from the SWRFB dated 21 December 2007. The comments on this response are as follows;

#### Zoning

Future land use zoning should take cognisance for the need to maintain flood plains free from infill thereby assisting in the control of flooding and prevention of downstream impacts e.g. erosion, river ecosystem interference etc. The SWRFB highlight their concern in relation to the principle of granting planning permissions to raise land levels in what are predominantly low lying sites and flood plains. The Boards concern relates to the fact that it appears that permissions are being granted in a haphazard fashion with no overall assessment being made in relation:

- a) to the impact of the removal (raising) of part of the flood plain on drainage and hydrology within individual catchments or
- b) The percentage of the flood plain that can be removed in any given catchment without knock on significant hydraulic changes.

The Board would suggest that the 100 year flood plain contour be established in each case and that no lands below this contour be filled.

Riparian zone protection areas should be introduced along watercourses within settlements. These will improve the aesthetic and recreational value of rivers and will assist in the protection of water quality by providing a buffer zone and a focus on waterways which will encourage awareness of biological diversity, wildlife and aquatic habitat.

#### Impact on Ecology/ Nature Conservation

The SWRFB request that the following items are included in the Development Plan:

- The introduction of riparian zone protection along waterways and specifically in those areas not afforded protection under the Habitats Directive. E.g. in SAC, NHA's etc.

- There should be a presumption against any interference with river channels and their banksides.
- An integral feature of Planning Permissions should be a requirement for developers to identify potential impacts on aquatic systems as a result of development and undertake development in to introduce mitigation measures to offset these impacts. Measures agreed to be included in details and drawings submitted as part of the planning process and included as conditions of permission granted.
- There should also be Regulation of new development under conditions of Planning Permission for the provision of effective pollution control measures at construction stage of development and for Certification that foul and surface water drainage systems have been correctly connected to the drainage network following completion.

The recent publication “Guidelines on the Planning, Design, Construction and Operation of Small-scale Hydro Electric Schemes and Fisheries” provides information for developers, planners and interested groups on specific requirements for fisheries water and habitat protection, and provides a useful assessment tool for determining and addressing potential impacts of proposed hydro schemes on fisheries when preparing Environmental Impact Statements. These guidelines also have relevance for other forms of development which may impact on fisheries waters and to the Water Framework Directive (2000/60/EC) where the overall objective is to ensure there is no deterioration in water status. In this context hydro-morphological pressures must be addressed so as to ensure the biological status and, by association the fishery status of waters is maintained.

Criteria contained in these guidelines should be used for guidance on aquatic habitat protection.

#### Impact on Water Resources

To ensure future demands on the water resource can be met in a sustainable manner, water source availability should be determined. Where it is identified that capacity has or is likely to be reached, actions should now be proposed to source additional capacity and to minimize impacts on the aquatic resource, e.g. source capacity should be managed by the introduction of artificial (manmade) storage or by augmentation from additional not at risk sources.

Water Conservation measures should be introduced during the term of the Plan to reduce water wastage, leakage and over consumer usage and to promote conservation measures at household level

#### Water Abstraction

An overall management structure is required for the control of water abstractions from inland waters both in the public and private sectors. e.g. Industrial and public supply, agriculture, hydroelectric power generation, aquaculture etc.; with a Permit or Licensing structure put in place to regulate abstractions.

### Impact on Waste Water Treatment Capacity

Existing settlements should be prioritised for infrastructural development where waste water facilities are absent or inadequate, particularly where these settlements are located in sensitive water catchments or where further development is proposed.

Where inadequate waste treatment capacity exists or is unlikely to be introduced within a realistic time frame, development should only be allowed in line with the implementation of effective treatment.

### Impact on Surface Waters

Environmental Control on discharges of contaminated site waters and surface runoff rate should be implemented by the introduction of the full range of features of Sustainable Drainage Systems (SUDS) for new development in urban and rural areas. The implementation of SUDS should not be confined to the use of attenuation tanks which solely deal with the rate of water runoff but should include the additional measures for which the systems were intended. Such measures should form an integral part of the Development Plan and be required for detailed attention during the planning process.

### Impact on Waste Management

Recycling of inert materials through land reclamation (controlled by Waste Permitting) should not cause infill of floodplains or reduce lands natural capacity to act as water storage system (e.g. the infill/drainage of bog or marsh lands). Infill of these natural water storage systems can give rise to increased surface water runoff and alteration on river hydrological patterns. (Comments in Zoning above apply.)

A response was received from the SWRFB dated 09 May 2008. Their comments on the scoping report are as follows;

- Strategic Policies /Plans

It is important that the Strategic policies for Tourism in County Kerry are included in the Document

- Environmental Issues/Resources in County Kerry

The inclusion of the South Western Regional Fisheries Board as an information source in relation to protection of aquatic species and fish stocks.

- Non designated ecological site within the County

Rivers which are not within designated SAC areas and which hold Salmon (an Annex 11 species under the EU Habitats Directive) should be identified in need of protection under the Plan. These rivers include the important salmon rivers such as the Maine, Roughy, Feale and rivers along the Dingle Peninsula.

- Invasive Species

Several invasive aquatic species are present in the County e.g. Canadian Pondweed in Lough Leane, giant Hogweed near Tralee and there is a continuing risk that zebra mussel will be introduced into lakes within the County. The implementation of objectives of national plans for the exclusion, management and control of invasive species in aquatic waters should be adopted in the Plan.

- Water and Hydrology

- Water Supply Source

Potential constraints imposed by inadequate water availability in rivers and lakes should be identified, assessed and addressed. The capacity of schemes should also be considered in the context of the impact of climate change on the availability of waters from lake and river sources. This is a significant issue and should be addressed in the SEA.

- Surface Waters

The inclusion of Sustainable Urban Drainage Systems (SUDS) as a policy objective is welcomed however objectives associated with this System extend beyond the hard engineering attenuation measures introduced solely for flood control. SUDS also includes measures for reducing the impacts of surface water discharges on aquatic systems and control of pollution (point and diffuse) from developed sites. The requirement for implementation of all features of SUDS should be addressed in the SEA.

- Hydrological Impact on Surface waters

Flooding issues have been referred to in the draft; however Infill on flood plains as a result of development has the potential to significantly impact on the flood discharge capacity of rivers with the risk of river channel and bankside destabilization and alteration in aquatic habitat and diversity.

Re-zoning of lands for development should be contingent on development not interfering with the flood discharge capacity of waters and should be subject to a satisfactory hydrological study to confirm that there will be no adverse impact on a river's bankside and instream channel stability and ecology. In addition an assessment should be carried out identifying lands which may be liable to flooding in the future taking into consideration potential effects of climate change.

A means of limiting such impacts would be the provision of a 5-10 meter minimum designated riparian zone along watercourses. This would have the benefit of providing a biodiversity corridor along aquatic systems, protect the stability of river channels and aquatic ecosystems and provide a mandatory minimum flood plain discharge area.

#### 6.5.6. Eastern Regional Fisheries Board

No response was received.

6.5.7. Cork County Council

No response was received.

6.5.8. Clare County Council

No response was received.

6.5.9. Limerick County Council

No response was received.

6.5.10. South Western River Basin District

No response was received.

6.5.11. Shannon River Basin District

No response was received.

6.5.12. Failte Ireland

No response was received.

6.5.13. Department of Communication, Rural and Gaeltacht Areas

No response was received.



**Table 6.2: Consultees Response to Scoping Report**

Issue	Respondent	Comment
The SEA should take into account all relevant environmental objectives and standards set, for the environmental topics to be described and assessed, in all relevant EU and National legislation.	EPA	Chapter 3 of this report details the relevant environmental legislation and the objectives form the basis of the SEA environmental objectives.
The links between the Development Plan and other relevant environmental Plans and Programmes should be described e.g. –Flood Risk Management Plans, Land use Plans, Biodiversity/ Heritage Plans, Management Plans under the Habitats Directive etc.	EPA	The links between the Development Plan and higher strategic policy is discussed in Chapter 4 of this report.
In describing the existing state of the environment the specific environmental topics should be described in the context of the following: <ul style="list-style-type: none"> <li>o Current status of the environment,</li> <li>o Existing environmental problems and as appropriate any likely potential future issues</li> <li>o The evolution of the particular aspect(s) of the environment in the absence of the plan</li> <li>o Implications of the general objectives of the Development Plan on specific aspects of the environmental topics being described.</li> </ul>	EPA	The specific environmental topics are described using the group format structure.
The current state of the environment should be described using most recent and up-to-date environmental data, information and reports.	EPA	This SEA was completed using current data sources available from the EPA, Kerry County Council and governmental organisations.
WFD data, information and reports should form a significant part of the description of the relevant aspects of the current state of the water related aspects of the environment.	EPA	WFD information is detailed in Chapter 7 Aquatic Environment.
In undertaking the SEA, all the environmental data and information presented on GIS based maps should be taken into account.	EPA	All environmental data available in dataset format has been presented as figures in the environmental assessment chapters.
Where significant data gaps are identified, state whether these can reasonably and realistically be addressed during the SEA process.	EPA	Significant data gaps are discussed in each environmental aspect chapter.
In describing the current state of the environment, the inter-relationships between the relevant different aspects of the environment should be described.	EPA	The inter-relationships are described in the assessment section of each environmental aspect chapter.
In consultation with the Department of the Environment, Heritage and Local Government, a determination should be made on the requirement for an Appropriate Assessment of the Development Plan in accordance with Article 6(3) of the Habitats Directive.	EPA	The DoEHLG have not responded to the scoping report for this SEA (April 2008). However a screening for an appropriate assessment was completed.

Issue	Respondent	Comment
For those Natura 2000/ European sites within the area of the Development Plan and likely to be impacted by the Development Plan, the availability and status of Management Plans in accordance with the Habitats Directive should be determined. Where Management Plans are available, the objectives and management practices proposed/ set out should be taken into account in the Appropriate Assessment where required, SEA, and in the preparation of the Development Plan.	EPA	The screening report required under the Habitats Directive has shown that that impacts from the Development Plan implementation cannot be quantified at this stage.
For any environmental issue(s) determined to be scoped out of the SEA process, clear justification should be included in the Environmental Report as to why the specific environmental issues were not considered likely to be potentially affected by the Development Plan.	EPA	Where environmental issues are not considered to be under the scope of this SEA, this is detailed in the relevant environmental aspect chapter.
Following completion of the initial SEA scoping exercise, it is recommended that the Plan-making authority and/or their agents/consultants, where possible and appropriate, arrange and facilitate formal SEA Workshops with key personnel within statutory and non –statutory authorities.	EPA	FTC had a scoping meeting with the EPA on 31 March 2008.
In considering and assessing alternatives within the Development Plan the alternatives proposed should be reasonable and realistic.	EPA	The Development Plan alternatives are prepared in accordance with the SEA Regulations 2004 and are presented in Chapter 16.
In order to promote Best Practice in SEA in the context of consultation, it is recommended that the public is given an opportunity to make submissions on the issues to be addressed in the SEA process.	EPA	Kerry County Council released a issues document on the review of the Development Plan in October 2007 where the public could make submissions/ observations.
In assessing the likely significant effects of the Development Plan on the full range of environmental issues likely to be significantly affected, the full range of effects as set out in Annex I of the SEA Directive - likely significant effects should include- secondary, cumulative, synergistic, short, medium and long term, permanent, temporary, positive and negative effects, should be assessed and reported on.	EPA	The assessments are presented in Appendix 3 of this report.
Where significant adverse effects are identified there should be a clear link with relevant and appropriate mitigation measure(s).	EPA	There have been no significant adverse impacts assessed from the implementation of the Development Plan on the environment.
Monitoring arrangements should be clearly set out along with responsibilities, frequency of monitoring, analysis, and reporting on monitoring. Maximum use should be made of existing environmental monitoring programmes. The monitoring arrangements and related programme should include relevant and appropriate thresholds which should trigger when remedial action should be undertaken for the particular aspect of the environment being monitored.	EPA	Monitoring arrangements are presented as the final table in each environmental aspect assessment chapter.
The Environmental Report should be prepared in accordance with the specific information specified in Article 5 (1-3 inclusive) on Environmental Report and Annex I of the SEA Directive.	EPA	This report was checked against the requirements of Schedule 2B of the SEA Regulations 2004.
Appropriate SEA Team / Development Plan Team Workshops should be held at key stages during both processes to ensure full engagement, interaction, and sharing of information with key members of both teams and to ensure full integration of environmental considerations.	EPA	Meetings were held with key members of Kerry County Council prior to the SEA Environmental Report.

Issue	Respondent	Comment
Where key decisions are made during the SEA process e.g. Scoping In/Out environmental topics, selection of preferred alternative (s) etc. these decisions should be documented as part of an overall SEA/ Development Plan process.	EPA	Key decisions made on the SEA to this date are presented in this report. Where changes to the Plan and SEA result from the future consultation periods, key decisions will be recorded in addenda reports and presented in the final SEA Statement.
Guidance/ Methodology, which should be referred to along with other relevant and appropriate SEA and related Guidance during the SEA process.	EPA	The SEA was prepared using the current SEA guidance from the DoEHLG and the EPA.
Discussion and assessment of significant development in Kerry carrying a higher than acceptable flood risk.	Flooding Section OPW	Flooding is discussed under Chapter 7 Aquatic Environment. Environmental objectives and monitoring requirements are included for flooding assessment during the lifetime of the Development Plan.
<p><u>Zoning</u></p> <p>Future land use zoning should take cognisance for the need to maintain flood plains free from infill thereby assisting in the control of flooding and prevention of downstream impacts e.g. erosion, river ecosystem interference etc.</p> <p>The Board would suggest that the 100 year flood plain contour be established in each case and that no lands below this contour be filled.</p> <p>Riparian zone protection areas should be introduced along watercourses within settlements. These will improve the aesthetic and recreational value of rivers and will assist in the protection of water quality by providing a buffer zone and a focus on waterways which will encourage awareness of biological diversity, wildlife and aquatic habitat.</p>	SWRFB (December 07)	<p>A number of objectives to protect against flooding are given in the Environmental Report.</p> <p><b>SEA Objective WO1.3</b> Implement SUDS across study area</p> <p><b>SEA Objective WO5.1</b> Mitigate the effect of flooding through avoidance of development in flood plains</p> <p><b>SEA Objective WO6.1</b> Prevention of interference with inland water morphology by developments/ land use changes in the study area</p>

Issue	Respondent	Comment
<p><u>Impact on Ecology/ Nature Conservation</u></p> <p>The SWRFB request that the following items are included in the Development Plan:</p> <ul style="list-style-type: none"> <li>• The introduction of riparian zone protection along waterways and specifically in those areas not afforded protection under the Habitats Directive. E.g. in SAC, NHA's etc.</li> <li>• There should be a presumption against any interference with river channels and their banksides.</li> <li>• An integral feature of Planning Permissions should be a requirement for developers to identify potential impacts on aquatic systems as a result of development and undertake development in to introduce mitigation measures to offset these impacts. Measures agreed to be included in details and drawings submitted as part of the planning process and included as conditions of permission granted.</li> <li>• There should also be Regulation of new development under conditions of Planning Permission for the provision of effective pollution control measures at construction stage of development and for Certification that foul and surface water drainage systems have been correctly connected to the drainage network following completion.</li> </ul>	<p>SWRFB (December 07)</p>	<p><b>SEA Objective BO1.2</b> Protect Natura 2000 (SAC and SPA) sites in planning process using Habitats Directive Article 6 assessment methodology</p> <p><b>SEA Objective WO6.1</b> Prevention of interference with inland water morphology by developments/ land use changes in the study area</p> <p><b>SEA Objective WO1.3</b> Implement SUDS across study area</p>
<p><u>Impact on Water Resources</u></p> <p>To ensure future demands on the water resource can be met in a sustainable manner, water source availability should be determined. Where it is identified that capacity has or is likely to be reached, actions should now be proposed to source additional capacity and to minimize impacts on the aquatic resource, e.g. source capacity should be managed by the introduction of artificial (manmade) storage or by augmentation from additional not at risk sources.</p> <p>Water Conservation measures should be introduced during the term of the Plan to reduce water wastage, leakage and over consumer usage and to promote conservation measures at household level.</p>	<p>SWRFB (December 07)</p>	<p><b>SEA Objective WO3.1</b> Maintain and improve the quality of drinking water supplies</p> <p><b>SEA Objective WO4.1</b> Promote sustainable water use based on long term protection of resources</p>
<p><u>Water Abstraction</u></p> <p>An overall management structure is required for the control of water abstractions from inland waters both in the public and private sectors. e.g. Industrial and public supply, agriculture, hydroelectric power generation, aquaculture etc.; with a Permit or Licensing structure put in place to regulate abstractions.</p>	<p>SWRFB (December 07)</p>	<p><b>SEA Objective WO3.1</b> Maintain and improve the quality of drinking water supplies</p> <p><b>SEA Objective WO4.1</b> Promote sustainable water use based on long term protection of resources</p>

Issue	Respondent	Comment
<p><b>Impact on Waste Water Treatment Capacity</b></p> <p>Existing settlements should be prioritised for infrastructural development where waste water facilities are absent or inadequate, particularly where these settlements are located in sensitive water catchments or where further development is proposed.</p> <p>Where inadequate waste treatment capacity exists or is unlikely to be introduced within a realistic time frame, development should only be allowed in line with the implementation of effective treatment.</p>	SWRFB (December 07)	<p><b>SEA Objective PO3.1</b> Upgrading of existing wastewater treatment plant</p>
<p><b>Impact on Surface Waters</b></p> <p>Environmental Control on discharges of contaminated site waters and surface runoff rate should be implemented by the introduction of the full range of features of Sustainable Drainage Systems (SuDS) for new development in urban and rural areas. The implementation of SuDS should not be confined to the use of attenuation tanks which solely deal with the rate of water runoff but should include the additional measures for which the systems were intended. Such measures should form an integral part of the Development Plan and be required for detailed attention during the planning process.</p>	SWRFB (December 07)	<p><b>SEA Objective WO1.3</b> Implement SUDS across study area</p>
<p><b>Impact on Waste Management</b></p> <p>Recycling of inert materials through land reclamation (controlled by Waste Permitting) should not cause infill of floodplains or reduce lands natural capacity to act as water storage system (e.g. the infill/drainage of bog or marsh lands). Infill of these natural water storage systems can give rise to increased surface water runoff and alteration on river hydrological patterns. (Comments in Zoning above apply.)</p>	SWRFB (December 07)	<p><b>SEA Objective WO5.1</b> Mitigate the effect of flooding through avoidance of development in flood plains</p> <p><b>SEA Objective WO6.1</b> Prevention of interference with inland water morphology by developments/ land use changes in the study area</p>
<p><b>Strategic Policies /Plans</b> It is important that the Strategic policies for Tourism in County Kerry are included in the Document</p>	SWRFB (May 08)	Tourism policies are assessed under each environmental topic.
<p><b>Environmental Issues/Resources in County Kerry</b> The inclusion of the South Western Regional Fisheries Board as an information source in relation to protection of aquatic species and fish stocks.</p>	SWRFB (May 08)	Not applicable
<p>Non designated ecological site within the County</p> <p>Rivers which are not within designated SAC areas and which hold Salmon (an Annex 11 species under the EU Habitats Directive) should be identified in need of protection under the Plan. These rivers include the important salmon rivers Maine, Roughty, Feale and rivers along the Dingle Peninsula.</p>	SWRFB (May 08)	<p><b>SEA Objective BO2.1</b> Conserve the diversity of habitats and species in non-designated sites.#</p> <p><b>SEA Objective BI2.1.1</b> Percentage of unique habitats and species lost in non-designated sites through trending of annual/ bi-annual habitat surveys.</p>

Issue	Respondent	Comment
<p>Invasive Species</p> <p>The implementation of objectives of national plans for the exclusion, management and control of invasive species in aquatic waters should be adopted in the Plan.</p>	SWRFB (May 08)	<p><b>SEA Objective BO3.1</b> Protect aquatic and terrestrial habitats from invasive species.</p> <p><b>SEA Objective BI3.1</b> New types or increase in coverage of invasive species identified</p>
<p>Water and Hydrology: Water Supply Source</p> <p>Potential constraints imposed by inadequate water availability in rivers and lakes should be identified, assessed and addressed. The capacity of schemes should also be considered in the context of the impact of climate change on the availability of waters from lake and river sources.</p>	SWRFB (May 08)	<p><b>SEA Objective WO4.2</b> Upgrade infrastructure to meet future water supply needs</p> <p><b>SEA Objective WI4.1</b> Frequency of 'water shortage' notices</p>
<p>Water and Hydrology: Surface Waters</p> <p>The inclusion of Sustainable Urban Drainage Systems (SUDS) as a policy objective is welcomed however objectives associated with this System extend beyond the hard engineering attenuation measures introduced solely for flood control. The requirement for implementation of all features of SUDS should be addressed in the SEA.</p>	SWRFB (May 08)	<p><b>SEA Objective WO1.3</b> Implement SUDS across study area</p> <p><b>SEA Objective WI1.3</b> Provision of SUDS compliant drainage plans for proposed developments in study area</p>

Issue	Respondent	Comment
<p>Water and Hydrology: Hydrological Impact on Surface waters Flooding issues have been referred to in the draft; however Infill on flood plains as a result of development has the potential to significantly impact on the flood discharge capacity of rivers with the risk of river channel and bankside destabilization and alteration in aquatic habitat and diversity.</p> <p>Re-zoning of lands for development should be contingent on development not interfering with the flood discharge capacity of waters within the plan area and should be subject to a satisfactory hydrological study to confirm that there will be no adverse impact on a river's bankside and instream channel stability and ecology.</p> <p>In addition an assessment should be carried out identifying lands which may be liable to flooding in the future taking into consideration potential effects of climate change.</p> <p>A means of limiting such impacts would be the provision of a 5-10 meter minimum designated riparian zone along watercourses. This would have the benefit of providing a biodiversity corridor along aquatic systems, protect the stability of river channels and aquatic ecosystems and provide a mandatory minimum flood plain discharge area.</p>	SWRFB (May 08)	<p><b>SEA Objective WO5.1</b> Mitigate the effect of flooding through avoidance of development in flood plains</p> <p><b>SEA Objective WI5.1</b> Number and type of developments in the recognised flooding area</p> <p><b>SEA Objective WO5.2</b> Provision of flood relief through management of flood risk rather than engineered flood solutions</p> <p><b>SEA Objective WI5.2</b> Provision of flood risk evaluations with proposed developments/ changes to land zoning with emphasis on flood risk management</p> <p><b>SEA Objective BO4.2</b> Provision of a riparian zone for developments close to water</p>
Protection of the Archaeological Heritage in County Kerry	DoEHLG	<p><b>SEA Objective CH01.1</b> Promote best practice in heritage conservation and management</p> <p><b>SEA Objective CH02.1</b> Protection of individual sites and complexes</p> <p><b>SEA Objective CH03.1</b> Identification and Protection of archaeological features</p>

## **6.6. Future SEA Consultation**

In this SEA, consultation has played a strong role at all stages in the process including, the scoping phase as well as during the preparation of this Environmental Report. This has been detailed in the preceding section.

When the draft County Development Plan is made available to general public for the first consultation period, this Environmental Report will also be available. Comments can be made on the Plan and the Environmental Report. After the first consultation period the Environmental Report will assess comments received and amendments made to the Development Plan. A second consultation period will take place with the general public. The amended Development Plan will be displayed with the addenda to this Environmental Report during this period and further comments can be made on the Plan and Environmental Report.

As a final stage, a SEA Statement will be prepared outlining how the findings of the process have been taken into account and integrated into the Development Plan.



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## 7. IMPACT ASSESSMENT ON THE COUNTY DEVELOPMENT PLAN ON THE AQUATIC ENVIRONMENT

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### 7.1. Introduction

This chapter of the Environmental Report considers the impact of this Development Plan on the rivers, lakes, groundwater, transitional (estuarine) and coastal waters of Co. Kerry. It also covers flooding issues as these are likely to become increasingly significant in the next few years.

The Water Framework Directive (WFD) (2000/60/EC) was established by the European Community and came into force in Ireland in December 2000. It established a new water policy framework for Europe. The WFD was transposed into Irish legislation in December 2003 as the European Communities (Water Policy Regulations 2003, S.I. No. 722 of 2003). The overriding purpose of the WFD is to achieve at least “good status” in all European waters by 2015 and ensure that no further deterioration occurs in these waters. European waters are classified as groundwater, rivers, lakes, transitional and coastal waters. The WFD has been implemented in Ireland by dividing the island of Ireland into eight River Basin Districts (RBDs). County Kerry is part of the South Western River Basin District and the Shannon River Basin District. The water quality in these river basins were assessed and this assessment formed part of a Characterisation Report which was submitted to the EU in March 2005. Each of the River Basin Districts is now required to prepare a River Basin Management Plan (RBMP) and Programme of Measures (POM) to comply with the WFD standards by 2009. The RBMPs and the POMs will present a major challenge to all local authorities in the coming years.

Kerry County Council is required to enforce and comply with other pertinent legislation such as

- the Phosphorous Regulations (S.I. No. 258 of 1998),
- the Nitrates Directive (91/676/EC),
- the Salmonid Water Regulations (S.I. No. 293 of 1988),
- the Drinking Water Regulations (S.I. No. 155 of 1992), and
- the Urban Wastewater Treatment Regulations (S.I. No. 254 of 2001).

The European Communities Quality of Water Intended for Human Consumption (Amendment) Regulations, 2003 places a responsibility on local authorities to provide drinking water that meets prescribed standards.

## 7.2. Baseline Assessment

Data on water quality in the County was obtained mainly from the Environmental Protection Agency's website and its ENVision map viewer. This viewer contains data on the water quality of the rivers, lakes, groundwater, transitional and coastal waters in the county being generated as part of the Water Framework Directive Characterisation Reports.

As required by the Water Framework Directive, a baseline risk assessment has been completed for each water body within each of the eight River Basin Districts in Ireland. The risk rating is calculated using water pollution indicators, point and diffuse pollution sources, water abstractions and details of commercial activities. It sets out whether the waterbody would meet the criteria of "good status" or would be considered "at risk" of not meeting the required standard by 2015. It is important to note that the designation 'at risk' is not necessarily an indication of the present quality of the water. The water quality may be good but the magnitude of the pressures which exist within the affected catchment may, if not properly managed, cause the water body to fail to achieve good status in accordance with the Water Framework Directive.

The WFD Article 5 Characterisation Report for South Western River Basin (2005) summarises how human activities are affecting water bodies within County Kerry. Key issues can be grouped into:

- Point source pressures; including discharges from single sources such as from domestic, commercial or industrial wastewater treatment plants
- Diffuse source pressures such as pressures from agricultural, forestry or septic tanks
- Hydrological pressures mainly comprising abstractions for industry or for drinking water supplies
- Physical alterations including dredging and river straightening for navigational purposes.

### 7.2.1. River Quality in County Kerry

Water bodies in the county are shown in Figure 7.1. Water quality data suggests that a large proportion of the rivers are at risk of not achieving "good" status by 2015. (see Table 7.1). A number of rivers including the River Maine, Roughty River, the River Feale and rivers along the Dingle Peninsula hold stocks of salmon critical to the tourist economy and are considered sensitive habitats.

**Table 7.1: Water quality characterisation in County Kerry**

<b>River</b>	<b>Status</b>
Inny River	At risk of not achieving good status
Ferta River	At risk of not achieving good status
Carhan River	At risk of not achieving good status
Glensk River	Possibly at risk of not achieving good status
Behy River	At risk of not achieving good status
Meelagh River	Possibly at risk of not achieving good status
Caragh River	Possibly at risk of not achieving good status
Gaddagh River	At risk of not achieving good status
Finow River	Possibly at risk of not achieving good status
Flesk River	At risk of not achieving good status
Owenyskagh River	Expected to achieve good status
Cottoners River	At risk of not achieving good status
Claddagh River	At risk of not achieving good status
River Woodford	At risk of not achieving good status
Deenagh River	Possibly at risk of not achieving good status
Cullavaw Stream	Possibly at risk of not achieving good status
Gweestin River	Expected to achieve good status
River Groin	Possibly at risk of not achieving good status
Annagh River	Possibly at risk of not achieving good status
River Maine	At risk of not achieving good status
Broweflask River	Possibly at risk of not achieving good status
Croaghane River	At risk of not achieving good status
River Lee	At risk of not achieving good status
Tyshe River	At risk of not achieving good status
Shanowen River	At risk of not achieving good status
River Brick	Possibly at risk of not achieving good status
Cashen River	At risk of not achieving good status

**Table 7.2: Water Quality and Biotic Indices**

<b>Water Quality</b>	<b>EPA Biotic Index</b>
Unpolluted	4-5 or 5
Slightly polluted	3-4 or 4
Moderately polluted	2-3 or 3
Seriously polluted	1, 1-2 or 2

(Source EPA)

As part of their annual requirements Kerry County Council has conducted biological water quality monitoring in a number of rivers throughout the county. The trends in the water quality over periods of time are shown in Table 7.3.

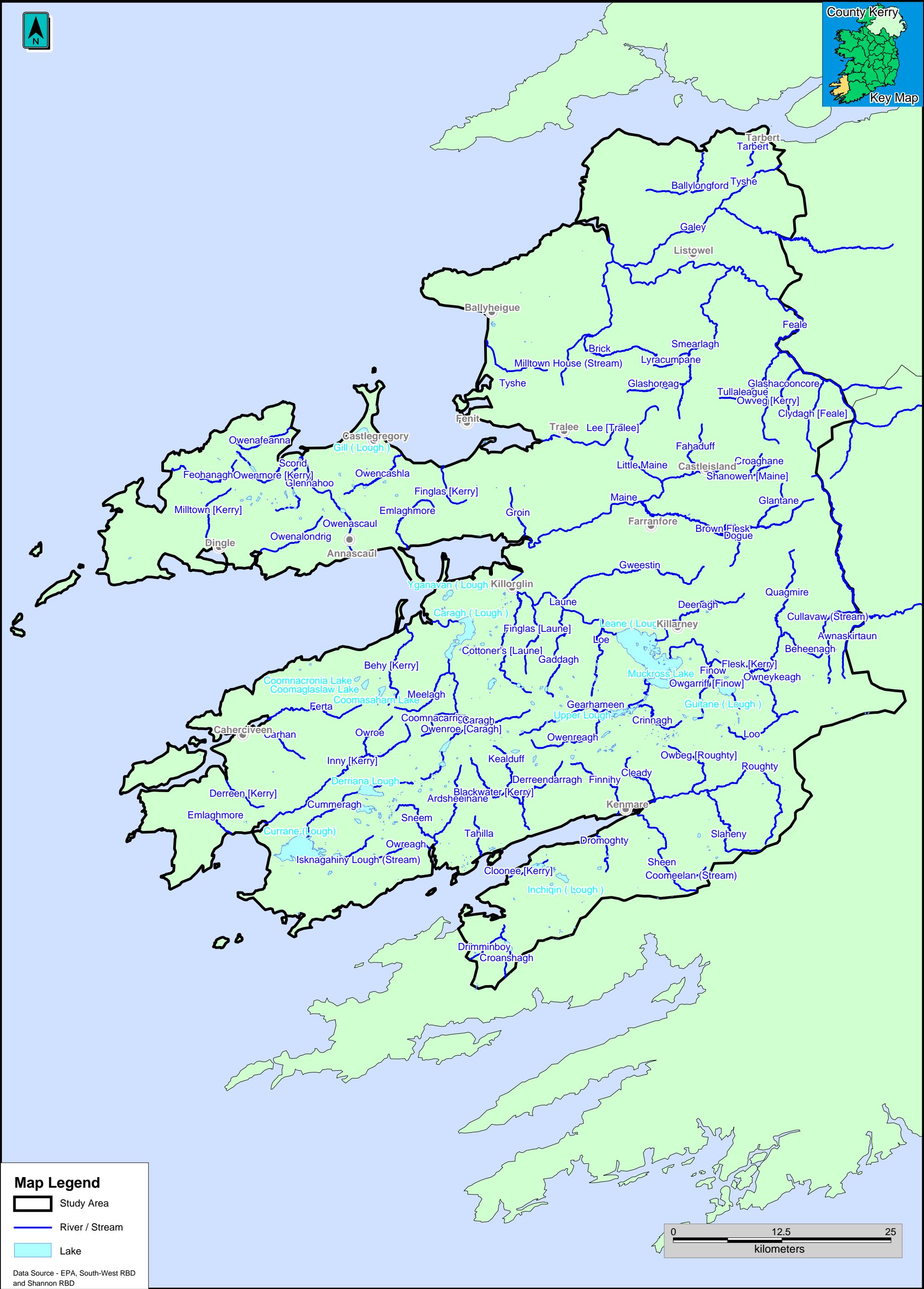
**Table 7.3: Water Quality Trends in Rivers in County Kerry**

River	Current Q Value	Comments
Lee (Tralee)	3	Water quality has consistently declined in this river since 1985
Tyshe	3	Water quality improving since 1987
Feale (Listowel)	3-4	Water quality deteriorated between the periods 1971 to 1987. Water quality has improved between 1987 and 2005
Cloonee	3-4	Water quality consistently good between 1999 and 2003
Little Maine (Tralee)	3-4	Water quality has declined in this river since 1977

Table 7.4 illustrates the pressures identified in the WFD Article 5 Characterisation Reports for some of the major rivers in County Kerry.

**Table 7.4: Pressure on River Waters in County Kerry**

River	Pressure
Flesk	Diffuse sources of pollution
Finow	Intensive land use, diffuse sources of pollution, morphological pressures
Laune	Intensive land use, morphological pressures
Caragh	Point and diffuse sources of pollution
Ferta	Intensive land use, morphological pressures
Carhan	Intensive land use, diffuse sources of pollution, morphological pressures
Cottoners	Point and diffuse sources of pollution



### 7.2.2. Groundwater Quality

A number of the smaller public drinking water supplies in County Kerry are dependant on groundwater reserves. In addition a significant proportion of rural dwellers in the County are supplied from individual private groundwater wells.

The County is predominantly underlain by locally important aquifers which are moderately productive only in local zones. A band of originally important aquifers (Karstified) extends from Killarney to Listowel with major settlements such as Killorglin, Farranfore, Castlesland and Tralee overlying these aquifers. Groundwater vulnerability is extreme in the southern part of the County between Caherciveen and Kenmare and the western part of the county from Tralee to Dingle.

A review of the WFD Characterisation Report found that groundwater in the majority of County Kerry is expected to achieve good status by 2015. However, groundwater in the areas of Killorglin, Cromane, Beaufort and Tralee is possibly at risk of achieving good status by this year. The South Western River Basin District report describes pollution as being the main influence on groundwater quality in the County. The report for the South Western River Basin District describes contaminated land and point source pollution as a significant risk to groundwater in the Killarney Town area. Groundwater in the areas of Beaufort and Tralee is possibly at risk of achieving good status by 2015.

### 7.2.3. Lake Quality

A number of lakes in the County are used for drinking water supplies and many of these are designated as Special Areas of Conservation. Table 7.5 shows the expected quality status of the lakes by 2015.

**Table 7.5: Lake Water Quality in County Kerry**

<b>Lake</b>	<b>Water Quality</b>
Caradh Lough	Possibly at risk of not achieving good status
Acoose Lake	Strongly expected to achieve good status
Coomloughra Lough	Strongly expected to achieve good status
Eagher Lough	Strongly expected to achieve good status
Gouragh Lough	Strongly expected to achieve good status
Callee Lough	At risk of not achieving good status
Auger Lake	Strongly expected to achieve good status
Black Lake	Strongly expected to achieve good status
Lough Leane	At risk of not achieving good status
Muckross Lake	Possibly at risk of not achieving good status
Currane Lough	Expected to achieve good status
Namona Lough	Possibly at risk of not achieving good status
Cloonaghlin Lough	At risk of not achieving good status
Cloon Lough	Expected to achieve good status
Coonaglassaw Lake	Possibly at risk of not achieving good status
Coomasaharn Lake	Strongly expected to achieve good status
Lough Guitane	Possibly at risk of not achieving good status
Cloonne Lough	Expected to achieve good status
Inchinquin Lough	At risk of not achieving good status
Cummer Lough	At risk of not achieving good status

Lake	Water Quality
Coomclogherene Lake	At risk of not achieving good status
Allua Lough	At risk of not achieving good status
Barley Lake	Possibly at risk of not achieving good status

The risk assessments undertaken by the South West Regional Basin District found that Lough Leane, Cloonaghlin Lough and Inchiquin Lough are at risk from the impact of the diffuse sources of pollution. Lough Leane and Lough Guitane are important drinking water sources in County Kerry. Other lakes such as Eirk Lough, Gowlawn Lough, Lough Callee, Mount Eagle Lough, Lough Comernamuc and Dromtine Lake are also used as drinking water sources.

A number of lake catchments within the County are vulnerable to elevated phosphorus levels. Lough Leane is particularly vulnerable and the 1997 algal blooms severely restricted the use of this lake during the summer months. Table 7.6 below illustrates the phosphorus sensitive lakes within the County.

The risk assessments undertaken by the South West Regional Basin District found that Lough Leane, Cloonaghlin Lough and Inchiquin Lough are at risk from the impact of the diffuse sources of pollution. Lough Leane and Lough Guitane are important drinking water sources in County Kerry. Other lakes such as Eirk Lough, Gowlawn Lough, Lough Callee, Mount Eagle Lough, Lough Comernamuc and Dromtine Lake are also used as drinking water sources.

A number of lake catchments within the County are vulnerable to elevated phosphorus levels. Lough Leane is particularly vulnerable and the 1997 algal blooms severely restricted the use of this lake during the summer months. Table 7.6 below illustrates the phosphorus sensitive lakes within the County.

**Table 7.6: Phosphorous Sensitive Lakes in County Kerry**

Lakes
Lough Currane
Caragh Lake
Cloonaghlin Lake
Lough Gill
Lough Leane
Lough Namona
Muckross Lake
Upper Lake - Killarney

All these lakes provide a significant portion of the tourist revenue. The County is famous for its fishing and contains a number of branded lakes. These are lakes designated by Failte Ireland and the Central Fisheries Board that contain salmon and trout stocks (See Table 7.7).

**Table 7.7: Branded Lakes in County Kerry**

Branded Lakes		
Acoose	Annascaul	Augher
Barfinnihy Black	Brin	Capall
Cappanalea	Clonee	Cloon
Coomasaharn	Coomloughra	Coomnacronia
Crohane	Cummeenadillure	Cummeenaloughan
Cummeenduff	Cummer	Currane
Cushvally	Derriana	Doo
Eagher	Fadda	Garagarry
Glan	Glanmore	Inchiquin
Iskanamacteery	Iskgahiny Kells	Kilbrean
Lackagh	Looscaunagh	Nakirka
Nambrackdarrig	Napeasta	Reagh (2)
Uragh		

The South Western Regional Fisheries Board has highlighted the difficulties encountered with water abstraction from Lough Guitane (the source for the Central Regional Water Supply). The outflow from this lake to the Finow River has recently ceased during periods of low flow. Water abstraction from the nearby Owgarri River is required to provide flow for the Finow River during these periods. A consequence is that fish movement to and from Lough Guitane has been prevented and the Owgarri River has dried up downstream of the abstraction point. The Fisheries Board considers this practice unacceptable and raises questions over the capacity of Lough Guitane to adequately supply the demands of future development in the area.

Kerry County Council has recently established a Drinking Water Quality Unit within the Water Services Capital projects office. This unit will update the current County Water Supply Strategy and based on the requirements will make an application to the DoEHLG for funding and implement the programme of upgrade measures developed.

A number of lakes in the County have been identified as being at risk of not achieving good water quality status by 2015. A number of these lakes while being important tourist attractions to the county are also important drinking water sources. The SWRBD characterisation report has identified that the main pressures on lakes in County Kerry arise from intensive land use, morphological pressures, and point sources of pollution. The pressures for the lakes that are at significant risk and at risk of not achieving good status are illustrated in Table 7.8.



**Table 7.8: Pressure on Lakes**

Lake	Pressures
Namona Lough	Morphological pressures
Barley Lake	Morphological pressures
Coomclogherane	Intensive land use, impoundments, morphological pressures
Cummer Lough	Lake water balance, impoundments & morphological pressures
Cloonaghlin Lough	Intensive land use, morphological pressures
Crohane	Intensive land use, morphological pressures
Lough Guitane	Lake water balance, impoundments & morphological pressures
Callee Lough	Lake water balance, impoundments & morphological pressures
Muckross	Local authority licence discharges, and point source pollution
Lough Lane	In flowing waters
Coomaglashaw	Impoundments & morphological pressures

#### 7.2.4. Transitional and Coastal Waters Quality

Kerry has a coastline of approximately 1,000 km. Besides accommodating various uses such as ports and harbours, leisure, amenity, fishing and aquaculture a significant part of the coastline is designated as Special Protection Areas (SPAs) under the European Union (Natural Habitats) Regulations 1997. Examples include the Skelligs, the Blasket Islands, the Dingle Peninsula, the Iveragh Peninsula and Kerry Head.

County Kerry has 13 no. Blue Flag beaches. These are located at Ballinskellig, Ballybunion (north and south), Ballyheigue, Banna, Derrynane, Fenit, Inch, Kells, Meherabeag, Rossbeig, Ventry and Caherciveen.

The Water Framework Directive distinguishes between estuaries (transitional waters) and marine waters. Transitional waters are waters near river mouths which are saline but which are also influenced by freshwater flows. Coastal waters are located between the coast and one nautical mile from it. Table 7.9 shows the WFD risk status of the transitional waters in County Kerry.

**Table 7.9: Transitional Water Quality in County Kerry**

Transitional Water	WFD Risk Status
Sneem Harbour	Possibly at risk of not achieving good water quality status
Killmaokilloge Harbour	Expected to achieve good water quality status
Adgroom	Strongly expected to achieve good water quality status
Adrigole Harbour	Expected to achieve good water quality status
Inner Kenmare River	Strongly expected to achieve good water quality status
Castlemaine Harbour	Possibly at risk of not achieving good water quality status
Lee K Estuary	At risk of not achieving good water quality status
Lough Gill	Expected to achieve good status
Upper Feale	At risk of not achieving good status
Lower Shannon Estuary	At risk of not achieving good status

WFD risk status of the coastal waters around County Kerry is given in Table 7.10.

**Table 7.10: Coastal Water Quality in County Kerry**

Coastal Waters	Quality
Dumanus Bay	Strongly expected to achieve good status
Outer Bantry Bay	Strongly expected to achieve good status
Outer Kenmare River	Possibly at risk of not achieving good status
South Western Atlantic Seaboard	Strongly expected to achieve good status
Ballinskelligs Bay	Strongly expected to achieve good status
Outer Dingle Bay	Strongly expected to achieve good status
Dingle Harbour	Possibly at risk of not achieving good status
Brandon Bay	Strongly expected to achieve good status
Outer Tralee Bay	Strongly expected to achieve good status
Inner Tralee Bay	Possibly at risk of not achieving good status

The pressures on transitional and coastal waters are listed in Tables 7.11 and 7.12 respectively.

**Table 7.11: Pressures on Transitional Waters in County Kerry**

Harbour	Pressures
Sneem	Combined sewer and treatment plant over flows, wastewater treatment plants, and point sources of pollution
Castlemaine	Coastal defences, combined sewer and treatment plant over flows, local authority licence discharges, point sources and morphological pressures

**Table 7.12: Pressures on Coastal Waters in County Kerry**

<b>Coastal Water</b>	<b>Pressures</b>
Outer Kenmare River	Hazardous substances and point sources of pollution
Dingle Harbour	Built Structures, coastal defences and morphological pressures

#### 7.2.5. Flooding

Discussions with Kerry County Council's personnel indicates that some towns such as, Ballylangford and Tralee did have problems with flooding in the past. However, flood defence works installed in Tralee a number of years ago have helped to alleviate the problem. Figure 7.2 illustrates known historic flood locations and benefiting land areas. While drainage works were carried out to reduce flooding and improve drainage in these lands, there may still be a residual risk of flooding.

In the process of undertaking this SEA both the Department of Communications, Energy and Natural Resources and the South Western Fisheries Board expressed concerns regarding flooding, stressing the need to keep flood plains free from infill such as C&D wastes.

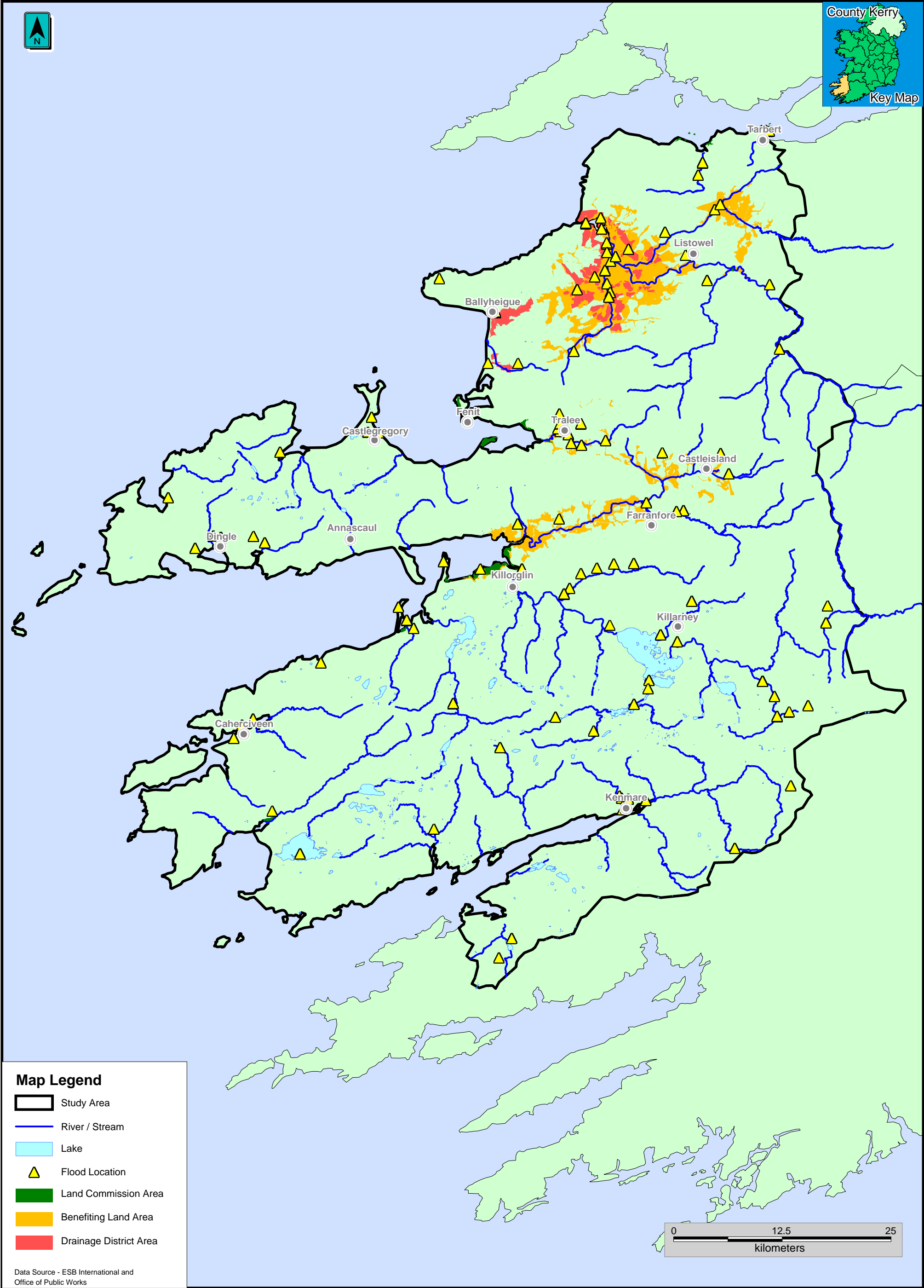
#### 7.2.6. Evolution of the Aquatic Environment in the absence of the Development Plan

The baseline assessment has shown that a number of water bodies are under pressure from various sources of pollution. Diffuse sources of pollution and morphological processes within the rivers and lakes have been identified as the main causes. In the event that the *status quo* continues then nutrient enrichment by eutrophication of additional lakes within the county is a possibility. This will have far reaching implications not just for drinking water sources but also for the aesthetics and the tourism potential of these resources.

Without rapid action, river water quality will also suffer victim. Salmon and brown trout within the County will become depleted without proper planning controls.

Groundwater, which is used by a number of smaller public supplies and a significant portion of rural dwellers in the County, would suffer a similar fate. In addition groundwater is an integral part of many of the unique habitats in the County and these would subsequently also suffer. In the absence of proper planning controls, significant negative impacts on both drinking water quality and biodiversity in the County would be expected.

Transitional and coastal waters are an integral part of tourism and economy of the County. In the absence of proper planning controls significant negative impacts on water quality in both would be expected. This would increase the risk of losing the Blue Flag status for some of its beaches.



### **7.3. Development of Environmental Objectives, Targets and Indicators for the Aquatic Environment**

The following section of this Environmental Report sets out the environmental objectives, targets and indicators for the aquatic environment. The determination of the set of environmental objectives used in this report has been informed by the baseline assessment and the scoping process associated with the development of this SEA.

One of the biggest challenges facing all local authorities in future is the implementation of the Water Framework Directive. While the Characterisation Reports have been submitted to Europe for their agreement, the River Basin Districts are now in the process of preparing River Basin Management Plans (RBMP's). These plans must be finalised by 2009. A further element of the process will require the agreement of all local authorities within a River Basin District to the management plan and Programmes of Measures (POM's) that are necessary to achieve good water quality status in all water bodies by 2015. Consequently one of the overriding environmental objectives for this Environmental Report will be compliance with the requirements of the RBMP when they are established.

In addition the revenue generated by tourism in the County is substantial and is a major employer within the County. The environmental objectives will aim to achieve the sustainability of tourism within the County.

Aquaculture and the protection of the marine environment is also an important source of revenue for the county. Environmental objectives will also be set to maintain the quality of coastal water around the county.

Development in flood plains is considered to contravene evolving flood relief policies. Flood management emphasis is now on flood risk assessment rather than engineered methods. The DoEHLG has identified the Flood Policy review group's 2004 document as a good document for identifying flood control measures. The use of Sustainable Urban Design Systems (SUDS) as a flooding assessment tool for future developments is recommended by the Department.

The provision of sustainable clean drinking water supplies is essential to ensure continued growth in County Kerry. A suitable supply of water is necessary to achieve the critical mass goals set out in the settlement strategy for the County.

In order for the County Development Plan to meet the requirements of the SEA Regulations a number of environmental objectives, targets and indicators have been set for the aquatic environment in this Environmental Report. These are shown in Table 7.13.

**Table 7.13: Environmental Objectives, Targets and Indicators for the Aquatic Environment**

<b>Water Aspect (W)</b>	<b>Objective (WO)</b>	<b>Targets</b>	<b>Indicators (WI)</b>	<b>Indicator Information Source</b>
<b>W1 Surface Water</b>	<b>WO1.1</b> Maintain or improve the quality of surface water to meet the requirements of the South Western and Shannon River Basin Management Plans and Programme of Measures (POMs)	Improvement or at least no deterioration in surface water quality by 2015	<b>WI1.1</b> Changes in receiving water quality as identified during water quality monitoring for the SW and Shannon RBMP conducted by KCC and the EPA	EPA KCC
	<b>WO1.2</b> Maintain or improve the Biotic Quality Rating (Q Value) of surface waters	To achieve a Q Rating of 4 as per the WFD 'good' quality status by 2015.	<b>WI1.2</b> Biotic quality rating of river waters at EPA monitoring locations	EPA KCC
	<b>WO1.3</b> Implement SUDS across study area	Drainage systems to be compliant with SUDS	<b>WI1.3</b> Provision of SUDS compliant drainage plans for proposed developments in study area	KCC
	<b>WO1.4</b> Knowledge of developments contributions to surface water quantities	Updated data on surface water generation within the study area	<b>WI1.4</b> Quantified surface water flows from proposed developments as part of planning process  Measured river levels	KCC
<b>W2 Groundwater</b>	<b>WO2.1</b> Prevent pollution of groundwater by adhering to aquifer protection plans when complete	Improvement or at least no deterioration in groundwater quality as per the requirements of the SW and Shannon RBMPs	<b>WI2.1</b> Changes in groundwater quality as identified in monitoring programmes conducted by KCC and the EPA under the SW and ShannonRBMP	EPA KCC
<b>W3 Drinking water</b>	<b>WO3.1</b> Maintain and improve the quality of drinking water supplies	Decrease in the number of occurrences in the EPA's Remedial Action List (RALs) for drinking water notices issued over lifetime of the Plan	<b>WI3.1</b> Drinking water quality and bacterial counts and frequency of 'boil water' notices and RAL's notices from the EPA	EPA KCC

Water Aspect (W)	Objective (WO)	Targets	Indicators (WI)	Indicator Information Source
<b>W4 Water Supply</b>	<b>WO4.1</b> Promote sustainable water use based on long term protection of resources	Decrease in the number of 'water shortage' notices issued	<b>WI4.1</b> Frequency of 'water shortage' notices	KCC Water Services Section.
	<b>WO4.2</b> Upgrade infrastructure to meet future water supply needs	Implement the Water Supply Strategy as per the Water Services National Investment Programme		KCC Water Services Section
<b>W5 Flooding</b>	<b>WO5.1</b> Mitigate the effect of flooding through avoidance of development in flood plains	Prevention of flood damage to land and properties  Adherence to the OPW's Guidelines on Flood Risk (2005)	<b>WI5.1</b> Number and type of developments in the recognised flooding area	KCC OPW
	<b>WO5.2</b> Provision of flood relief through management of flood risk rather than engineered flood solutions	Adherence to Flood Policy Review Group report "Flood Policy Review, Final Report" 2004		KCC OPW
<b>W6 Surface Water Morphology</b>	<b>WO6.1</b> Prevention of interference with inland water morphology by developments/ land use changes in the study area	No surface water diversions or alterations allowed without prior assessments by qualified hydrologists	<b>WO6.1.1</b> No. of proposed surface water diversions supplied with hydrological assessments	KCC
<b>W7 Bathing</b>	<b>WO7.1</b> Maintain Blue Flag status for beaches	To prevent deterioration in bathing water quality status	<b>WI7.1</b> Changes in bathing water quality	EPA KCC
<b>W8 Transitional and Coastal water</b>	<b>WO8.1</b> Meet the requirements of the South Western and Shannon River Basin Management Plan and Programme of Measures	Improve or at least no deterioration in water quality	<b>WI8.1</b> Compliance with the requirements of the SW and Shannon RBMP	KCC

#### 7.4. Assessment of the Likely Significant Effects of the Plan on the Aquatic Environment

The objective of this section of this chapter is to determine the “likely significant” effects of the Development Plan on the environment. The assessment methodology adopted here is based on the criteria listed in Chapter 5. The environmental objectives for the aquatic environment (given in Table 7.13) are individually assessed against the Development Plan objectives in relation to:

- Overall strategy
- Settlement strategy and rural development policies
- Housing
- Employment, economic activity and retail
- Tourism
- Natural resources
- Transport and infrastructure
- Social, community, culture, recreational amenity and the Gaeltacht
- The built heritage
- The natural environment
- Zoning and landscape
- Urban design and development management

SEA is conducted by assessing the impact of the objectives of the Development Plan on the environmental objectives. The full assessment is given in Appendix 1 of this report and the findings are summarised below.

A review of Figure 7.1 illustrates that many of the major towns within County Kerry are located close to some type of water body.

Drinking water for residents in Killarney, Tralee and Castleisland is supplied from Lough Guitane, as are a number of smaller schemes supplied by other lakes. The problems associated with the abstraction from the lake and associated problems for riverine ecology have been highlighted earlier in the chapter.

It is imperative that these are addressed in the forthcoming drinking water strategy report for the County. The protection of this resource in the County is of vital importance for sustainability. A number of the lakes also hold stocks of Artic Char (*Salvelinus alpine*) for example Lough Anscaul, Lough Cloonee, Lough Coomsaharan, Lough Inchiquin and Uragh Lake.

Many of the areas and towns identified for growth in the County Development Plan are located close to rivers or lakes. A number of these waterbodies are important drinking water resources or designated sites. Any development in these areas, if not strictly controlled, may conflict with the environmental objectives to control water pollution and protected ecologically sensitive sites. Figure 7.3 illustrates areas of development pressure, for example, in Tralee/Killarney Hub and the primary functional areas and water quality data of surface water, transitional and coastal waters in the County. It is imperative that suitably designed wastewater treatment plants service these towns to ensure that water quality in the waterbodies is maintained or improved.



Figure 7.4 illustrates areas of development pressure and groundwater quality in County Kerry. Similarly it is important that development in these areas will have regards to their potential impact on groundwater quality.

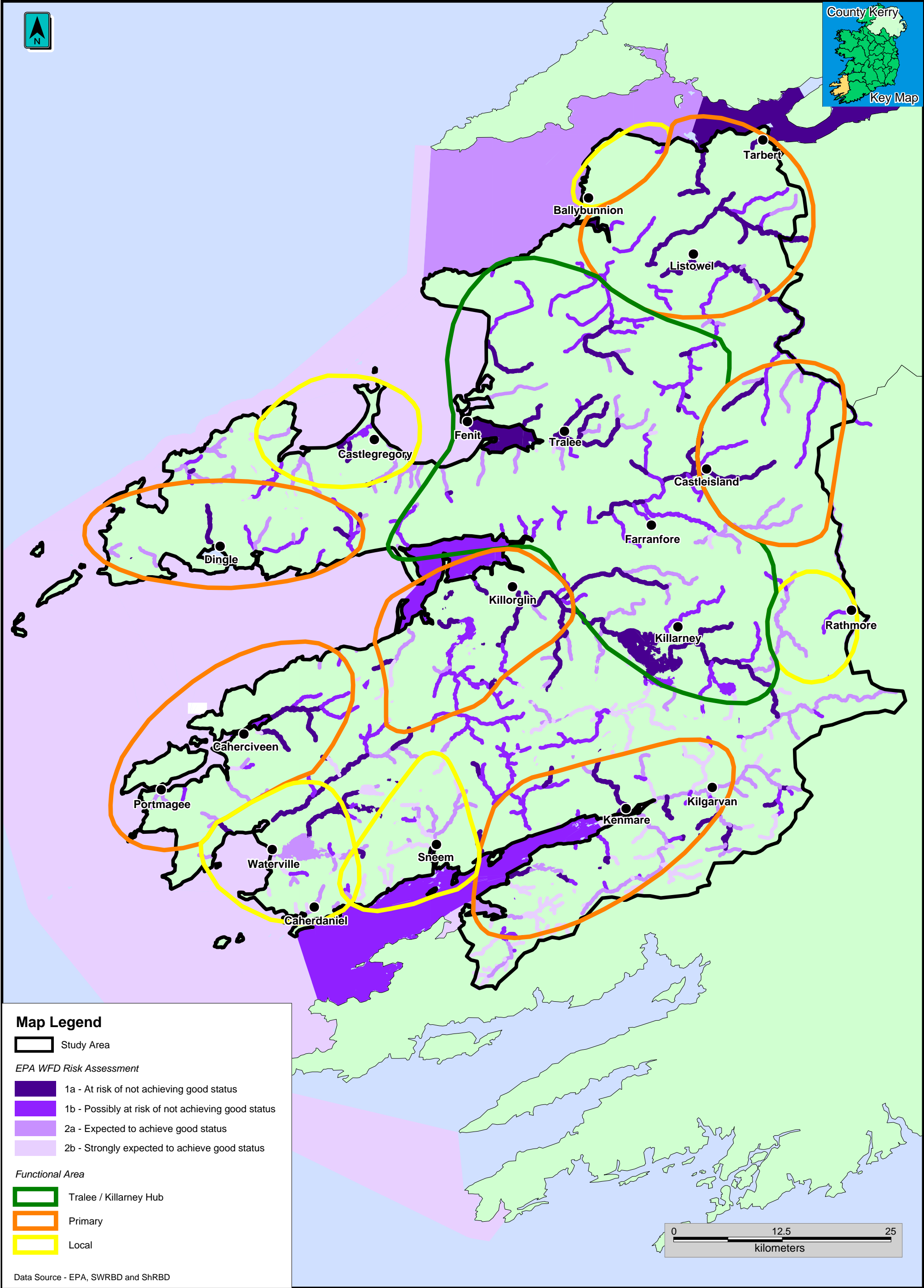
The objectives given in the Settlement Strategy set out in Chapter 3 of the Development Plan indicates Kerry County Council's goal to ensure that adequate infrastructure is in place in settlements throughout the County (Objective SS-25) and that one-off holiday homes will not be permitted in rural areas (Objective SS-38). While short-term, negative impacts may arise during the construction of the wastewater treatment plants for example dust, noise and surface water runoff, the long-term impact will be positive and beneficial to the County. A number of sewerage schemes are proposed for the County between 2008 and 2020. The Barraduff, Firies, Kilcommin, Milltown, Sneem and Waterville schemes are currently at construction/contract stage. Ballyduff, Tarbert, Ballylongford, Lixnaw, Ardfert, Fenit, Abbeydorney, Kilgarvan, Castlegory, Castlemaine, Kenmare, Glenbeigh, Bearfort and Caherdaniel schemes go to tender in 2008. Prioritisation for Phase 2 works will be given to some of the following schemes, Causeway, Moyvane, Duagh, Kilflynn, Asdee, Finuge, Brosna, Knocknagoshel, Kilfenora, The Spa, Gneeveguilla, Lurrow, Kilcommin, Scartaglin, Annascual, Baile an Fhéirtearaigh, Baile na nGall, Ceann Tra, An Clochan, an Fheothanach, An Mhuirioch, Booltecas, Ce Bhreanainn, Lios Poil, Chapletown, Knightstown, Portmagee, Rossbeigh and Cromane. Upgrades or installation of these treatment plants will ensure protection of the aquatic environment in the County.

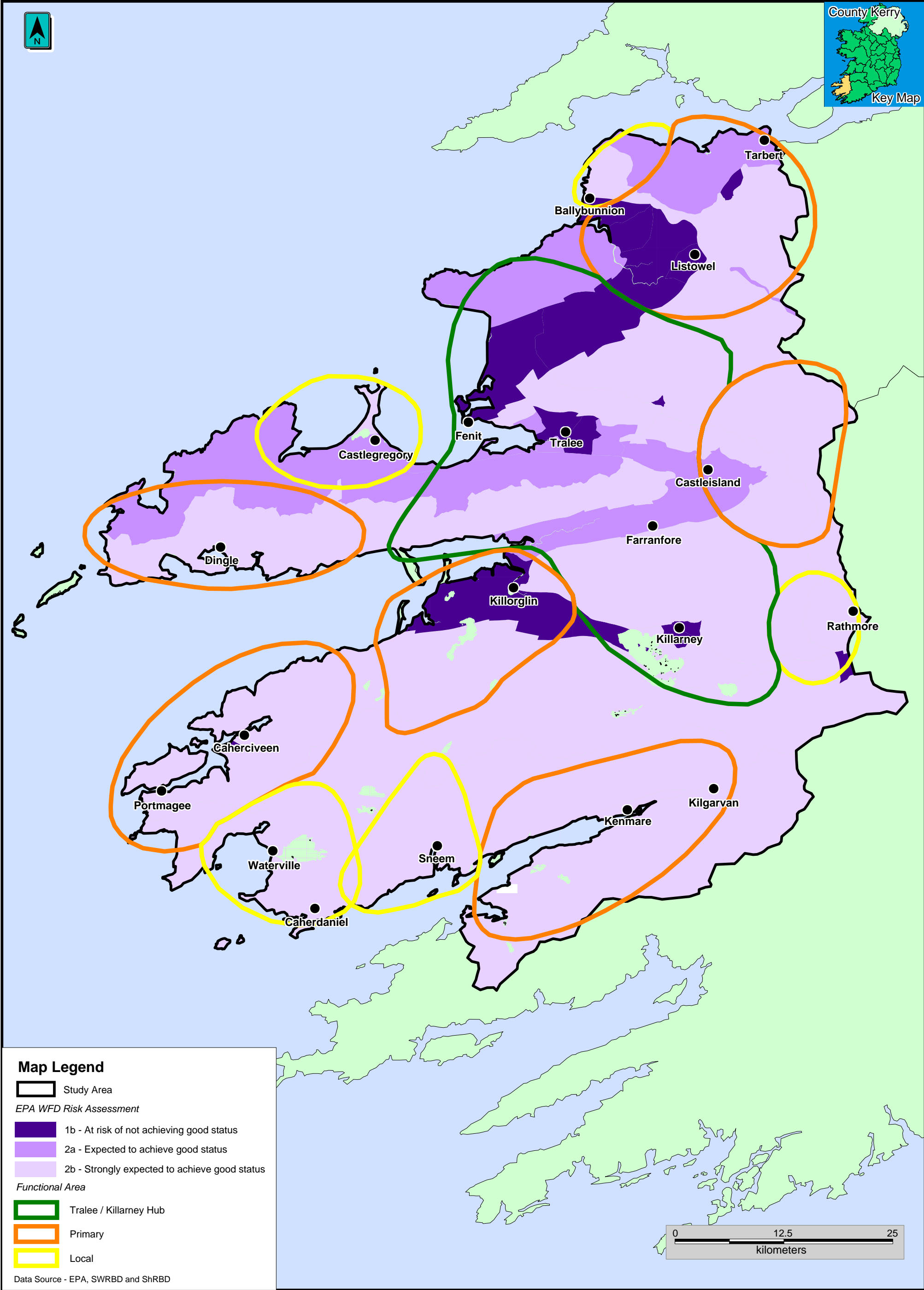
Objective HS 4-26 of the Development Plan - removal of dereliction from sites within the County may have short-term, negative impacts on water. However, the installation of adequate mitigation measures, for example silt traps, bunding of fuel oil, will help to remedy/reduce these impacts.

Chapter 5 (Economy) of the Development Plan specifically encourages adequate infrastructure such as roads, wastewater treatment etc. to cater for development of industry in Ballylongford/Tarbert. This objective will ensure that the marine environment in this area is adequately protected and that the Liquefied Natural Gas project that was recently granted planning permission by An Bord Pleanála will not result in a deterioration of water quality in the Shannon Estuary.

Objectives ECO-5-30 and ECO-5-31 of the Development Plan encourages farm development where there is sufficient farmland available to absorb farm effluents and will not negatively impact on the environment. The Council has also given a commitment to have regards to the advice/requirements of the South Western Regional Fisheries Board, the Environmental Section of Kerry County Council and the Shannon Regional Fisheries Board (ECO 5-57) in assessing the impacts of developments.

Chapter 6 (Tourism) of the Development Plan recognises the legal requirement to protect Natura 2000 sites and Natural Heritage Areas (Objective T6-21). As many of these sites are aquatic habitats Kerry County Council has objectives in the Plan to conserve and enhance these assets. These will ensure no long term significant impacts on aquatic habitats.





Specific objectives contained in Chapter 11 of the Plan (Natural Environmental) aimed to protect waterbodies include EN 11-7, which prohibits any form of development within the catchment of Lough Guitane that may potentially impact on water quality. Objectives EN 11-8 to EN 11-13 aims to protect lakes which are vulnerable to phosphorous pollution and this will afford protection to these waterbodies. No long term significant impacts are anticipated.

Groundwater is protected under objectives EN 11-15 to EN 11-18 and objective EN 11-15 commits the County Council to preparing groundwater protection schemes for the County. These objectives will ensure that no long term significant impacts on groundwater will occur.

Chapter 7 (Natural Resources) of the County Development Plan contains Objective NR7-1, which is to promote the economic potential and development of mineral resources. This has a potential to cause short-term negative impacts on the environment particularly during the stripping of overburden. Strict planning controls as per the DoEHLG Guidelines for Quarries and Ancillary Activities (22004), will be imposed on any planning permission granted. Existing quarries and pits operating in the county are controlled by the Planning and Development Act 2000 Section 261 permissions, and will provide a long term economic benefit to the County.

A similar scenario arises with forestry development (Objective NR 7-13), with short-term negative impacts on nearby watercourses during planting and felling. Strict controls on fertilizer applications will need to be put in place particularly around nutrient sensitive rivers and lakes and this will afford long term protection to these waterbodies.

Chapter 8 of the Development Plan (Infrastructure) has objectives specifically related to wastewater, water conservation, stormwater management and sludge management (Objective INF-8-53, INF 8-54 and INF 8-55 respectively). These objectives will ensure that water bodies will not be significantly impacted upon and that waterbodies identified as being 'at risk' will improve.

Chapter 13 (Urban Design and Development Management) of the Plan provides guidelines and requirements for development in rural areas. Urban design and residential development in rural non-services areas of the county have a requirement under the Development Plan to incorporate sustainable stormwater management systems for the disposal of surface water arising from the development. A sustainable Urban Design System (SUDS) is a requirement for all new developments. This will help avoid flooding in the County and will ensure that no long term significant impacts occur.

In summary FTC's review of the County Development Plan found that a number of objectives specifically address water quality in County Kerry. These objectives will assist the County Council to meet the requirements of EU and National Legislation. By adhering to the objectives, Kerry County Council will ensure compliance with the WFD and the River Basin Management Plans for the region.

## 7.5. Mitigation Measures to Reduce/Eliminate the Effects of the Plan on the Aquatic Environment

Mitigation measures are required to eliminate/remediate/reduce significant negative environmental impacts. These significant impacts can be mitigated at:

- Source, for example by avoiding the impact at the source
- Pathway, for example by reducing the magnitude of the impact
- Receptor; for example compensating for the impact by providing an alternative.

The scoping and consultation meetings relating to this SEA identified key environmental issues within the County for example the protection of the aquatic environment, biodiversity, tourism and landscape in particular. These environmental receptors could potentially be impacted by the Plan in the absence of the mitigation measures set out below.

One of the main objectives for Kerry County Council will be compliance with the Water Framework Directive and associated River Basin Management Plans. This will be facilitated by the attainment of policies and objectives set out in the Development Plan. However some negative short term impacts which may arise particularly during the construction of wastewater treatment plants, the demolition of derelict houses or the establishment of quarries / pits in an area. As the planning authority, Kerry County Council has statutory powers to place strict planning conditions on these developments. These conditions should ensure that adequate protection measures are put in place to protect nearby water sources and groundwater.

A number of objectives are contained in the County Development Plan which will ensure the provision of clean drinking water supplies for the inhabitants of County Kerry. The objectives aimed at prohibiting percolation areas within 200 m of the shore of a lake (Objective EN 11-8), developing groundwater protection plans for groundwater sources (Objective EN 11-15) and protecting water from nitrate pollution (EN 11-19) will ensure adequate protection of drinking water. The protection of drinking water is further discussed in Chapter 9 of this report.

The County Development Plan has identified the hub area, primary functional areas and local functional areas within the County (refer to Chapter 4 of this report). There are objectives within the Plan to ensure that adequate infrastructure is in place to cater for the increased population in these areas. This alone will have a significant mitigating effect in avoiding water pollution in the County. The strategy for delivery of the County Kerry wastewater and sludge projects will be undertaken within the lifetime of this Plan. The installation of new wastewater treatment plants and upgrades to existing wastewater treatment plants will ensure compliance with all relevant statutory legislation and will assist in the protection of water and aquatic based habitats in the County.

In their reply the Department of Communications, Marine and Natural Resources also raised concerns about protection of watercourses within settlements and suggested riparian zone protection areas. The South Western Fisheries Board in their consultation to the scoping report suggested that a riparian zone of 5-10 metres minimum should be required for settlements close to watercourses.

There were no significant adverse effects determined from the implementation of this plan on the aquatic environment. As such there is no SEA mitigation measures recommended in addition to mitigation measures detailed in the draft Development Plan. However planning applications should be assessed for water quality impacts and specific mitigation measures employed where significant adverse impact will occur.

## **7.6. Monitoring Programme for Water**

Kerry County Council will be responsible for the implementation of the monitoring programme in relation to the County Development Plan.

A monitoring programme allows the actual impacts of the plan to be tested against those that were predicted. It allows major problems to be identified and dealt with in a timely fashion, and environmental baseline information to be gathered for future plan reviews.

The methodology used in the development of the monitoring programme for the aquatic environment is based on the use of indicators and targets, assigned responsibilities and interventions in the event of unforeseen occurrences.

Monitoring will be carried out by reporting on the set of indicators and targets drawn up in Table 7.14. The analysis of these trends will enable positive and negative impacts on the environment to be measured. If quality targets are not being reached immediate intervention will be required.

The indicators chosen are those which are collated and reported on by a variety of government agencies such as the Environmental Protection Agency, the OPW, the National Parks and Wildlife Service and different sections of the Kerry County Council. This, in future, will be supplemented by the sampling and reporting that will be undertaken for the River Basin District as part of a requirement for the River Basin Management Plan. Table 7.14 below illustrates the monitoring programme for water in County Kerry.

**Table 7.14: Water Indicator Monitoring for Kerry**

WATER						
Environmental Objectives		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
WO1.1	Maintain or improve the quality of surface water to meet requirements of the SWRBMP and PoMs	Changes in receiving water quality as identified during water quality monitoring for the SW and ShannonRBMP conducted by KCC and the EPA	KCC EPA	As per monitoring cycle in accordance with the WFD Monitoring Programme	Achieve good status of surface waters in accordance with WFD by 2015	Investigate source of problem and remedy accordingly
WO1.2	Maintain or improve the Biotic Quality Rating (Q Value) of surface waters	Biotic quality rating of river waters at EPA monitoring locations	EPA	As per monitoring cycle in accordance with EPA monitoring programme	Improvement or at least no deterioration in surface water quality by 2015	Investigate source of problem and remedy accordingly
WO1.3	Implement SUDS across study area	Provision of SUDS compliant drainage plans for proposed developments in study area	KCC	SUDS compliant drainage plans to be provided with all proposed developments	100% compliance with SUDS drainage plans supplied with planning requests	Planning application not to be considered for planning assessment unless necessary drainage plans are also submitted
WO1.4	Knowledge of developments contributions to surface water quantities	Quantified surface water flows from proposed developments as part of planning process  Measured river levels	KCC EPA	Hydrological assessments including quantified surface water contribution to be supplied with planning applications  River levels logged as per EPA's logging cycle	100% compliance with hydrological assessments supplied with planning requests  River levels to remain at current percentiles as per OPW hydrological data	Planning application not to be considered for planning assessment unless necessary hydrological assessments are also submitted

WATER						
Environmental Objectives		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
WO2.1	Prevent pollution of groundwater by adhering to aquifer protection plans	Changes in groundwater quality as identified in monitoring programmes conducted by KCC and the EPA under the SW and Shannon RBMP	CCC WFD	As per monitoring cycle in accordance with the WFD Monitoring Programme	Achieve good status of groundwaters in accordance with WFD by 2015	Investigate source of problem and remedy accordingly
WO3.1	Maintain and improve the quality of drinking water supplies	Drinking water quality and bacterial counts and frequency of 'boil water' notices and RAL's notices from the EPA	KCC	As required by the population served in the study area and by the requirements of the Drinking Water Regulations	No 'water boil' notices issued. No RALS from the EPA	Investigate source of problem and remedy accordingly
WO4.1	Promote sustainable water use based on long term protection of resources	Frequency of 'water shortage' notices	KCC	-	Decrease in the number of water shortage notices issued	Investigate source of problem and remedy accordingly
WO4.2	Upgrade infrastructure to meet future water supply needs	Frequency of 'water shortage' notices	KCC	-	-	-
WO5.1	Mitigate the effect of flood through avoidance of development in flood plains	Number and type of developments in the recognised flooding area	KCC	-	Decrease in the number of properties flooded.  Adherence to the guidelines given in the OPW's Guidelines on Flood Risk (2005)	Investigate source of problem and remedy accordingly



WATER						
Environmental Objectives		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
WO5.2	Provision of flood relief through management of flood risk and living with floods rather than engineered flood solutions	Provision of flood risk evaluations with proposed developments/ changes to land zoning with emphasis on flood risk management	KCC	-	Mitigation of flood risk and damage to properties caused by flooding	Planning application not to be considered for planning assessment unless necessary assessments are also submitted in areas of known flooding or drainage district benefiting areas with planning applications
WO6.1	Prevention of interference with inland water morphology by developments/ land use changes in the study area	No. of proposed surface water diversions supplied with hydrological assessments	KCC	-	Mitigate against changes to surface water morphology and risk of new flooding areas	Planning application not to be considered for planning assessment unless necessary hydrological assessments are also submitted
WO7.1	Maintain Blue Flag status for beaches	Changes in bathing water quality	KCC	-	Maintain current Blue Flag status level	Investigate source of problem and rename accordingly



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## 8. IMPACT ASSESSMENT ON BIODIVERSITY

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### 8.1. Introduction

This chapter of the Environmental Report examines the impact of implementation of the draft County Development Plan on County Kerry's biodiversity. Biodiversity includes flora, fauna and habitats.

Mountains, peatlands and bogs are unique features of the County Kerry landscape. The County also contains a number of important aquatic habitats such as Lough Guitane, Lough Laune, Muckross Lake, the River Flesk, the River Laune and the River Caragh. Groundwater forms an integral part of many of these habitats and it is an important resource within the County both as a drinking water source and an ecological habitat.

Many of the lakes in County Kerry are classed as Branded lakes i.e. significant in terms of the value of salmon and trout fisheries and consequently need adequate protection. A number of the lake catchments within the County have also proven to be particularly vulnerable to phosphorous pollution. These lakes are important as a source of tourism revenue for the County as they also contain unique ecological habitat and are popular locations for fishing. Pollution of these waters may pose a particular threat to fisheries and tourism revenue.

A key document and information source is Kerry County Council's second Heritage and Biodiversity Plan for 2008 to 2012. This plan sets out policies, aims and actions relating to the protection of biodiversity. It also sets out particular performance indicators for interpretation of the success of the plan in various areas. A heritage forum was appointed to guide the plan through formulation and its five year implementation.

County Kerry is home to many habitats of both international and national importance, including raised bogs, wetland areas, estuaries, and woods. Many of these are protected by European and national legislation, including Special Area of Conservation (SAC's), Special Protection Area (SPA's) and Natural Heritage Areas (NHA's). The SACs and SPAs form part of a European network of sites known as Natura 2000 sites. The Habitats Directive requires that an appropriate assessment be carried out where it is considered that a development is likely to have a significant effect on a Natura 2000 site. These assessments are called Article 6 assessments.

The Department of the Environment, Heritage and Local Governments circular SEA 1/8 and NPWS 1/8 requires that under the Habitats Directive an appropriate assessment of the ecological implications of a plan is conducted. An appropriate assessment of the County Kerry Development Plan was conducted by FTC's ecologist and is given in Appendix 2.

## 8.2. Baseline Assessment

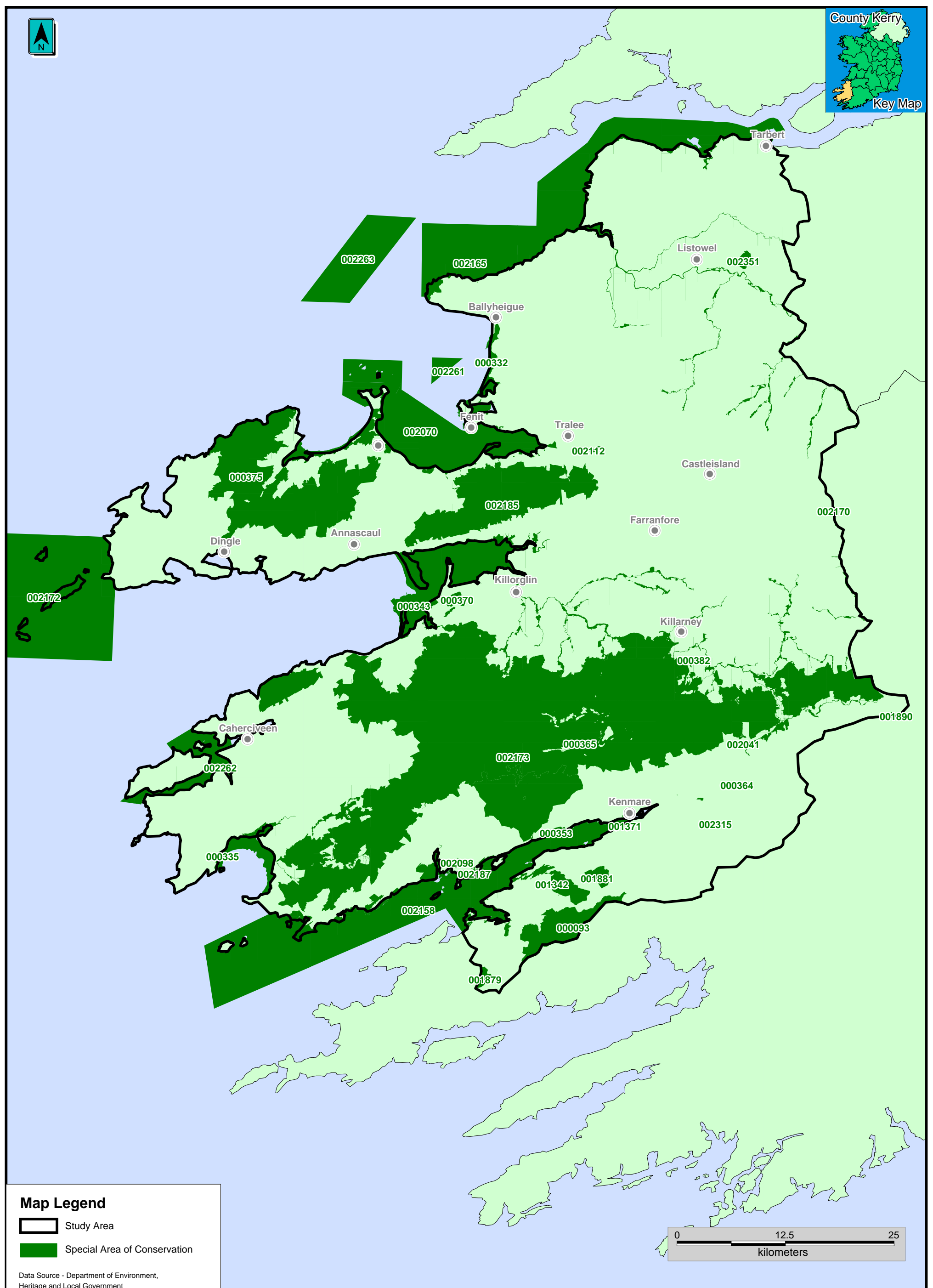
This baseline assessment covers designated and non-designated sites in the County.

### 8.2.1. Special Areas of Conservation

There are 24 Special Areas of Conservation (SAC's) and 7 candidate SAC's (cSACs) in County Kerry that are designated under the European Union (Natural Habitats) Regulations 1997 (S.I. No. 94 of 1997). These are shown in Figure 8.1 and listed in Table 8.1.

**Table 8.1: Designated SACs and candidate SACs in County Kerry**

Site Name	SITE CODE
Caha Mountains	93
Akeragh, Banna And Barrow Harbour	332
Ballinskelligs Bay And Inny Estuary	335
Castlemaine Harbour (cSAC)	343
Old Domestic Building, Dromore Wood	353
Kilgarvan Ice House	364
Killarney National Park, Macgillycuddy'S Reeks And Caragh River (cSAC)	365
Lough Yganavan And Lough Nambrackdarrig	370
Mount Brandon	375
Sheheree (Ardagh) Bog	382
Cloonee And Inchiquin Loughs, Uragh Wood	1342
Mucksna Wood	1371
Glanmore Bog	1879
Maulagowna Bog	1881
Mullaghanish Bog	1890
Old Domestic Building, Curraglass Wood	2041
Tralee Bay And Magharees Peninsula, West To Cloghane	2070
Old Domestic Building, Askive Wood	2098
Ballyseedy Wood	2112
Kenmare River	2158
Lower River Shannon (cSAC)	2165
Blackwater River (Cork/Waterford) (cSAC)	2170
Blasket Islands (cSAC)	2172
Blackwater River (Kerry) (cSAC)	2173
Slieve Mish Mountains	2185
Drongawn Lough	2187
Magharee Islands	2261
Valencia Harbour/Portmagee Channel	2262
Kerry Head Shoal	2263
Glanlough Woods	2315
Moanveanlagh Bog (cSAC)	2351



### 8.2.2. Special Protection Areas

There are 17 Special Protection Areas (SPA's) within County Kerry. These habitats are designated under the European Birds Directive (79/409/EC) and the European Communities (Conservation of Wild Birds) Regulations (S.I. No. 291 of 1985). The locations of the SPA's are shown in Figure 8.2 and are listed in Table 8.2.

**Table 8.2: Designated Special Protection Areas in County Kerry**

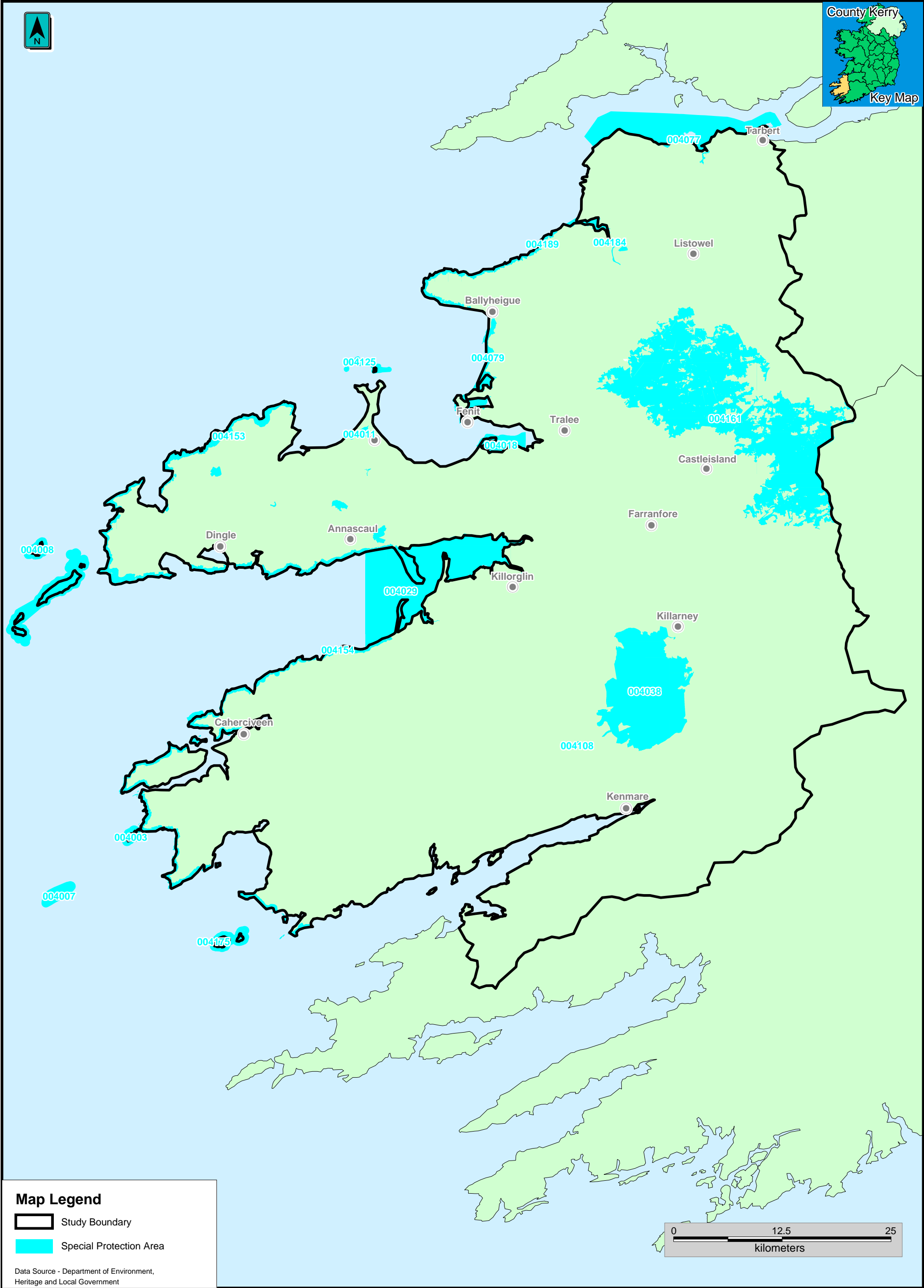
Site Name	SITECODE
Puffin Island SPA	4003
Skelligs SPA	4007
Blasket Islands SPA	4008
Lough Gill SPA	4011
Tralee bay	4018
Castlemaine Harbour SPA	4029
Killarney National Park	4038
River Shannon and River Fergus Estuaries	4077
Akeragh, Banna and Barrow Harbour SPA	4079
Eirk Bog SPA	4108
Magharee Islands SPA	4125
Dingle Peninsula SPA	4153
Iveragh Peinsula SPA	4154
Stacks to Mullaghareirk Mountains, West	4161
Deenish Island and Scariff Island SPA	4175
River Cashen Estuary SPA	4184
Kerry Head SPA	4189

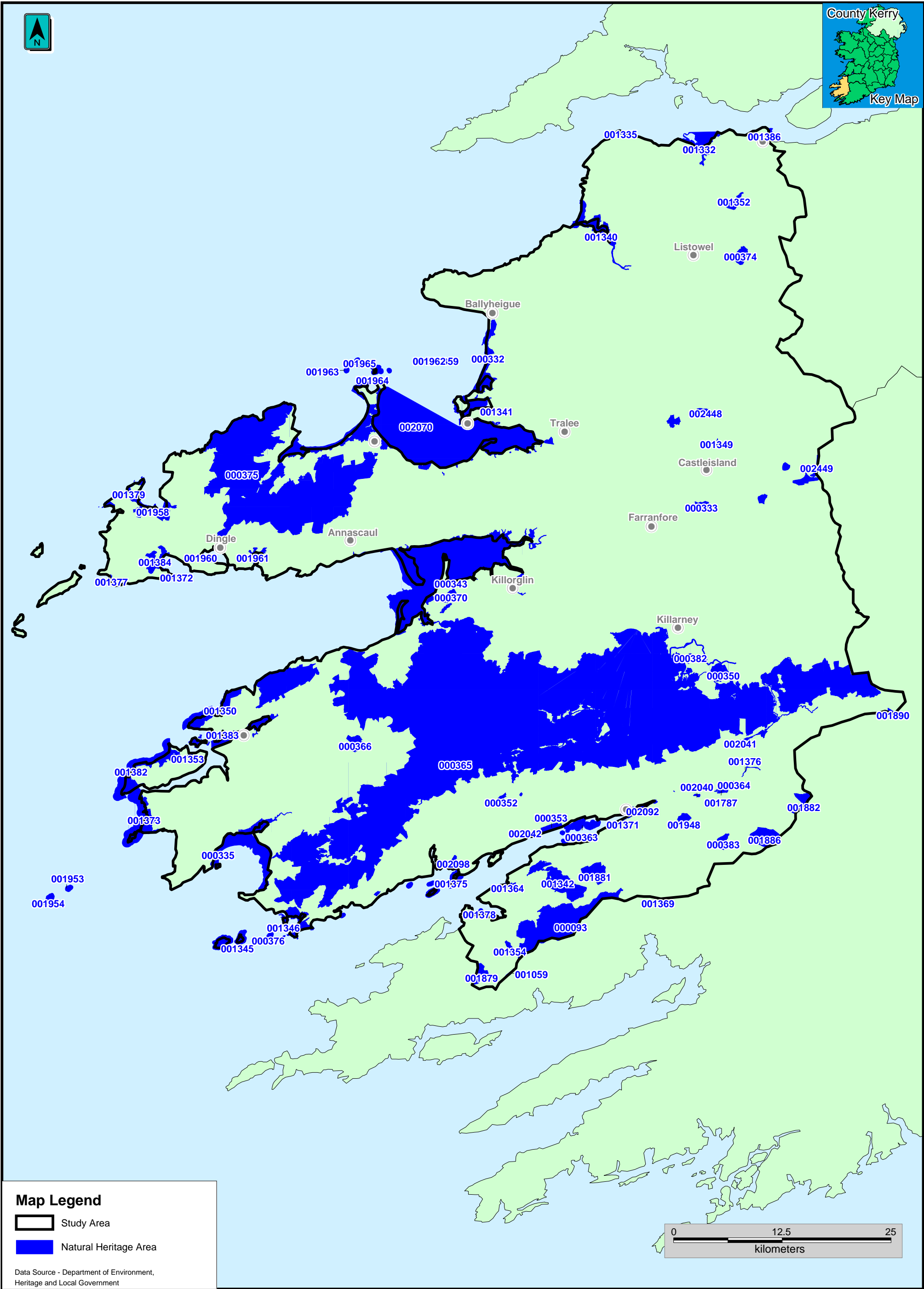
### 8.2.3. Natural Heritage Areas

There are 9 designated Natural Heritage Areas (NHA's) and a total of 62 proposed Natural Heritage Areas (pNHA) in County Kerry. These are all designated under the Wildlife Acts, 1976 and 2000. The NHA's are listed in Table 8.3 and are presented in Figure 8.3.

**Table 8.3: Natural Heritage Areas in County Kerry**

Site Name	SITE CODE
Knockatarriv/Knockariddera Bogs NHA	2448
Mount Eagle Bogs NHA	2449
Anna More Bog NHA	333
Knockroe Bog NHA	366
Slaheny River Bog NHA	383
Hungry Hill Bog NHA	1059
Bunnaruddee Bog NHA	1352
Sillahertane Bog NHA	1882
Doughill Bog NHA	1948







Site synopses for the designated sites, where they have been prepared by the DoEHLG are available on their website [www.npws.ie](http://www.npws.ie). The non-designated sites of local importance include hedgerows, peatlands, rivers, lakes and marine environments.

#### 8.2.4. Blue Flag Beaches

County Kerry has 13 Blue Flag beaches at Ballinskellig, Ballybunion (north and south), Ballyheigue, Banna, Derrynane, Fenit, Inch, Kells, Meherabeag, Rossbeig, Ventry and Caherciveen.

There are also main breeding colonies for fresh water pearl mussel in three of the main watercourses in County Kerry. These are the Caragh River, the Blackwater and River Laune.

The County is rich in terms of its heritage and history with internationally acknowledged beaches at Skellig Mhichil. Kerry County Council is also seeking a similar designation of the Great Blasket Islands.

A number of its lakes hold populations of Arctic Char as described in Section 8.4.1.

#### 8.2.5. Invasive Species

Rhododendron is the main invasive plant species particularly in Killarney National Park. Japanese Knotweed has been identified between Farranfore and Firies and in certain areas (Lyracompane) in the Stack Mountains. Canadian Pondweed is of particular concern in Lough Leane. The South Western Fisheries Board in its response to the consultation element of drafting the Environmental Report also identified Giant Hogweed in Tralee as another invasive species. No Zebra Mussels have been recorded in the County.

#### 8.2.6. Evolution of Biodiversity, Flora and Fauna in the Absence of a CDP

In the absence of a County Development Plan for County Kerry, development within the County would have no long term guidance and each planning application would be treated individually. Consequently long term impact or holistic impacts on ecological habitats within the County are unlikely to be fully assessed with the result that fragmentation and loss of habitats would occur. Built developments along riverbanks or lakes would result in a reduction in ecological continuity within and between these and other habitats.

Development on floodplains would disrupt the hydrological regime within these areas with consequent knock-on effects on other aquatic habitats such as groundwater, lakes, rivers and bogs. Pollution may occur from developments along the edge of these water bodies or where single dwelling units discharge to surface or groundwater.

### **8.3. Development of Environmental Objectives, Targets and Indicators for Biodiversity**

The environmental objectives, targets and indicators set out for this Environmental Report and shown in Table 8.4 will ensure protection of designated and non-designated locally important ecological habitats and species.

Correspondence with the Department of the Communications, Marine and Natural Resources (DoCMNR) stressed the importance of taking care when considering development or development related matters in or adjacent to sites of ecological importance. This concern is addressed by environmental objective B01.1 and B02.1 in Table 8.4.

In their reply the DoCMNR also raised concerns about protection of watercourses within settlements and suggested riparian zone protection areas. The South Western Fisheries Board in their consultation to the Scoping Report suggested that a riparian zone of 5-10 metres minimum should be required for settlements close to watercourses. These concerns are addressed by environmental objective B04.1 in Table 8.4.

The DoCMNR stated that proposed hydro schemes should have regard to the recent publication "Guidelines on the Planning, Design, Construction and Operation of Small-Scale Hydro Electric Schemes".

The protection of the biodiversity within the County is also closely linked with the aquatic and geological environment. Many of the Habitats Directive Annex 1 habitats (rare habitats identified as needing protection) and species derive from the groundwater and geological (karst limestone) features in the county. The environmental objectives given for the protection of water (Table 7.4) will ensure protection of the aquatic based habitats.

### **8.4. Impacts of the Plan on Biodiversity in County Kerry**

A complete assessment of the impacts of the Plan is set out in Appendix 1 of this report.

In summary, Kerry County Council recognises the importance of the biodiversity of the county both from an ecological and a tourism perspective. There is a key need for sustainable development of areas in County Kerry and the Council seeks to promote proper planning in such areas. The Council is committed to ensuring that development within settlements is conducted in accordance with the relevant Local Area Plans (LAPs). These LAPs will have specific zonings and specific requirements for the protection of ecological habitats. Objective SS-40 of the Development Plan which covers the issue of integration of holiday homes into urban areas and retention of trees and hedgerows demonstrates the Council's commitment to protecting these wildlife corridor habitats.

Chapter 6 of the Plan, Tourism, has objectives aimed specifically at protecting ecological habitats in the County. These objectives aim to conserve important wildlife interests (Objective T6-2), while objective T6-10 of the Plan aims to identify landuse strategies for areas which focus on tourism, environment and heritage. Objectives T6-13 to T6-15 specifically addresses the interaction between tourism and biodiversity and the need to protect both of them. These objectives will assist in ensuring sustainable biodiversity in County Kerry.

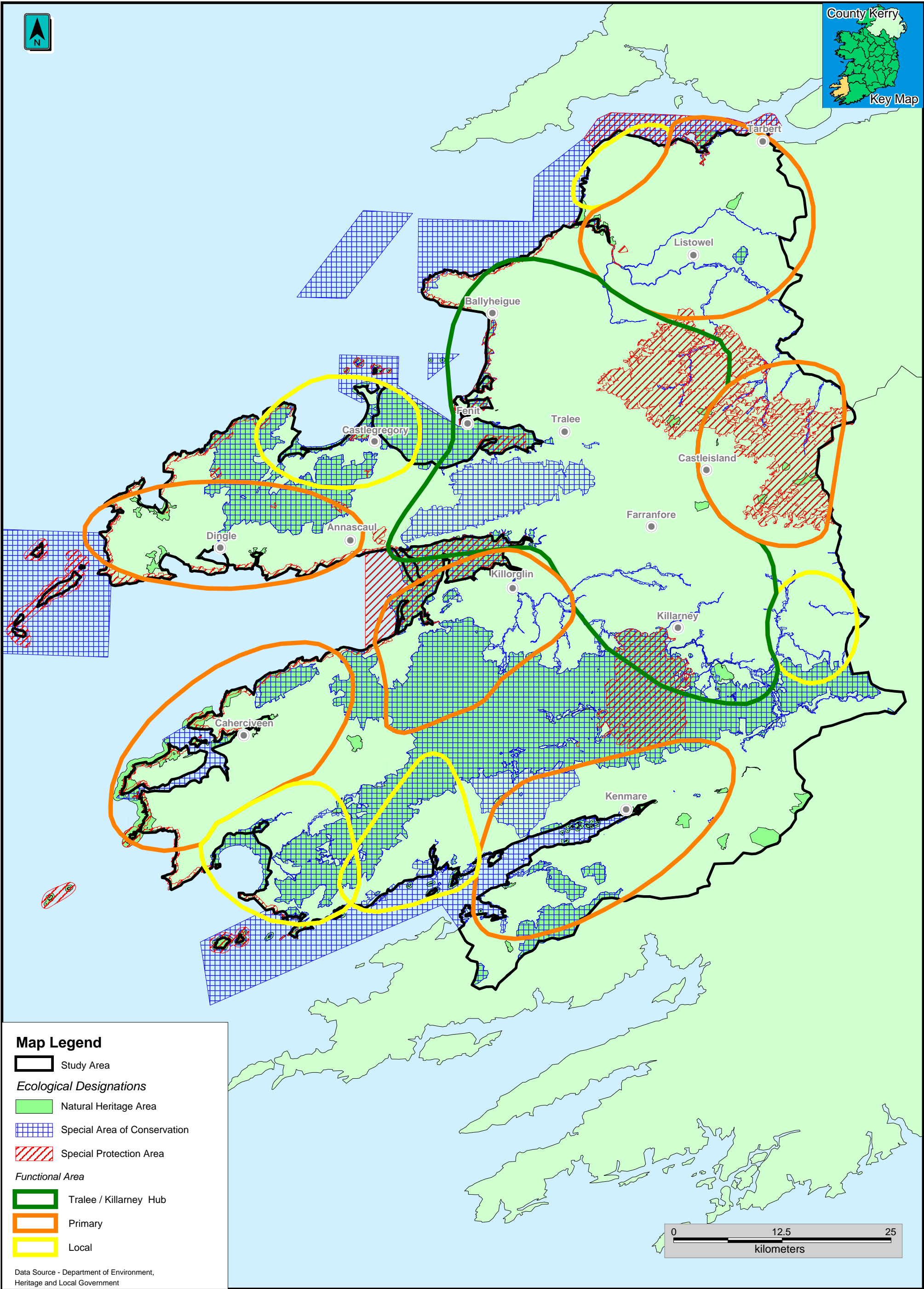
Figures 8.1 (Special Areas of Conservation), Figure 8.2 (Special Protection Areas) and Figure 8.3 (Natural Heritage Areas) demonstrates the location of the designated sites in County Kerry. Some of these areas may be impacted by development in any of the functional areas listed in Table 3.1 (Functional Areas and Complimentary Roles) of the County Development Plan. Figure 8.4 illustrates development pressures that may be placed on designated sites in the County. Guidance from the Department of the Environment Heritage and Local Government (Circular PD 2/07) requires local authorities to satisfy themselves that developments close to Natura 2000 sites will not adversely affect the integrity of the site. The Council has included a number of objectives in different sections of the draft Development Plan to reduce/eliminate potential impacts on these sites. Habitat Directive Article 6 assessments must be prepared by developers for submissions close to these sites. The requirement for Article 6 assessments will ensure that Natura 2000 sites are not significantly impacted upon.

Chapter 7 of the draft Development Plan, Natural Resources, encourages the development of quarries within the County. This will have a negative impact on the conservation of non-designated sites because the quarrying operations will result in a loss of existing habitat in that area. In the long term, however, new habitats will be created when the quarries are restored.

Chapter 8 (Infrastructure) of the draft Development Plan has specific objectives (INF 8-47 to INF 8-51) in relation to the provision of drinking water supply facilities, and INF 8-53 in relation to wastewater facilities, which if implemented will help to ensure sustainable ecology within the county.

Chapter 11 (Natural Environment) of the Plan describes the Council's responsibilities with regards to the natural environment. Objectives EN 11-21 and EN 11-22 clearly sets out the Council's requirement for developments near to designated sites. These objectives meet the requirement of the DoEHLG's circular PD 2/07 as described above. Kerry County Council has prepared a management plan for the Blasket Islands and objective EN 11-30 aims to support and promote this Plan. By implementing these objectives the Council will provide long term protection for the designated sites and the Blasket Islands.

The Development Plan aims to protect Special Protection Areas, Special Areas of Conservation and Natural Heritage Areas by preparing a Coastal Development Zone (Objective EN 11-35) and permitting development on the landward side of existing settlements (Objective EN 11-43). The Plan also aims to protect Blue Flag beaches (EN 11-46) and prohibit development in areas where coastal erosion has occurred or may potentially occur.



In summary the Plan has a number of objectives that specifically protects biodiversity in County Kerry. These objectives will strengthen the Council's role in meeting the requirements of EU and National habitat protection legislation. However, the presence of designated sites in the primary functional areas and the local functional areas as given in Table 4.8 of this Environmental Report may hinder development. Developers in these areas will need to conduct Article 6 assessments as part of their submissions to the Council, to demonstrate any negative impact, on these locations.

**Table 8.4: Environmental Objectives, Targets & Indicators for Biodiversity**

Biodiversity Aspect (B)	Objective (BO)	Targets	Indicators (BI)	Indicators information Source
<b>B1 Designated habitat and species</b>	<b>BO1.1</b> Conserve and protect habitats and species	No loss of protected habitats and species	<b>BI1.1.1</b> Designation of additional areas due to biodiversity or geological value.  <b>BI1.1.1</b> Percentage of unique habitats and species lost in designated sites through trending of annual/ bi-annual habitat surveys.	KCC  DoEHLG
	<b>BO1.2</b> Protect Natura 2000 (SAC and SPA) sites in planning process using Habitats Directive Article 6 assessment methodology	Article 6 assessments to be supplied with each planning application for sites overlying or having a potential to impact a Natura 2000 site.	<b>BI1.2</b> Number of Article 6 assessments supplied with planning applications for developments proposed for sites overlying or potentially impacting Natura 2000 sites in study area.	KCC  DoEHLG

Biodiversity Aspect (B)	Objective (BO)	Targets	Indicators (BI)	Indicators information Source
<b>B2 Species and habitats in non-designated sites.</b>	<b>BO2.1</b> Conserve the diversity of habitats and species in non-designated sites	<p>No loss of hedgerows such as Townland Boundary Hedges or roadside hedgerows.</p> <p>Operators who conduct mechanical hedge cutting should have achieved the Teagasc proficiency standard MT 1302 – Mechanical Hedge Trimming.</p> <p>30% broadleaf afforestation</p> <p>Development of identified non-designated habitats as green belt.</p> <p>Protection of non-designated salmon rivers.</p>	<p><b>BI2.1.1</b> Percentage of unique habitats and species lost in non-designated sites through trending of annual/ bi-annual habitat surveys.</p> <p><b>BI2.1.2</b> Percentage of native tree and broadleaf planted</p>	KCC  DoEHLG
<b>B3 Invasive Species</b>	<b>BO3.1</b> Protect aquatic and terrestrial habitats from invasive species.	<p>No new invasive species.</p> <p>Identification of areas populated by invasive species with restrictions placed on such areas.</p> <p>Support initiatives which reduce the likelihood of invasions. Help control and manage new invasive species. Raise public awareness of invasive species and address international obligations.</p>	<b>BI3.1</b> New types or increase in coverage of invasive species identified	KCC in consultation with SWRBD
<b>B4 AQUATIC HABITATS</b>	<p><b>BO4.1</b> MEET THE REQUIREMENTS OF THE RIVER BASIN MANAGEMENT PLAN</p> <p><b>BO4.2</b> PROVISION OF A RIPARIAN ZONE FOR DEVELOPMENTS CLOSE TO WATER</p>	<p>ALL WATERS TO ACHIEVE GOOD STATUS BY 2015.</p> <p>ENSURE THE PROVISION OF A RIPARIAN ZONE OF AT LEAST 5 M FOR DEVELOPMENTS CLOSE TO WATER</p>	WFD RISK LEVELS FOR AQUATIC HABITATS	KCC IN CONSULTATION WITH SWRBD

## **8.5. Mitigation Measures to Remedy/Eliminate the Impacts of the Plan on Biodiversity**

One of the challenges facing each local authority is compliance with the Habitats Directive. Kerry County Council recognises this and has implemented a Biodiversity Plan for the County. The Biodiversity Plan 2008-2012 sets out a number of performance indicators to measure the success of the plan. A mid term review of the biodiversity plan will be completed by 2010 and will assess the success of achieving the performance indicators. Compliance with the performance indicators will ensure that biodiversity in the County is adequately protected.

Consultations with the Department of Communications, Marine and Natural Resources and the Southern Regional Fisheries Board (SWRFB) identified the need to protect both designated and non-designated sites. The SWRFB highlighted that a number of the important salmon rivers in the County, for example, the Maine, and the Roughty are not designated sites. The impact of water abstractions for drinking water supply on rivers was also highlighted as an area of concern.

A number of objectives are contained within the draft County Development Plan which will ensure protection of all designated sites throughout the County. The objectives in the draft Development Plan dealing with the Natural Environment aims to ensure that developments in the vicinity of or affecting a designated SAC, SPA or NHA provides information on how a development may impact on the designated site and what mitigation measures will be put in place to remedy same (Objective EN 11-22). The provision of the information will be in the form of an Article 6 assessment which will ensure compliance with the Habitats Directive. Objectives EN 11-26 to EN 11-29 aim to protect and enhance biodiversity in the County.

There were no significant adverse effects determined from the implementation of the County Development Plan on biodiversity. As such no specific SEA mitigation measures are recommended in addition to the mitigation measures detailed in the Development Plan. An objective for the requirement of a 5-10 m riparian zone for settlements located beside watercourses, should be given in the Development Plan. However a development seeking planning once the County Development Plan is adopted should be assessed for biodiversity impacts and specific mitigation measures employed where significant adverse impact will occur.

## **8.6. Monitoring Programme for Biodiversity**

Kerry County Council will be responsible for the implementation of the monitoring programme in relation to the Plan. The monitoring programme devised for biodiversity shown in Table 8.5 is based on the use of indicators and targets. The indicators are measurable and will assist in the identification of trends which will enable positive and negative impacts to be determined. The trends will assist will also identify unforeseen occurrences.

The indicators chosen are those which are collected and reported by a variety of government agencies such as the EPA, the OPW, NPWS and different departments in Kerry County Council. Information and data will also be acquired by the Heritage Forum. The use of the indicators shown in Table 8.5 and the data generated by the review of the Biodiversity Plan will help to identify trends in biodiversity.

**Table 8.5: Biodiversity Indicator Monitoring Programme**

BIODIVERSITY						
Environmental Objective		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
BO1.1	Conserve and protect habitats and species	Designation of additional areas due to biodiversity or geological value.  Percentage of unique habitats and species lost in designated sites through trending of annual/ bi-annual habitat surveys.	KCC  DoEHLG	-	No loss of protected habitats and species	-
BO1.2	Protect Natura 2000 (SAC and SPA) sites in planning process using Habitats Directive Article 6 assessment methodology	Number of Article 6 assessments supplied with planning applications for developments proposed for sites overlying or potentially impacting Natura 2000 sites in study area.	KCC  DoEHLG	-	Article 6 assessments to be supplied with each planning application for sites overlying or having a potential to impact a Natura 2000 site.	Planning application not to be considered for planning assessment unless necessary Article 6 assessments are also submitted



BIODIVERSITY						
Environmental Objective		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
BO2.1	Conserve the diversity of habitats and species in locally important non-designated sites	<p>Percentage of unique habitats and species lost in non-designated sites through trending of annual/ bi-annual habitat surveys.</p> <p>Percentage of native tree and broadleaf planted</p>	KCC	-	<p>No loss of hedgerows such as Townland Boundary Hedges or roadside hedgerows. .</p> <p>Operators who conduct mechanical hedge cutting should have achieved the Teagasc proficiency standard MT 1302 – Mechanical Hedge Trimming.</p> <p>30% broadleaf afforestation</p> <p>Development of identified non-designated habitats as green belt.</p>	<p>Investigate source of problem and remedy accordingly</p> <p>Requirement in planning permissions.</p> <p>Requirement for provision of bio-diversity plans with planning application where decided by KCC Environment Section.</p>

BIODIVERSITY						
Environmental Objective		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
BO3.1	Protect aquatic and terrestrial habitats from invasive species.	New types or increase in coverage of invasive species identified	KCC DoEHLG SWRBD	Identify the presence and location of invasive species in study area catchments.	No new invasive species.  Identification of areas populated by invasive species with restrictions placed on such areas.  Support initiatives which reduce the likelihood of invasions. Help control and manage new invasive species. Raise public awareness of invasive species and address international obligations.	Investigate source of problem and remedy accordingly
BO4.1	Meet the requirements of the River Basin Management Plan	WFD risk levels for aquatic habitats	KCC SWRBD	Annually	All waters to achieve good status by 2015.	Investigate the non-compliances and remedy accordingly

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## **9. IMPACT ASSESSMENT OF THE PLAN ON POPULATION AND HUMAN HEALTH**

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### **9.1. Introduction**

This chapter assessed the impact of the Plan on the population of County Kerry. It covers both population and health-related impacts.

### **9.2. Baseline Assessment for Human Beings**

In this section data on education, drinking water quality, wastewater treatment plants, and health care is reviewed. Other potential impacts on humans such as air quality and waste management facilities are covered in Chapter 12.

#### **9.2.1. Current and predicted Population Trends**

The population of County Kerry was 126,130 in 1996 and increased to 132,527 in 2002. By 2006 the population was 139,835. This constituted a 5.5% increase in population between 2002 and 2006. The current Development Plan (2003 – 2009) and housing strategy are based on projections from 2006. The population in County Kerry is expected to be 145,621 in 2009 and to grow to 160,363 by 2015.

The predicted population growth rate for the Tralee Killarney Hub is 2.27% during the period 2006-2020. Similarly the projected growth rates for the principal towns in the Primary Functional Areas of An Daingean, Caherciveen, Castleisland, Kemmare, Killorglin and Listowel are 2.33%. It is predicted that Tralee will have a growth rate of nearly 2% for this period.

#### **9.2.2. Employment in the County**

Current unemployment rates in County Kerry are 7.3%. This compares favourably with the National unemployment rate of 7.2% and Kerry County Council has a working population of 60,810. The majority of males are employed in the building and construction sector while the majority of females are employed in professional services. A breakdown of the percentage of males and females working in each sector is shown in Table 9.1.

**Table 9.1: Employment Breakdown According to Sector**

<b>Employment Sector</b>	<b>Males</b>	<b>Females</b>
Agriculture, Forestry & Fishing	13.0%	0.9%
Building & Construction	21.9%	1.2%
Manufacturing Industry	15.2%	7.3%
Commerce & Trade	17.7%	26.6%
Transport & Communication	4.9%	2.6%
Public Administration	3.6%	4.5%
Professional Services	6.1%	31.3%
Other	17.1%	24.8%

Tourism provides employment for approximately 15% of the total labour workforce in the County. The recent slow down in construction activity nationally further strengthens the need to exploit this market more fully. In 2006 over 3.5 million tourists visited the south west of Ireland and 1 million visited County Kerry. A total of € 1,233 m was spent by the visitors in that year. The Failte Ireland South West – Regional Development Plan 2008-2010 identifies opportunities for product development and improvement in relation to the quantity and quality of tourist resources in the County. This plan has provided the framework for the development of land use tourism strategy, objectives and policies set out in the County Development Plan.

County Kerry has received nearly €720,000 for tourism development in 2007. Projects which benefited from this funding include the River Lee walking and cycle route, The Kerry Sea Angling Information Boards and Kerry County Council beach development. €17.7 m was allocated to Kerry Airport and Dingle Fisheries Harbour Centre was allocated €1.5 m for building of a new art centre.

There are 4 no. salmon farming licences, 25 no. oyster farm licences, 19 no. mussel farming, 3 no. clam and 3 no. scallop farming licences in the County. Aquaculture is also an important employer in the County.

### 9.2.3. Education

There are 102 no. national schools and 19 no. post primary and tutorial schools in County Kerry. There are 3 third level educational facilities in County Kerry, all in Tralee, the Lee Business Institute, The Irish College for Humanities and the Institute of Technology in Tralee.

### 9.2.4. Drinking Water Quality

The sources of drinking water supplies for County Kerry are described in Chapter 7 of this report. There are 78 no. water supplies schemes in the County and these are supplied to consumers by 4 no. different methods.

- Public schemes owned or maintained by Kerry County Council
- Privately owned and operated group schemes, with the water provided by Kerry County Council
- Privately owned and operated group schemes using their own private sources
- Private individual wells

Drinking water reports conducted by the EPA for 2004 and 2005 found that the microbial quality in some of the drinking waters in County Kerry was poor particularly group water schemes. In 2006 the EPA reported that the overall compliance in County Kerry was 96%. While this compliance was an improvement in the 2005 rate of 95.4%, it was below the national average for 2006. The report found the compliance rate of 89% for coliforms, 88% for colour and 84% for pH were unacceptably low in public water supplies. All but one of the 14 private group schemes tested positive for coliform bacteria.

In January 2008 a Remedial Action List (RAL) for drinking water supplies in Ireland was published by the EPA. Based on the results of over 220,000 of drinking water samples, the aim of the list is to provide a greater level of consumer protection. The EPA and the Health and Safety Executive must be notified where water fails to meet the required standards and where there is a potential risk to human health. Each local authority is also required to address the issues raised in the RAL. The EPA lists 40 water supplies in County Kerry that require improvement. 22 no. of the 40 no. relate to the inadequate treatment for cryptosporidium. A further 5 related to the supply not being able to meet the new trihalomethane (THM) standard coming into force at the end of 2008. A number of other non compliances related to poor turbidity removal and failure to meet *E coli* standards. Kerry County Council is currently putting provisions in place to remedy these issues.

Furthermore, 22 no. public water supplies in County Kerry originate from surface water which only has chlorination treatment. Consequently these supplies have no treatment mechanism to remove cryptosporidium if the parasite contaminates the source of water.

Kerry County Council has recently established a Drinking Water Quality Unit within the Water Services Capital projects office. This unit is updating the current County Water Supply Strategy. Upon completion of the revised County Water Supply Strategy an application to the DoEHLG will be made for funding to implement the programme of upgrading measures.

#### 9.2.5. Wastewater Treatment Plants

There are 90 no. settlements within County Kerry and while a large proportion of larger settlements have some form of wastewater treatment, many of the smaller villages do not have treatment systems. Kerry County Council currently operates 42 wastewater treatment plants, the largest serving Killarney and Tralee. The larger wastewater treatment plants are shown in Table 9.2.

**Table 9.2: Existing Wastewater Plants serving large populations in County Kerry**

Project	Year Constructed/Upgraded	Design Capacity P. E.
Ballybunion	1993	8,180
Ballyheigue	2003	4,234
Caherciveen	1995	5,000
Castleisland	1992	6,000
Dingle	1995	8,600
Farranfore	2004	500
Kenmare	1995	3,500
Killarney	1997	42,000
Kilorglin	1995	5,000
Listowel	1987	12,500
Rathmore	2002	1,750
Tralee	1998	42,000

The existing wastewater treatment plant infrastructure for the remaining settlements in County Kerry is shown in Table 9.3. This table provides summary information on the status of these plants. A number are overloaded and other towns and villages are not serviced by any forms of treatment plant.

**Table 9.3: Existing Wastewater Treatment Plant Capacities in County Kerry**

Settlement Name	Estimated Existing Agglomeration (P.E)	Existing Infrastructure		
		Treatment Design Capacity (P.E.)	Approx. Networks Km.	Other Comment
Waterville	1,926	500	5.17	Proposed scheme at Contract Document Approval Stage
Barraduff	250	None	None	No Existing Infrastructure
Beaufort	350	None	None	No Existing Infrastructure
Fieries	750	100	0.94	Overloaded
Kilcummin	399	None	None	No Existing Infrastructure
Milltown	1,474	370	3.60	Overloaded
Tarbert	1,400	710	5.76	Overloaded
Ballylongford	950	None	3.59	Overloaded
Asdee	170	None	None	No Existing Infrastructure
Cashen	120	None	None	No Existing Infrastructure
Ballyduff	850	300	4.10	Overloaded
Finuge	320	None	None	No Existing Infrastructure
Lixnaw	1,000	300	2.93	Overloaded
Abbeydorney	437	350	2.04	Overloaded
Kilflynn	170	150	1.17	Overloaded
Ardfert	1,100	450	5.54	Overloaded

Settlement Name	Estimated Existing Agglomeration (P.E.)	Existing Infrastructure		
		Treatment Design Capacity (P.E.)	Approx. Networks Km.	Other Comment
Fenit	1,000	400	8.04	Overloaded
Spa	424	None	None	No Existing Infrastructure
Currow	360	None	None	No Existing Infrastructure
Scartaglen	350	None	None	No Existing Infrastructure
Brandon	200	None	None	No Existing Infrastructure
Castlegregory	582	300	2.84	Overloaded
Aughacasla	200	None	None	No Existing Infrastructure
Annascaul	634	250	2.20	Overloaded
Boolteens	170	None	None	No Existing Infrastructure
Castlemaine	565	250	4.59	Overloaded
Cromane	200	None	None	No Existing Infrastructure
Glenbeigh	2,000	500	3.41	Overloaded
Chapeltown	300	None	None	No Existing Infrastructure
The Glen	75	None	None	No Existing Infrastructure
Caherdaniel	300	None	None	No Existing Infrastructure
Sneem	950	500	2.55	Overloaded
Kilgarvan	311	200	2.16	Overloaded
Glenflesk	100	None	None	No Existing Infrastructure
Ballybunnion	3,003	8,180	2.70	Commissioned 1992
Ballyheigue	832	4,534	23.20	Commissioned 2003
Cahersiveen	1,621	5,000	13.79	Commissioned 1995
Castleisland	4,353	6,000	11.30	Commissioned 1992 Preliminary Report prepared in 2001 proposing further expansion of networks and treatment.
Dingle	4,820	8,600	13.14	Commissioned 1995
Farranfore	167	550	1.99	Commissioned 2004
Kenmare	7,600	3,500	16.77	Commissioned 1995 Overloaded
Killarney/ Fossa	20,000	42,000	77.00	Upgraded 1998 Expansion required to accommodate expansion of town boundaries.
Killorglin	5,982	5,000	22.77	Commissioned 1995
Listowel	6,621	12,500	23.41	Commissioned 1987 Nutrient Reduction to be installed 2006
Rathmore	503	1,750	5.36	Constructed 1950's Upgraded 2001
Tralee	13,467	40,300	122.89	Commissioned 1998 Nutrient Reduction to be installed 2006
Ballydavid	136	150	0.75	Constructed 1970's. Septic Tank
Ballyferriter	544	500	4.00	Imhoff Tank, Overloaded

Settlement Name	Estimated Existing Agglomeration (P.E.)	Existing Infrastructure		
		Treatment Design Capacity (P.E.)	Approx. Networks Km.	Other Comment
Brosna	373	250	1.78	Imhoff Tank, Overloaded
Causeway	703	250	3.00	Imhoff Tank & Percolating Filters, Overloaded
Cloghane	276	none	0.3	No infrastructure Untreated discharge to Brandon Bay.
Duagh	348	250	1.40	Imhoff Tank, Overloaded
Dungeagan / Ballinskelligs	690	300	4.0	Septic Tank, Overloaded
Feohanagh	152	100	1.2	Septic Tank, Overloaded
Gneeveguilla	325	550	2.5	Extended Aeration System
Kilfenora	195	90	1.0	Septic Tank, Overloaded
Knightstown	795	800	4.5	Septic Tank
Knocknagoshel	294	200	2.0	Septic Tank, Overloaded
Moyvane (Newtown Sandes)	717	450	2.5	Imhoff Tank, Klargester, Sludge Vermicompostor, Overloaded
Murreagh	265	140	1.7	Septic Tank, Overloaded
Portmagee	382	140	1.4	Septic Tank, Overloaded
Rossbeigh	291	200	0.8	Septic Tank, Overloaded
Ventry	239	200	0.9	Septic Tank, Overloaded
Camp	<300	None	None	--
Castlecove	<150	None	None	--
Currans	<150	None	None	--
Dunquin	<300	None	None	--
Inch	<200	None	None	--
Kells	<200	None	None	--
Knockanure	<200	None	None	--
Lauragh	<200	None	None	--
Lispole	<200	None	None	--
Lisselton	<200	None	None	--
Templenoe	<150	None	None	--
Tuosist	<150	None	None	--
Ballyfinnane	<200	None	None	--
Ballyhar	<100	None	None	--
Ballymac/ Clogher	<300	None	None	--



Settlement Name	Estimated Existing Agglomeration (P.E.)	Existing Infrastructure		
		Treatment Design Capacity (P.E.)	Approx. Networks Km.	Other Comment
Bunane	<100	None	None	--
Cordal	<200	None	None	--
Faha/Listry	<150	None	None	--
Fahamore	<200	None	None	--
Glencar	<150	None	None	--
Kilgobnet	<200	None	None	--
Kilmoyley	<300	None	None	--
Lyrecrompane	<150	None	None	--
Mastergeehy	<150	None	None	--
Reenard	<200	None	None	--
Stradbally	<200	None	None	--
Tahilla	<150	None	None	

In July 2003 Kerry County Council published a Sludge Management Plan. The main objectives of the plan were to identify integrated sludge management options to facilitate the treatment of municipal sludge so as to produce a biosolid, to investigate the beneficial use of the biosolids, and to make recommendations for the sustainable management of all non-hazardous sludges and agricultural slurry in County Kerry. This plan will be updated to include for the additional settlements in County Kerry within the lifetime of this plan.

#### 9.2.6. Health Care in County Kerry

There are two acute hospitals in Kerry, Tralee General Hospital and Bon Secour Private Hospital in Tralee. Acute treatment for the mentally ill is provided in a unit in Tralee General Hospital. There are five community hospitals which are located in Kenmare, Killarney, Dingle, Caherciveen and Listowel.

The CSO 2006 census reports that 13% of the population in County Kerry is aged 65 years or older. This in medical terms is regarded as being the 'vulnerable age'.

Statistics provided by the Southern Health Board showed that the cause of death in over 50% of people in County Kerry is due to circulatory diseases while 21% are reported to have died from cancers. Suicide is the leading cause of death in young people in County Kerry.

A number of health projects were completed in Kerry in 2007 with total funding of over €1.4 m for capital projects in the County. Funding was allocated for the Kerry Local Health Office and Health Centre, Tralee and the Palliative Care Unit in Kerry General Hospital.

### 9.2.7. Childcare and Social Housing

Major improvements in County Kerry's education and training systems, social housing, childcare, roads and public transport, environmental protection, business innovation rural development and broadband provision have been achieved under the NDP 2002-2006.

Over €2.6 million was allocated to childcare services in 2006 with €8.6 m passing to social housing projects. €26 m was received for social housing construction in 2007. Funding of over €390,000 for voluntary housing was also provided for during 2007.

### 9.2.8. Transport and Infrastructure

Kerry County Council is responsible for 3.5% of the Country's National Primary, 12.6% of the National Secondary, 4.5% of the regional and 4.7% of the local road network.

The Kerry community transport programme provides services to rural communities in County Kerry. €1.8 m was allocated to refurbishment of the new Bus Eireann station in Tralee in 2007 and the Kerry County Enterprise Board was allocated €0.8 m funding in 2007 and 38 different projects were grant aided during this year

### 9.2.9. Existing Environmental Issues with Direct Health Impacts

Poor drinking quality may have a significant impact upon human health. This has been recognised by the EPA and Kerry County Council. The potential environmental problems associated with the lack of adequate wastewater treatment and water quality has been described in Chapter 7 of this report.

The low density of population in County Kerry and the low level of urbanisation in the County, accounts for a high dependency on road infrastructure. There is a need to continually improve the quality of the network to provide a stronger and more viable economic base for local development.

### 9.2.10. Evolution of Population and Human Health in the Absence of a CDP

In absence of a Development Plan there will be no organised framework for the provision of infrastructure and services in the county.

Poor water quality, lack of wastewater infrastructure and uncontrolled air emissions from waste facilities and industries would adversely impact on the environment and on the quality of life of the inhabitants in the County. The lack of infrastructure, sufficient housing, education, healthcare and employment opportunities would conflict with the principal aims of the Development Plan, to provide for an improved quality of life for inhabitants of the County.

### 9.3. Environmental Objectives for Population and Human Health

Table 9.4 outlines the environmental objectives, targets and indicators for environmental aspects population and human health. Other objectives relating to human health are contained within objectives for water, biodiversity and infrastructure as outlined in other chapters of this report.

**Table 9.4: Environmental Objectives, Targets and Indicators for Population and Human Health**

Population and Human Health Aspects (P)	Objectives (PO)	Targets	Indicators (PI)	Indicators Information Source
<b>P1 Population</b>	<b>PO1.1</b> Improve people's quality of life based on high quality living environments, working and recreational facilities	No significant deterioration in human health as a result of environmental factors.  Increase in the number of green spaces and amenities available to the public.  Provision of suitable accommodation for the increased population under the lifetime of this Plan	<b>PI1.1</b> Occurrence of any decline in human health around a particular area of the county.  Increase in the number of green spaces and amenities available to the public.  Employment rates over the lifetime of the Plan.	KCC
	<b>PO1.2</b> Implementation of the County Litter Management Plan 2007 and any subsequent plans.	No litter fines during the lifetime of the Plan.	<b>PI1.2</b> Number of litter fines issued.	KCC
<b>P2 Human health</b>	<b>PO2.1</b> Adhere to the County Emergency Plan and other objectives of relevance to human health.	No Remedial Action List (RAL) from the EPA notices  Maintain or improve levels of ambient SO <sub>2</sub> , NO <sub>x</sub> , and particulate matter as conducted by EPA monitoring.  Increase public amenities  Number of new civic amenity sites provided during the lifetime of the Plan	<b>PI2.1</b> Drinking water quality and number of RAL's and 'boil notices'  Maintaining or improving air quality in the study area  Availability of public transport  Provision of new civic amenity sites	KCC

Population and Human Health Aspects (P)	Objectives (PO)	Targets	Indicators (PI)	Indicators Information Source
<b>P3 Wastewater Infrastructure</b>	<b>PO3.1</b> Upgrading of existing wastewater treatment plant	Provision and upgrade to provide adequate wastewater infrastructure based on existing and forecasted population demands	<b>PI3.1</b> Completion of WWTP upgrades.	KCC

#### 9.4. Assessment of the Impacts of the Plan on Humans

An assessment of the impacts of the Development Plan on the environmental objectives contained in the Environmental Report is shown in the tables given in Appendix 1.

Chapter 2 (Settlement Strategy) of the draft Development Plan for County Kerry identifies the need to provide adequate infrastructure and services to both increase the critical mass in a settlement and to maintain a quality of life for people living in a settlement. The critical mass is defined as the size, concentration and characteristics of population that enable a range of facilities to be supported and which, in turn, can attract and support higher levels of economic activity. The success of the settlement strategy for the County is based on these factors. Objectives SS-1, SS-6, SS-9, SS-13, SS-14, SS-15 of the Development Plan and the remainder of the objectives contained in this section of the Plan have as their primary goal to achieve a critical mass and provide a good quality of life for the inhabitants of the settlements.

In chapter 5 of the Development Plan (employment and economy), the Council has a number of objectives for example ECO 5-4, ECO 5-7, ECO 5-22, ECO 5-23 and ECO 5-29 which clearly demonstrates its commitment to sustainable employment opportunities both in the urban and rural environments. The objectives given in this chapter will not conflict with any of the environmental objectives in the Environmental Report that deals with human health, for example objective PO1.1 which aims to improve peoples quality of life based on high quality living environments working and recreational facilities.

Tourism is a major employer in County Kerry and a big source of income into the area. The objectives given in the tourism chapter (Chapter 6) of the Development Plan aims to protect and enhance tourism in the County. Objective T6-5 commits the County Council to promoting sustainable tourism and eco-tourism. Objective T6-21 aims to avoid impacts on visually sensitive areas, Natural Heritage Areas, Special Areas of Conservation and Special Protection Areas. Objective T6-41 recognises the importance to the County of securing a designation of a UNESCO Heritage Site for The Great Blasket Island. Overall the objectives given in Chapter 6 of the Plan will not conflict with any of the environmental objectives that deal with environmental protection and landscape given in the Environmental Report and will protect tourism, employment in the tourism industry and have a long-term positive benefit to people living in the county.

To assist in achieving the overall goals of sustainable settlement patterns in the County, Chapter 7 of the Development Plan (Natural Resources) contains a number of objectives to encourage renewable energy use. (Objectives NR 7-25 and NR 7-26). These objectives will have a two-fold effect as a move away from fossil fuels will assist in improving air quality and health of people living in County Kerry. The use of renewable energy will also assist Ireland in meeting the Kyoto Protocol limits. Objectives NR7-1 to NR 7-10 specifically addresses the use of natural resources for the winning of construction materials. Unless properly managed, quarrying may cause nuisances to nearby residents. This would conflict with the environmental objectives in the Environmental Report relating to the provision of good air quality and good quality of life for people living in the County. Strict planning controls and compliance monitoring would in the long-term ensure that any nuisances arising from quarrying operations would be negated.

Chapter 8 of the Plan examines infrastructure with objectives INT 8-1 to INT 8-36 relating to transportation. These objectives support the requirement of relevant transportation linkages between settlements with the overall aim of achieving development and economic prosperity for the County. The objectives aim to provide new or improved transportation networks around Kerry. This, in the long-term, will provide benefit to both people and the economy of the county. However, short-term temporary negative impacts on humans, water and biodiversity will arise during construction. An Bord Pleanála in the grant of planning should ensure that mitigation measures are put in place to remedy these impacts. Objectives INF 8-42 to INF 8-47 deals with the provision of adequate waste management/recycling facilities throughout the County. The facilities are/will be licenced by the EPA or permitted by the local authority which will ensure that environmental impacts from operations is minimised. The correct management of these facilities will not conflict with the environmental objectives given in the Environmental Report.

Objectives INF 8-48 to INF 8-56 deal with the Councils objectives regarding water and wastewater treatment. The Council recognises the need to protect water sources (Objectives INF 8-52 and EN 11-16) and Objective INF 8-53 aims to minimise leakages and wastage within water supply networks and to promote water saving sanitary appliances. Compliance with these objectives will strengthen the environmental objectives PO3.1, WO1.1 (Improve the quality of surface water) and objective WO3.1 (Improve drinking water) given in the Environmental Report.

Kerry County Council currently operates 42 no. wastewater schemes. The wastewater treatment plants of Tralee, Killarney and Listowel are operated by Kerry County Council. The Urban Waste Water Treatment Regulations 1994, the Waste Water Discharge (Authorisation) Regulations 2007 and the Water Services Act 2007, provides a framework for dealing with untreated discharges to watercourses. The regulations require local authorities to provide adequate treatment facilities for all towns and villages which have an existing sewerage system. Kerry County Council will apply for wastewater discharge licences and permits for existing plants over 500 P.E. and will provide new/upgraded facilities to meet the requirements of the licence/permit conditions. The Council proposes to provide new schemes in selected prioritised villages. The implementation INF 8-54 (Provision of wastewater facilities) will ensure that environmental objectives WO1.1 (Improve or maintain the quality of surface water), WO2.1 (Maintain groundwater quality), WO7.1 (maintain Blue Flag status), WO8.1 (Meet the requirements of the WFD for transitional and coastal waters), BO1.1 (Conserve protected habitats and species) and PO3.1 (Upgrade of existing wastewater treatment plants) are achieved.

Construction or upgrades of water and wastewater treatment plants will have a short-term negative impact on people/environment but in the long-term it will provide much needed infrastructure for the County. In the event that adequate wastewater treatment is not provided for the projected increase in population, then a negative long-term impact on the environment, particularly water, could be expected. Water quality in some rivers and lakes has been declining and will continue to decline unless appropriate wastewater treatment plants are provided. Insufficient treatment for cryptosporidium from drinking water supplies could have serious repercussions for the County and its inhabitants and would conflict with environmental objectives PO2.1 and WO3.1 (Improve drinking water quality).

The objectives given in Chapter 9 (Social, Community, Amenity and the Gaeltacht) will afford positive long-term benefits to people living in County Kerry. There are objectives to provide for childcare facilities (Objective SG 9-12), active recreational facilities (Objective SG 9-16) for young people and health care centres and day care centres for older people (SG 9-7). All of these objectives will help to improve the quality of life in County Kerry.

The section of the draft Development Plan on built heritage (Chapter 10) contains objectives to protect the built heritage of the County and provide it as an amenity for residents. This will have a positive long-term impact on people living in Kerry.

Chapter 11 (The Natural Environment) of the Development Plan has as its main objective to maintain the quality of the environment in County Kerry (Objective EN 11-1). Other sections of this Environmental Report assess the impact of the Development Plan on water and biodiversity (Chapters 7 and 8 respectively). The realisation of these objectives will have a consequential positive long-term impact on the inhabitants of the County. Similarly the zoning and landscape (Chapter 13) will be protected with the provisions of objectives ZL 12-1 to ZL 12-7. The implementation of these objectives in the Development Plan will strengthen the environmental objectives for the protection of landscapes as given in the Environmental Report (LO1.1 and LO2.1).

The chapter on urban design and development management (Chapter 13) contains the objective to ensure that high quality urban environments are provided in each one of the settlements in the County.

To summarise, the impacts of the Development Plan on the inhabitants of the County are positive. The Council realises the importance of protecting the environment and has set objectives to ensure this. These objectives will achieve the overall objective to provide an improved quality of life for all the citizens. However, in the event that adequate infrastructure is not put in place, for example water and wastewater treatment plants, then significant long-term negative impacts may arise. The extent of significance of the impact will be dependant upon a number of factors including the location and duration of discharges to a water body. Discharges of untreated wastewater to the environment will be in conflict with a number of the environmental objectives for water and biodiversity given in the Environmental Report.

### **9.5. Mitigation Measures to Reduce/Eliminate the Effects of the Plan on Humans**

The review of the Development Plan found that there are sufficient planning controls and guidelines to adequately protect the environment and to provide a good quality of life for people living in the County. Consequently no specific mitigation measures are required to be included in the Environmental Report. The provision of clean drinking water, adequate wastewater treatment plants, schools and amenities for the public will help to achieve the critical mass required for the hubs and functional areas.

Planning applications particularly for residential developments must provide good quality drinking water and adequate wastewater treatment for the inhabitants. Drinking water quality in County Kerry is not satisfactory and a number of treatment measures need to be put in place at existing water treatment plants to avoid an outbreak of cryptosporidium. The Drinking Water Quality Unit in Kerry County Council prepared a programme of works to address the RALs for the drinking water treatment plants in the County. A chlorine oxide plant will be installed at Lough Guitane water treatment plant later on in 2008.

The findings of the assessment of the impacts of the Plan on water has shown that many of the rivers and lakes within the County are at risk of not achieving good water status by 2015. Diffuse sources of pollution and some point sources of pollution have been identified as being the main pressures on these water bodies. The provision of new or upgrading of existing plants is a requirement to help improve water quality and in the long-term provide pollution free water in the County.

The NDP allocated funds under the water services investment programme 2007-2009 to upgrade and expand water treatment capacity, improve drinking water quality and supply and improve and expand wastewater treatment in County Kerry. €122 m was made available for these projects. Projects to benefit under this funding include the Caherciveen water supply scheme, the Lough Lane catchment sewerage scheme, the North Ardfert water supply scheme and the Waterville water supply and sewerage scheme.

### **9.6. Monitoring Programme for Humans**

The monitoring programme for populations and human health indicators are shown in Table 9.5.

**Table 9.5: Population and Human Health Indicator Monitoring Programme**

POPULATION AND HUMAN HEALTH						
Environmental Objective		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
<b>P1 Population</b>	<b>PO1.1</b> Improve people's quality of life based on high quality living environments, working and recreational facilities	<b>PI1.1</b> Occurrence of any decline in human health around a particular area of the county.  Increase in the number of green spaces and amenities available to the public.  Employment rates over the lifetime of the Plan.	KCC	Review during the lifetime of the Plan.	No significant deterioration in human health as a result of environmental factors.  Increase in the number of green spaces and amenities available to the public.  Provision of suitable accommodation for the increased population under the lifetime of this Plan	Investigate source of problem.
	<b>PO1.2</b> Implementation of the County Litter Management Plan 2007 and any subsequent plans.	<b>PI1.2</b> Number of litter fines issued.	KCC	Review during the lifetime of the Plan.	No litter fines during the lifetime of the Plan.	



POPULATION AND HUMAN HEALTH						
Environmental Objective		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
<b>P2 Human health</b>	<b>PO2.1</b> Adhere to the County Emergency Plan and other objectives of relevance to human health.	<b>PI2.1</b> Drinking water quality and number of RAL's and 'boil notices'  Maintaining or improving air quality in the study area  Availability of public transport  Provision of new civic amenity sites	KCC	Review during the lifetime of the Plan.	No Remedial Action List (RAL) from the EPA notices  Maintain or improve levels of ambient SO <sub>2</sub> , NO <sub>x</sub> and particulate matter as conducted by EPA monitoring.  Increase public amenities  Number of new civic amenity sites provided during the lifetime of the Plan	-
<b>P3 Wastewater Infrastructure</b>	<b>PO3.1</b> Upgrading of existing wastewater treatment plant	<b>PI3.1</b> Completion of WWTP upgrades.	KCC	Review during the lifetime of the Plan.	Provision and upgrade to provide adequate wastewater infrastructure based on existing and forecasted population demands	



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## 10.IMPACT ASSESSMENT OF THE COUNTY DEVELOPMENT PLAN ON MATERIAL ASSETS

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### 10.1. Introduction

For the purposes of this section of the Environmental Report material assets are resources considered of value and intrinsic to specific places. Material assets as per *Advice Notes on Current Practice*, (EPA, 2003) can be segregated into the following headings;

- Economic assets of natural origin- renewable and non-renewable assets
- Economic assets of human origin – settlements, transport infrastructure, utilities
- Cultural assets of a physical type – archaeology, architecture, monuments
- Cultural assets of a social type – language, dialect, literary and artistic association.

For the purpose of this report, economic assets will be considered in this chapter and cultural assets will be considered in Chapter 11.

### 10.2. Baseline Assessment

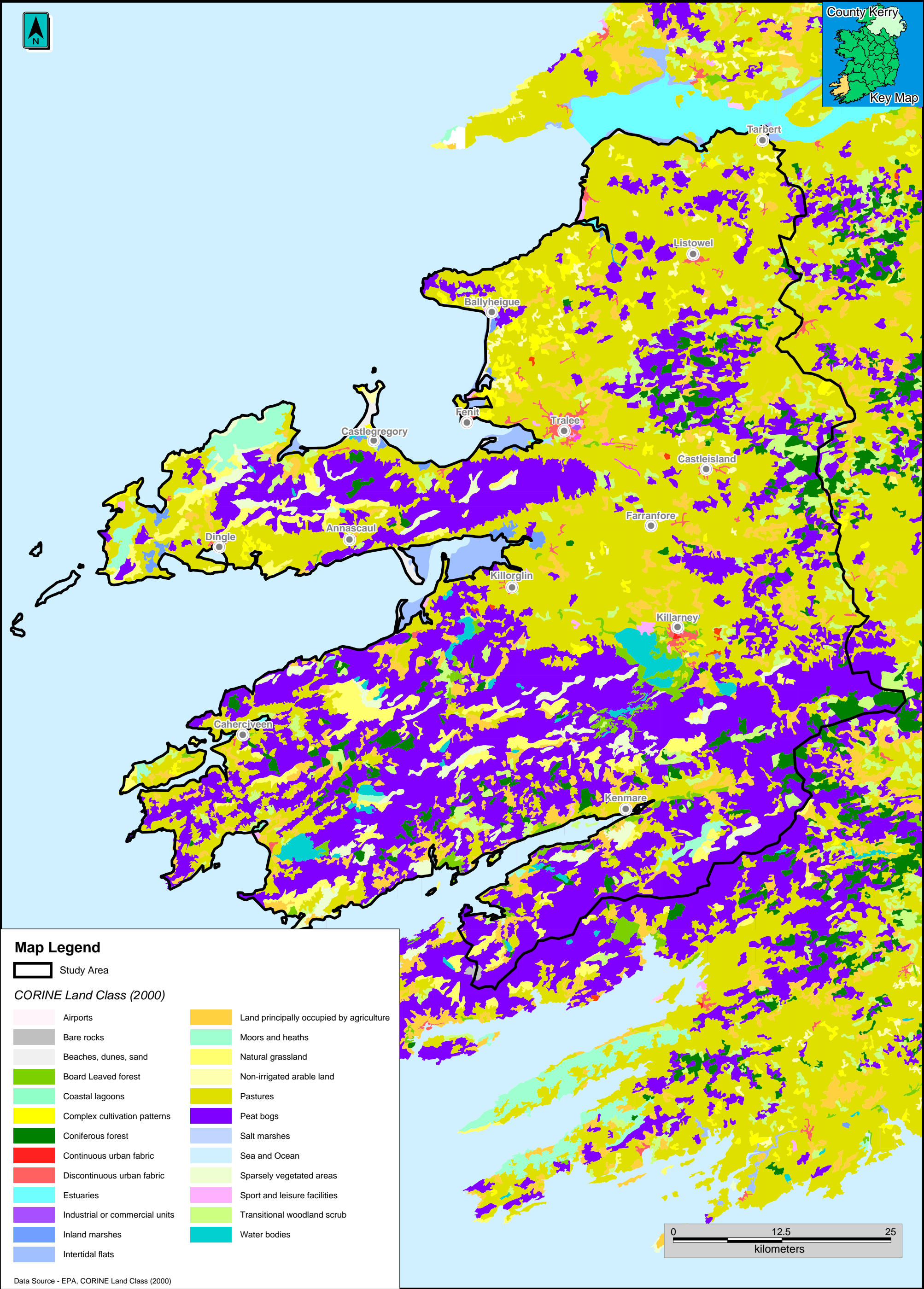
The study area occupies an area of 1,815 sq. miles. The current land use is predominantly agricultural and peat bog. Areas in the west and south west of the County are dotted with coniferous forest while areas to the north west (west of Castlegregory) is made up of moors and heaths. The Corine dataset for County Kerry is presented in Figure 10.1.

#### 10.2.1. Economic Assets of Natural Origin

##### *Non-Renewable Resources*

##### Extractive Industry

Kerry County Council has completed the quarry registration under Section 261 of Planning and Development Act 2000. There are 102 no. quarries registered under Section 261, in addition to those that have been granted planning since April 1999.



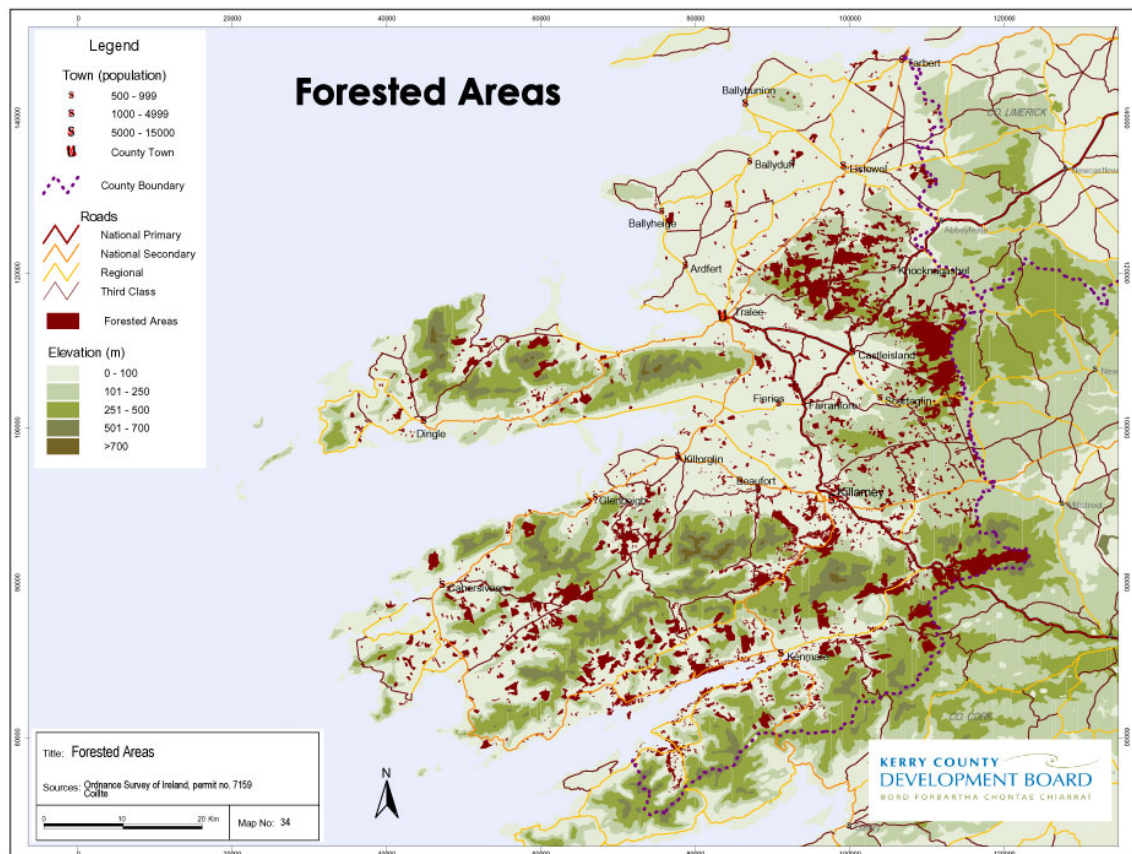
## Renewable Resources

### Forestry

11.5% of County Kerry is under forest with 1,300 individuals receiving farm forestry supports, 34,000 Ha as private forest and 19,085 Ha as public forest. The Kerry County Development Board produced a drawing identifying the main areas of forestry in the County. This is presented in Figure 10.2.

The National Strategic Plan for Forestry (Road Map for 2015, Teagasc) has a target to expand forestry to 17% of the land area. Most new planting will be on farmer-owned land and broadleaf will comprise 30% of new planting.

**Figure 10.2: Forested Areas in County Kerry**



Coillte has 18,942 Ha of forest planted in Kerry with an additional 1,191 Ha of plantable reserve. Coillte has provided their tree species breakdown in their holdings in County Kerry with 83% of the net area planted with Sitka Spruce.

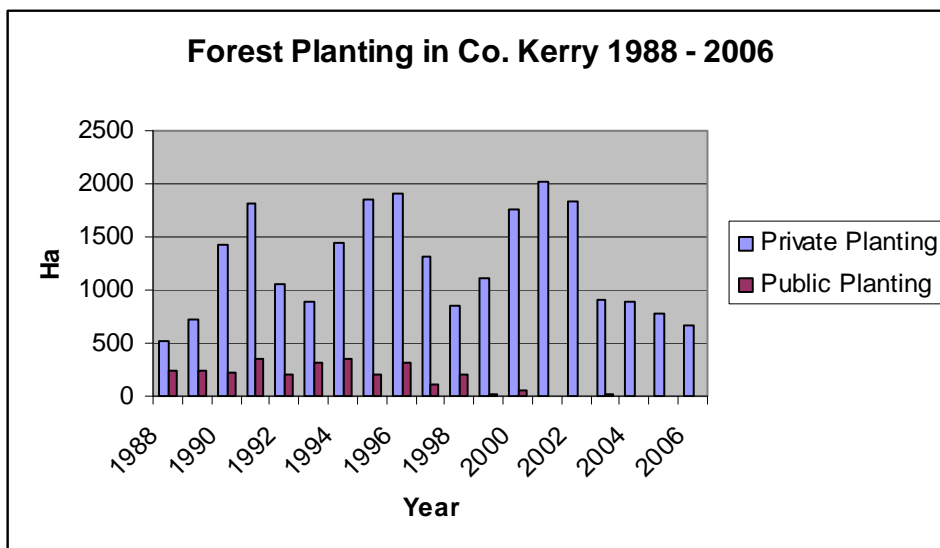
**Table 10.1: Coillte Forest Reserves, County Kerry**

Land Use Type	Gross Area (ha)	Land Use Type	Gross Area (ha)
Broadleaf High Forest	336	Bare Plantable	963
Conifer High Forest	17,926	Blown	43
High Mixed Forest	275	Burned	90
Scrub	113	Felled	95
Undeveloped	294	Deadwood	1
<b>Total Forested Area</b>	<b>18,942</b>	<b>Total Plantable Reserve</b>	<b>1,191</b>
Bare Unplantable	1,555		
Bare Marginal	397		
Miscellaneous	4		
Swamp	29		
Water	43		
Total Unplantable Reserve	2,029		
<b>Total</b>	<b>22,162</b>		

**Table 10.2: Coillte Species Planting in County Kerry**

Species	Net Area (ha)
Sitka spruce	13,541
Norway spruce	85
Lodgepole pine	1,412
Douglas fir	53
Larches	398
Scots pine	119
Other conifers	157
Broadleaf	572
Total	16,338

Current data from the Forest Service shows that private forest planting has not occurred in County Kerry since 2000. Public planting has also declined from 2000. This data is shown in Figure 10.3.

**Figure 10.3: Forest Planting in County Kerry, Forest Service**

Source: Forest Service, Department of Agriculture, Fisheries and Food, 2007

**Table 10.3: Annual Afforestation by Full-Time and Part-Time Farmers and Private Afforestation, 1990 – 2004, Number of holdings and acreage**

	Full Time Farmer		Part-Time Farmer		Private Afforestation (Non-farmer)	
	No.	Ha	No.	Ha	No.	Ha
1990	64	625	0	0	36	824
1991	145	1493	0	0	29	328
1992	40	507	10	122	13	423
1993	72	550	29	312	5	23
1994	76	606	29	441	35	397
1995	94	1196	56	581	17	81
1996	87	1140	41	539	18	226
1997	74	912	22	322	15	78
1998	65	629	13	99	7	115
1999	69	735	29	335	9	36
2000	99	1198	28	427	13	142
2001	114	1410	36	508	3	16
2002	110	1055	44	644	12	126
2003	57	473	29	413	5	28
2004	69	627	27	232	7	33

Source: Forest Service, Department of Agriculture, Fisheries and Food, 2007



Coillte has prepared Forest Management Plans for the following forests under their jurisdiction in County Kerry;

- Ballylongford
- Cashen River
- Stack Mountains
- Brosna
- Cordal
- Castleisland
- Castlegregory
- Anascaul
- Killorglin
- Iveragh
- Sneem
- Blackwater
- Killarney
- Kilgarvan
- Clydagh

### Hydroelectric

Kerry County Council operates a 250 KW hydroelectric station at Lough Guitane since 2001. There are two privately owned hydroelectric stations at Cottoners and Sheen Falls, 1.2 MW and 0.6 MW respectively. There is also a privately owned hydroelectric station at Glencar.

### Wind Energy

There are eight privately owned wind farms operating in the County and these are as follows;

- Beale Windfarm, Ballybunion, Co. Kerry, 2.64 MW
- Beale Windfarm, Ballybunion, Co. Kerry 1.65 MW
- Beenageeha Windfarm, Tralee, Co. Kerry, 3.96 MW
- Tursillagh Windfarm, Co. Kerry, 6.8 MW
- Tursillagh Windfarm, Co. Kerry, 15.2 MW
- Mount Eagle Windfarm, Castleisland, Co. Kerry, 5.1 MW
- Coomagearlahy Windfarm, Kilgarvan, Co. Kerry, 42.5 MW
- Glanlee Windfarm, Co. Kerry, 29.8 MW

### Water Berthage

Fenit Harbour located near Tralee is a regional harbour with capability of handling 17,000 tonne ships. The 2004 South West Regional Planning Guidelines identified Fenit Harbour as a harbour of strategic importance for both the local fishing industry and a transshipment facility for County Kerry. The rail link to the harbour was closed in the 1970's.

Dingle Harbour is one of Ireland's secondary fishing ports and considered under the 2004 South West Regional Planning Guidelines as an *"important element of the regional maritime infrastructure and an important fishing port"*. A strategic plan was completed by the Dingle Harbour Commissioners in 2004 for the development of the harbour for use in fisheries, anglers and other tourists.



### 10.2.2. Economic Assets of Human Origin

#### *Settlements*

County Kerry has two large towns, Tralee and Killarney, 42,875 population (town, urban, environs and rural) and 27,950 population (town, urban environs and rural) in 2006 respectively. The next largest settlements are as follows with the 2006 census populations in brackets;

- Listowel (3,901)
- Castleisland (2,300)
- An Daingean (3,695)
- Kenmare (1,701)
- Killorglin (1,627)
- Ballybunion (1,329)
- Cahirciveen (1,272)

#### *Transportation Infrastructure*

##### Roads

The major towns in County Kerry are connected to major cities in Ireland by National primary roads. The main roads are as follows:

- N22 Tralee – Killarney – Cork
- N71 Killarney – West Cork
- N70 Ring of Kerry (Kenmare – Waterville – Caherciveen – Kilorglin – Tralee)
- N86 Tralee – Dingle
- N21 and N69 Tralee – Limerick

As part of the National Development Plan, almost €148 million was invested in non-national roads in Kerry between 2000 and 2006. The funding was designated for work on projects such as the Tralee Western Link, Listowel – Abbeyfeale, Castlemaine – Annascaul and Whitebridge – Killarney roads.

##### Railways and Bus Services

There are nine daily return trains to Cork from Tralee and Killarney. There are a further nine daily return trains to Dublin but commuters have to change in Mallow to avail of the Cork to Dublin line.

Bus Eireann operates several Expressway and local services in Kerry. These are illustrated in Figure 10.4.

**Figure 10.4: Bus Routes in County Kerry (Adapted from Bus Éireann Route Map)**

### Airports

Kerry has a regional airport located at Farranfore, operating since 1989. This airport operates services by Aer Arann and Ryanair to Dublin, Manchester, Lorient, Frankfurt, London (Luton and Stansted) and Majorca.

### Major Utilities

### Water Supply Infrastructure

Water supply infrastructure is discussed in Chapter 9.

### Power Supply

County Kerry currently has eight licensed electricity generation plants and three proposed plants. The principle plant is the ESB power station at Tarbert, which burns

heavy fuel oil and residual fuel oil and has a generating capacity of 632 MW. This station has been in operation since 1969 and has four turbines to generate power.

There is a relatively poor network of power lines throughout the County with only one 220 KV line of note which is located along the Kerry - Cork border but does not connect to any of the main urban areas. All the main urban areas are serviced by 110 KV power lines with the exception of Dingle which is serviced by a 38 KV power line. Most modern large-scale industries require a 220KV line as a minimum requirement for site selection. This may present some difficulties for Co. Kerry in attracting larger industries with high energy requirements.

### Broadband Infrastructure

Under the Regional Broadband Strategy and grant aided by the National Development Fund 2000 – 2006 and the European Regional Development Fund, six towns in County Kerry are included in Phase 2 of the Regional Broadband Programme, namely, Tralee, Kilarney, Listowel, Castleisland, Dingle and Kenmare.

Tralee, Kilarney and Listowel were provided with fibre based broadband networks, Dingle, Kenmare and Castleisland are being provided with local wireless broadband. To date, Castleisland has been completed.

### *Waste Management Infrastructure*

There are eight waste licence facilities operating within the county. These are shown in Table 10.4.

**Table 10.4: Waste Licensed Facilities**

Facility	Waste Licence No.	Name
Listowel Civic Amenity	W0224-01	Kerry County Council
North Kerry Landfill Site	W0001-03	Kerry County Council
Dingle Civic Amenity Site	W0225-01	Kerry County Council
Milltown Waste Transfer Station	W0069-01	Kerry County Council
Caherciveen Waste Transfer Station	W0087-01	Kerry County Council
Kenmare Transfer Station	W0086-01	Kerry County Council
Coolcaslagh Transfer Station	W0072-01	Kerry County Council
Killarney Waste Disposal Limited	W0217-01	Killarney Waste Disposal Limited

County Kerry is serviced by one large engineered landfill site at Munignaminane outside Tralee. This landfill is licensed by the EPA to handle 75,000 tonnes of municipal solid waste per annum. The Council is also licensed by the EPA for four transfer stations and two civic amenity facilities. The Dingle and Listowel civic amenity sites have yet to open. Killarney Waste Disposal Limited operates an industrial composting site at Aughacurreen, Killarney.

There are bring banks at Tralee (ten banks), Killarney (six banks) and Listowel (one bank).

Refuse collection is conducted by both Kerry Local Authorities and private contractors. Kerry County Council, Tralee Town Council, Killarney Town Council and Listowel Town Council operate with a 2007 customer base of 15,861. South West Bins, Dillon Waste, Higgins Waste and KWD operate private waste collections with a 2006 customer base of 10,827. 2007 data is not available for the private waste operators.

The targets for the Kerry/ Limerick/ Clare Regional Revised Waste Management Plan 2006 – 2011 are;

- 45% recycling
- 41% thermal treatment (contaminated dry recyclables)
- 14% landfill

2006 recycling rates for County Kerry are 23.6%. Landfill and thermal treatment rates are not available.

#### *Wastewater Infrastructure*

Wastewater infrastructure is discussed in Chapter 8.

#### 10.2.3. Evolution of material assets in the absence of a Development Plan

In the absence of a Development Plan, there would be environmental pressures on extraction of non-renewable assets such as quarried stone and peat. Environmental pressures from the implementation of renewable assets such as drainage from wind farm developments and change in river flows from hydroelectric projects would be unchecked.

The Development Plan has identified preferred areas for renewable energy projects where the predicted environmental impacts would not be significant. The Plan will also ensure sustainable development of necessary infrastructure such as the provision of public transport, waste infrastructure, energy and telecommunications infrastructure for the predicted population increases throughout the County. In the absence of a Plan, unplanned development would not have the necessary infrastructure to provide adequate environmental mitigation. In this case, the receptors, population and habitats, would suffer.

#### 10.2.4. Information Gaps

There was no available information on commercial peat extraction and historical trends of this extraction for the County.

### 10.3. Development of Environmental Objectives, Targets and Indicators for Material Assets

The following section of the Environmental Report sets out the environmental objectives, targets and indicators for material assets. The determination of the set of environmental objectives used in this report has been informed by the baseline assessment and the scoping process. However, it should be noted that the final set is also influenced by the availability of existing and relevant indicators, current monitoring programmes and the scale of application.

In this section, material assets are both economic natural assets and economic man-made assets.

Transport, sustainable waste management and energy supplies are considered the most critical of material assets for the County. The impact of non-renewable resources such as quarrying and renewable resources such as wind farm development on environmental receptors such as water and air are considered.

**Table 10.5: Environmental Objectives, Targets and Indicators for Material Assets**

Material Assets Aspect (W)	Objective (MAO)	Targets	Indicators (WI)	Indicator Information Source
<b>MA1 Transportation</b>	<b>MAO1.1</b> Development of a sustainable transportation infrastructure which reduces the need for travel and journey length	Reduce the number of private vehicles on the road.  Increase use of public transport.	<b>MAI1.1</b> Number of private cars on road as a percentage of AADT.	KCC  NRA
<b>MA2 Waste Management</b>	<b>MAO2.1</b> Minimise waste production and introduce sustainable waste management practices	A reduction in the quantities of waste sent to landfill  Increase in the quantities of waste sent for recycling  Increase in the number of bring banks provided for in the County	<b>MAI2.1</b> Quantity of household waste sent to landfill  Quantity of household waste sent for recycling  The number of bring banks provided for in the County.	KCC  EPA

Material Assets Aspect (W)	Objective (MAO)	Targets	Indicators (WI)	Indicator Information Source
<b>MA3 Renewable Energy</b>	<b>MAO3.1</b> Use of renewable energy technology for projected power requirements over the lifetime of the Plan	Encourage use of renewable energy for domestic and small businesses.  Use of renewable energy to supply National Grid where applicable	<b>MAI3.1</b> Number and type of renewable energy technologies employed in new developments	KCC

#### 10.4. Assessment of the Likely Significant Effects of the Plan on Material Assets

The objective of this section of this chapter is to determine the “likely significant” effects of the Development Plan on the environment. The assessment methodology adopted here is based on the criteria listed in Chapter 5. The environmental objectives for material assets (given in Table 10.5 **Error! Reference source not found.**) are individually assessed against the Plan objectives.

The full assessment is given in Appendix 1 of this report and the findings are summarised below.

The proposed settlement strategy of the draft Development Plan is driven by the provision of sustainable settlements using the Tralee Killarney Hub as a focal point for economy with sustainable transport links for the towns and smaller settlements. The objectives are focused on creating sustainable settlements on a large and small scale throughout the County and improved transport facilities and linkages (objectives SS-20 and SS-21).

These objectives are positive for generating a more improved transport infrastructure especially for smaller settlements where private vehicles would be a necessity. The objectives would however have a long term negative impact on air quality because of the increased volume of traffic generated in relation the Tralee Killarney Hub development (objectives SS-2 and SS-13). Traffic on the existing infrastructure in developing the smaller settlements (objective SS-18) will also increase. Where improvements in infrastructure require new roads, the visual impact will be long-term and negative and may impact on the character of parts of settlements (objectives SS-24 and SS-30).

When considering telecommunications and utilities infrastructure, the impacts of the settlement objectives would, in general, be long-term and positive. The provision of greater utilities and telecommunications would encourage population of smaller settlements from the larger towns and in the long term help to attract new industries to a settlement. This would help to achieve the overall goals of the Plan which aims to improve the quality of life and economic sustainability for the County.

The housing strategy put forward in the Development Plan will not impact on material assets in the County. Indirectly and though the settlement strategy, improvements in utilities, telecommunications and transport infrastructure are required to create attractive settlements in which to build accommodation.

With respect to material assets, economic objectives will drive the improvement of transport, utilities and telecommunications infrastructure while being mindful of adverse environmental impacts. Objective 5-64 includes for the provision of renewable energy technology and waste minimisation in proposed commercial and industrial developments in the lifetime of the Plan.

There is a potential negative environmental implication from the encouragement of the extractive industry (objective NR 7-5). However objective NR 7-6 aims to protect the environment from the extractive industry. Although there are no objectives in the SEA relating to forest, there are positive objectives contained within the Development Plan in relation to sustainable forestry. Objectives N 7-21 to N 7-37 aims to promote the use of renewable energy such as solar, wind energy and hydroelectricity during the lifetime of the Plan. This will have a long term positive impact on ambient air quality and a reduction in greenhouse gas emissions.

Objectives INF8-1 to INF8-21 aims to achieve a better transport infrastructure with improvement and development of the road network through the County. Additional objectives allow for the creation and upgrade of pedestrian and cycle routes promoting the use of non-car travel. The provision of non-vehicular routes will ensure that vehicular air emissions will diminish and air quality will, in the long term, improve. This will be in compliance with environmental objective, ACO1.1 (Minimise greenhouse gas emissions) and ACO2.1 (Improvement in ambient air quality).

INF8-42 and INF8-44 encourage the use of more sustainable waste management practices with diversion of waste from landfill. Additional objectives are incorporated to provide for waste recycling and recovery. With the exception of objectives INF8-1 to INF8-21 (better transport infrastructure) the remaining objectives in this section of the Development Plan seeks to provide for sustainable waste management practices and encourage the use of non-vehicular forms of transport. These objectives will be in accordance with environmental objective MAO2.1 (Minimise waste production) given in the Environmental Report.

Objectives EN11-2 and EN11-5 are general objectives to counter climate change and develop the County in an environmentally sustainable manner. These objectives would positively impact on the material asset objectives for more sustainable transport, waste management and energy generation.

## **10.5. Mitigation Measures to Reduce/Eliminate the effects of the Plan on Material Assets**

Mitigation measures are required to eliminate/remediate/reduce significant negative environmental impacts.

There were no significant long term adverse impacts noted for material assets except for the development of the Killarney Tralee hub and the impact on the transport infrastructure in the area of development. Policy measures are being taken to develop a more sustainable transport infrastructure such as the development of cycleways, pedestrian walkways and public transport. Mitigation of traffic congestion around the Tralee/Killarney hub should be foremost when reviewing proposed development especially those providing employment which would encourage the greatest amount of “rush hour” traffic.

## **10.6. Monitoring Programme for Material Assets**

A monitoring programme allows the actual impacts of the Plan to be tested against those that were predicted. It allows major problems to be identified and dealt with in a timely fashion, and environmental baseline information to be gathered for future plan reviews.

Monitoring is carried out by reporting on the set of indicators and targets drawn up previously and used to describe future trends in the baseline, which enable positive and negative impact on the environment to be measured. Kerry County Council will be responsible for the implementation of the monitoring programme in relation to the material assets in the County Development Plan.



**Table 10.6: Monitoring Programme for Material Assets**

MATERIAL ASSETS						
Environmental Objective		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
MAO1.1	Development of a sustainable transportation infrastructure which reduces the need for travel and journey length	An Integrated Land Use and Transportation Plan	KCC	Review during the lifetime of the plan.	Increased use in public transport.  Greater number of pedestrian and cycle routes.  Assessment of traffic impact in planning applications especially those concerning the Killarney Tralee Hub.	-
MAO2.1	Minimise waste production and introduce sustainable waste management practices	Quantity of household waste sent to landfill  Quantity of household waste sent for recycling  Number of bring banks provided for the population in the county	KCC	Review during the lifetime of the plan.	Reduction in the quantities of waste sent to landfill.  Increase in the quantities of waste sent for recycling.  Increase in the number of bring banks provided for the population in the county to 1 bank per 1,000 population	-
MAO3.1	Use of renewable energy technology for projected power requirements over the lifetime of the Plan	Number and type of renewable energy technologies employed in new developments and under county energy developments	KCC	Review during the lifetime of the plan.	Number of renewable energy projected developed over the lifetime of the plan.  Percentage of energy supplied to the national grid generated by renewable energy.	-



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## 11. THE IMPACTS OF THE PLAN ON CULTURAL ASSETS

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### 11.1. Introduction

In this section of the Environmental Report cultural assets includes settlements, monuments, features and historical sites in the County as well as the social type of cultural assets such as language and dialects, literary and artistic association.

Kerry County Council has a Heritage and Biodiversity Plan covering the period 2008 to 2012. The main aims of this plan are to promote heritage and to support community based projects which aim to raise awareness regarding cultural heritage and assets within the County.

### 11.2. Baseline Assessment for Cultural Assets in County Kerry

County Kerry has a rich and living cultural heritage. It comprises sports, language, the arts and the sciences.

The Council launched the Kerry Arts Plan to cover the period of 2007-2012. The plan focuses on developing the arts service of the local authority and focuses on a number of strategic objectives including the fostering of arts practice, providing strengthening support for artists, negotiating key strategic partners and provision of arts funding in the County.

The Gaeltachts cover extensive areas in both Dingle and the Iveragh Peninsula and constitutes an important part of the linguistic, social and cultural tradition of the County. Traditional ways, writing, music and folklore are important features of these areas. A Great Blasket Island Management Plan was prepared in September 2004 which aims to preserve the literary and historical traditions on the islands.

There are a large number of listed archaeological sites and monuments that are under varying degrees of protection and preservation in County Kerry. These include:

- 58 archaeological monuments and sites in State ownership (Appendix 1(a) of Development Plan)
- 13 archaeological monuments and sites in State guardianship (Appendix 1(b) of Development Plan)
- 29 archaeological monuments and sites subject to temporary preservation orders (Appendix 1(c) of Development Plan)
- 135 archaeological monuments and sites subject to registration. (Appendix 1(d) of Development Plan)

Appendix 2(a) of the Development Plan lists the Record of Protected Structures recommended by the Department of Environment, Heritage and Local Government.

The Council has also listed 13 locations (Appendix 3 of the Development Plan) which are pending designation as Archaeological Conservation Areas (ACA's) in accordance with section (10)(2)(g) of the Planning and Development Act. These include a number of towns, villages and small villages within the County.

Figure 11.1 presents the distribution of cultural heritage sites in County Kerry.

#### 11.2.1. Existing Problems with Cultural Assets

Significant development pressures are being realised in the Gaeltacht areas. The in migration of non Irish speakers may affect the viability of the Irish language. Attracting industry to Gaeltacht areas is also presenting challenges due to their peripherality, the lack of essential services and the difficulty in obtaining a labour force. The increased seasonal tourist trade to the Gaeltacht areas poses significant difficulties particularly with regards to the provision of drinking water and wastewater treatment.

The archaeological and architectural heritage of County Kerry is afforded protection through legislation. However, due to the presence of cultural heritage sites throughout the County, pressures may arise from developments in the hub and primary functional areas.

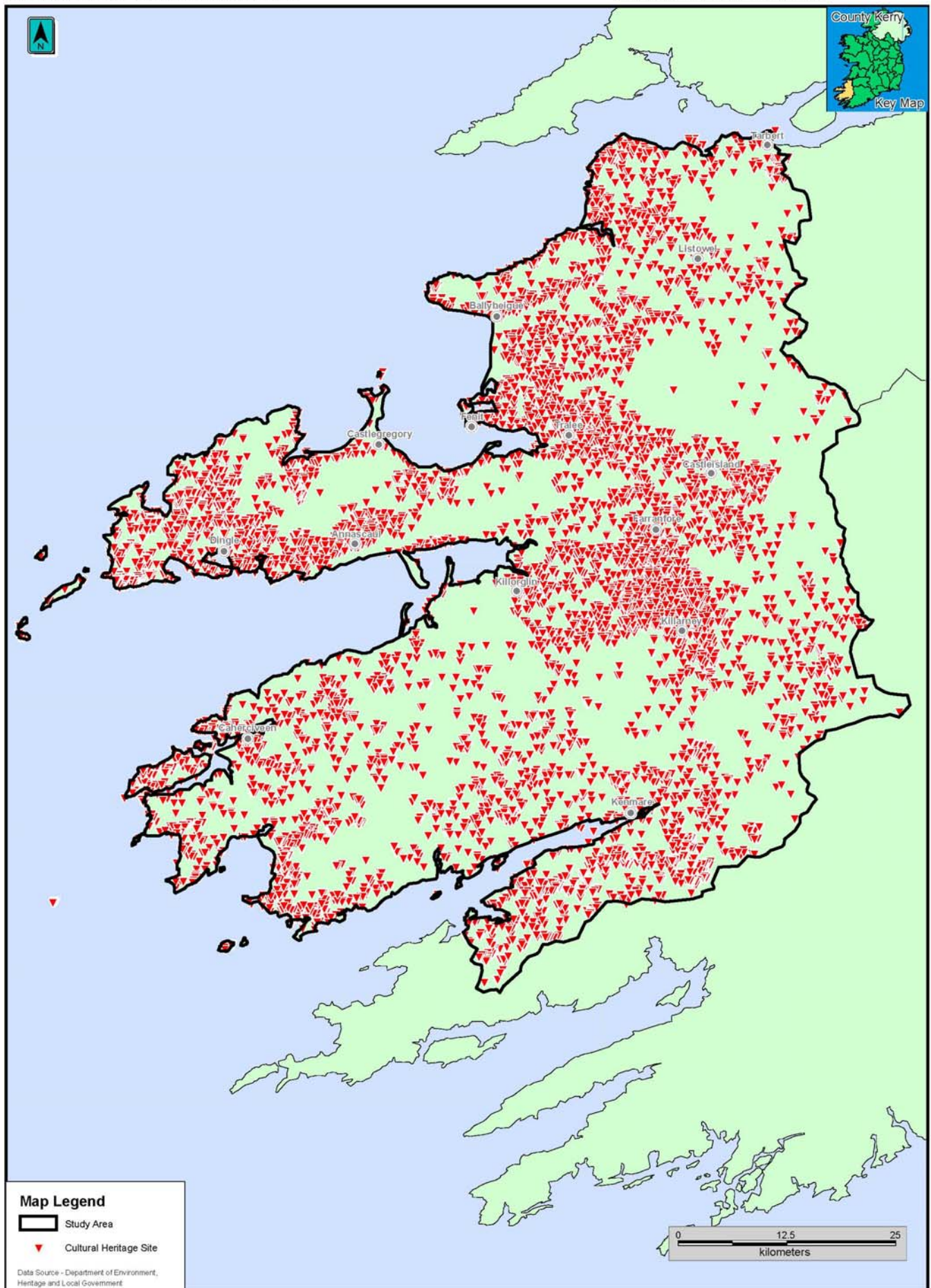
#### 11.2.2. Evolution of Cultural Assets in the Absence of the CDP

In the absence of a Development Plan development within the County would have no guidelines as to where to be directed. While the individual monuments and sites are protected under various statutory laws, the cultural heritage of these areas could be impacted upon.

In the absence of a Development Plan residential development could occur on a large scale on the Great Blasket Island and in Gaeltacht areas and dilution of Irish speakers in these areas may arise.

### **11.3. Environmental Objectives Targets and Indicators for Cultural Assets**

The implementation of the Development Plan for County Kerry has the potential to impact on both cultural assets and cultural heritage within the County. While a list of the known archaeological sites and monuments is available for the County and developments will be avoided or controlled in these areas, the archaeological potential of an area or site would be more appropriately assessed at project level. The following objectives and targets shown in Table 11.1 will afford protection to protect the structures and assist in the maintenance of other cultural assets in County Kerry.



**Table 11.1: Environmental Objectives, Targets & Indicators for Cultural Assets**

<b>Cultural Heritage Aspect (CH)</b>	<b>Objectives (CHO)</b>	<b>Targets</b>	<b>Indicators (CHI)</b>	<b>Indicator information Source</b>
<b>CH1 Heritage</b>	<b>CHO1.1</b> Promote best practice in heritage conservation and management	<p>No unauthorised developments permitted over the lifetime of the Plan which will result in the loss or partial loss of protected structures or sites of archaeological importance</p> <p>Ensure that all planning applications that might have an impact on heritage are referred to the DoEHLG for comment and that their recommendations are adhered to.</p> <p>Use of guidelines given in the Kerry County Council Heritage and Biodiversity Plan 2008-2012</p>	<b>CHI1.1</b> Number of unauthorised developments permitted over the lifetime of the Plan which resulted in the loss or partial loss of protected structures or sites of archaeological status.	<p>KCC Heritage Section</p> <p>Kerry Heritage Forum</p> <p>DoEHLG</p>
<b>CH2 Architectural Features</b>	<b>CHO2.1</b> Protection of individual sites and complexes	No unauthorised developments in protected sites and complexes.	<b>CHI2.1</b> Number of unauthorised developments in protected sites and complexes	<p>KCC Heritage Section</p> <p>Kerry Heritage Forum</p> <p>DoEHLG</p>
<b>CH3 Archaeology</b>	<b>CHO3.1</b> Identification and protection of archaeological features	<p>No unauthorised developments permitted during the lifetime of the Plan which could result in damage to archaeological features</p> <p>Review of the annual Excavations Bulletin for archaeological potential in study area.</p> <p>Use of "Framework and Principles for the Protection of Archaeological Heritage" Department of Arts Heritage Gaeltacht and the Islands</p>	<b>CHI3.1</b> Number of unauthorised developments permitted which result in the loss or damage to archaeological features	<p>KCC Heritage Section</p> <p>Kerry Heritage Forum</p> <p>DoEHLG</p>

Cultural Heritage Aspect (CH)	Objectives (CHO)	Targets	Indicators (CHI)	Indicator information Source
<b>CH4 Social Cultural Assets</b>	<b>CH04.1</b> Support and encourage the development of the Irish Language	Provision of Private housing, infrastructure and economics in Gaeltacht areas	Increase in numbers and age profile of Irish Speakers in Gaeltacht areas	KCC
	<b>CH04.2</b> Support and encourage the development of literary & artistic initiatives	Provide funding as per the Kerry Arts Plan 2007-2012	Increase literary and artistic events provided during the lifetime of the Plan	

#### 11.4. Impacts of the Plan on Cultural Assets

Chapter 9 of the Development Plan (Social, Community, Culture and the Gaeltacht) sets out the Council's objectives regarding the protection and enhancement of the Gaeltacht areas in the County. The Plan has identified the sensitive nature of the areas and has sought to control the number of residential and holiday home developments within these areas. It also recognises the importance of the preservation of the Irish language and the need to ensure that a sufficiently large population is maintained to achieve vibrancy of the language. The Plan promotes a young population of Irish speaking people necessary to ensure long term viability of the Irish language.

The Plan has a number of objectives aimed at promoting the Irish language. Objective SG9-40 requires the provision of facilities for teaching of the Irish language while objective SG9-43 requires the provision of infrastructure to enable economic development of the areas in a sustainable manner. These objectives will support environmental objective CH04.1 (Support and encourage the development of the Irish language) given in this Environmental Report.

The Council will have regard to the impact of large developments in the Gaeltacht areas with regards to the likely effects that such developments could or may have on the Irish language and the Gaeltacht. The implementations of these objectives will achieve a long term positive beneficial impact for the Gaeltacht areas and the Irish language.

The importance of the Great Blasket Island both as a resource and a form of revenue for the county has prompted the Council to prepare separate objectives for this island. The overlying objective of designation of the Great Blasket Island as a World Heritage Site is probably the most important objective with regards to the island. This objective will ensure that positive long term impacts will arise from any work or developments that will occur on the island within the lifetime of this plan. Objective SG9-57 (tourism) of the Plan requires the Council to promote development of tourist activities in Gaeltacht areas and also to provide adequate infrastructure for same. Again this will have a positive impact on the Gaeltacht and environments.

Chapter 6 of the Plan (Tourism) promotes a strategy for the development of a sustainable tourism industry which minimises adverse impacts on local communities, the built heritage, landscape, habitats and species whilst supporting social and economic prosperity. The Council recognises that heritage holidays are becoming an important niche market and objective T6-40 aims to preserve the County's built heritage through the application of objectives and policies set out under Chapter 10 of the Plan (Built Heritage). Objective T6-43 provides for the cooperation and facilitation with Bord Failte – South West and other relevant agencies in developing tourism related to promoting castles, historical houses and gardens.

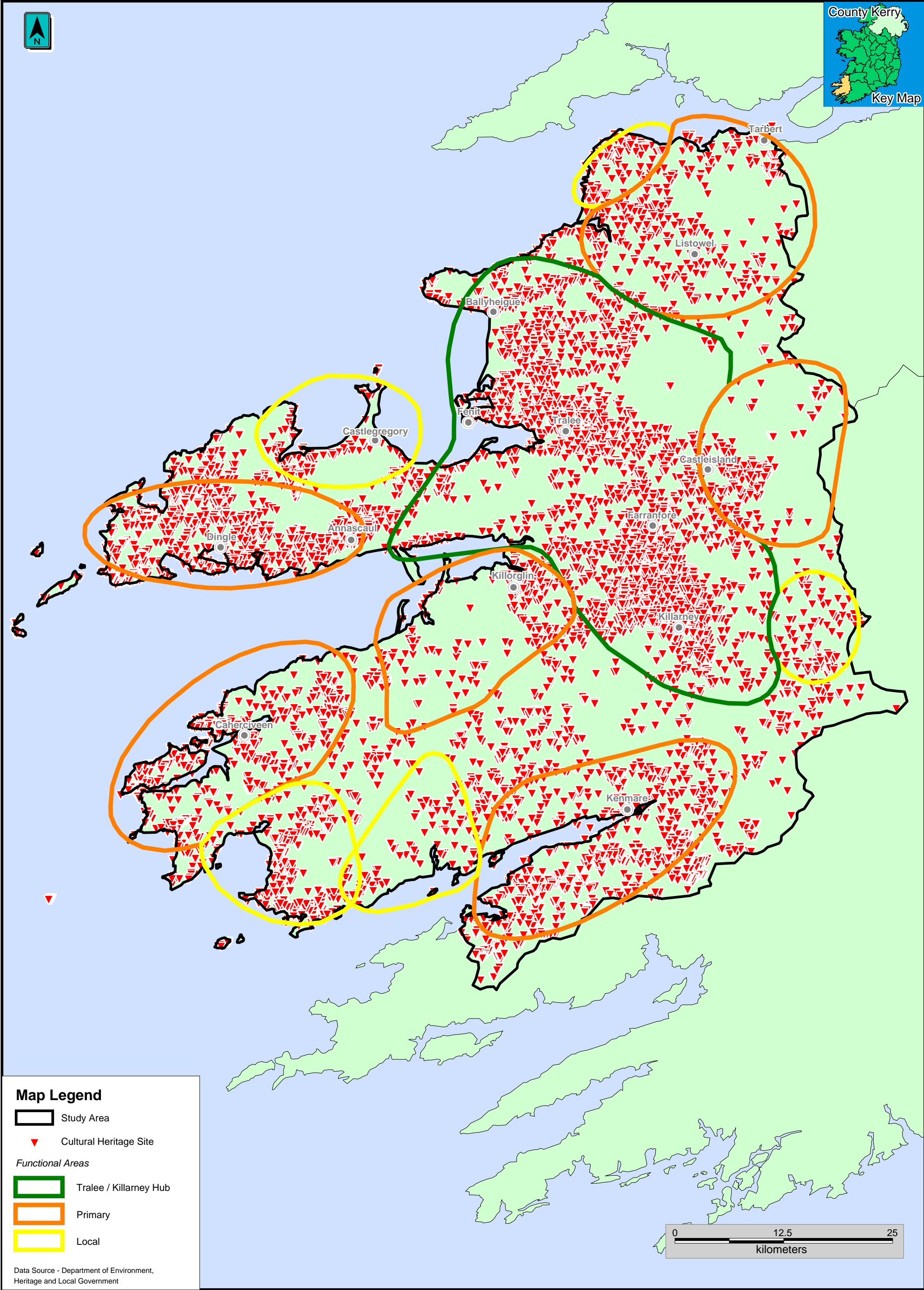
The Council's commitment to arts and culture is reinforced by a number of objectives (T6-44 to T6-47). The objectives make provisions for working with Failte Ireland and the Arts Councils to promote and develop arts throughout the county. It also encourages the preservation of the cultural and linguistic heritage of the Gaeltacht areas and encourages development of arts and workshops. These objectives will provide positive long term benefits for the people living in the Gaeltacht areas and the cultural assets of the County and will support environmental objective CH04.2 (Support and encourage the development of literary and artistic initiatives) as listed in the Environmental Report..

In Chapter 10 of the Development Plan (Built Heritage), the archaeological heritage and architectural heritage in the County is addressed. The objectives given by the Council in the Development Plan include the preservation of archaeological monuments and sites included in the Record of Monuments and Places (RMP) (Objective BH10-1), the identification of archaeological sites (Objective BH10-2) and public awareness and advisory guidance (BH10-4). The objectives will be compliant with the environmental objectives CH01.1 (Promote best practice in heritage conservation), CH02.1 (Protection of individual sites and complexes) and CH03.1 (Identification and protection of archaeological features), given in the Environmental Report. Figure 11.2 illustrates areas in County Kerry that may be under development pressure and the cultural heritage associated with these areas. Planning applications at locations close to archaeological features should be accompanied by an archaeological report detailing the impact, if any, of the development on these features.

Kerry County Council seeks to promote and secure proper development, revitalisation and protection of the County's architectural heritage. The Council recognises the distinctive type of dwelling for different regions within the County, the different types of building materials that have been used in the past and the vernacular architecture of these houses. Developments proposed within an Architectural Conservation Area or adjacent to Protected Structures or Recorded Monuments will be required to respect the established vernacular architecture for example, the building height and the design where appropriate. Objective BH10-9 – designation of particular areas as Architectural Conservation Areas demonstrates the Councils commitment to protecting groups of structure or townscapes of special architectural, archaeological, historical or social interest.

In summary the inclusions of the various objectives in various parts of the Development Plan will protect cultural heritage and cultural assets within the County. These objectives are in agreement with the environmental objectives set out in the Environmental Report. If the objectives in the Development Plan are adhered to then there will be no significant negative impact on cultural assets.





### **11.5. Mitigation Measures to Remedy or Reduce the Significant Effects of the Plan on Cultural Assets**

Many of the objectives given in the Development Plan in this section dealing with the built heritage will adequately provide the necessary mitigation measures to protect architectural heritage.

For road projects the developer would need to take cognisance of the NRA's guidelines on archaeological assessments.

### **11.6. Monitoring Programme for Cultural Assets**

The monitoring programme for cultural assets is shown in Table 11.2.

**Table 11.2: Cultural Heritage Indicator Monitoring Programme**

CULTURAL HERITAGE						
Environmental Objective		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
CHO1.1	Promote best practice in heritage conversation and management as per DoEHLG Guidelines	Number of unauthorised developments permitted over the lifetime of the Plan which result in the loss or partial loss of protected structures and sites of important archaeological status	KCC  DoEHLG	Review the County Heritage Plan mid term.	No unauthorised developments permitted over the lifetime of the Plan which will result in the loss or partial loss of protected structures or sites of important archaeological status.  Ensure all planning applications that might have an impact on heritage are referred to the DoEHLG for comment and that their recommendations are adhered to.	Investigate source of problem and remedy accordingly
CHO2.1	Protection of individual sites and complexes	Number of unauthorised developments permitted over the lifetime of the Plan which result in the loss of individual sites or complexes	KCC	-	No unauthorised developments	-

CULTURAL HERITAGE						
Environmental Objective		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
CHO3.1	Identification and protection of archaeological features	Number of unauthorised developments permitted which result in the loss or damage to archaeological features	KCC  DoEHLG	-	No unauthorised development permitted during the lifetime of the Plan which could result in damage to archaeological features	-
CH04.1	Support and encourage the development of Irish Language	Population and employment of Irish Speakers in Gaeltacht areas	KCC	-	Increase in age profile of Irish speakers in the Gaeltacht areas	-
CH04.2	Support and encourage the development of literary and artistic initiatives	Provide funding as per Kerry Arts Plan 2007-2012	KCC	-	Increase in literary and artistic events during the lifetime of the Plan	-



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## 12. THE IMPACT ASSESSMENT OF PLAN ON AIR AND CLIMATE

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### 12.1. Introduction

The climate in County Kerry is influenced by its maritime location. This produces considerable rainfall in the County. The average rainfall in Ireland is approximately 1,200 mm per annum. The average rainfall for low lying regions in the more northern part of County Kerry ranges from 1,000 mm to 1,500 mm per annum, with more mountainous regions experiencing between 1,500 and 2,000 mm per annum. Some parts of County Kerry with high mountain ranges can experience in excess of 3,000 mm of rain per annum.

Emissions of pollutants from vehicles, power stations, industry, domestic fuel burning and agriculture can have local, national, international or global effects. Emissions of carbon dioxide and other greenhouse gases are enhancing the greenhouse effect and causing global warming. In 2005, Ireland's greenhouse gas emissions increase by 25.4% above the 1990 levels. The most significant and sustained increase in greenhouse gas emissions of 160% has been due to the transport sector, mainly due to road transport. Significant reductions of nitrogen oxide from road transport is required if Ireland is to meet its commitments under the National Emissions Ceiling (NEC) Directive by 2010. The National Climate Change Strategy 2007-2012 was designed to demonstrate how Ireland will meet its 2008-2012 commitments regarding compliance with the Kyoto Protocol. The increase in vehicle ownership and in road transport in general is sustaining emissions of NO<sub>x</sub> even though improved technologies are reducing the emissions from individual vehicles. To meet the target of the NEC Ceiling of 65,000 tonnes of NO<sub>x</sub> by 2010 Ireland will need to encourage the availability and use of public transport systems throughout the Country.

The EU Emissions Trading Directive (2003/87/EC) has been implemented to achieve a reduction in greenhouse gases for all member states of the EU. The directive was transposed into Irish Law by the European Communities (Greenhouse Gas Emissions Trading) Regulations 2004 (S.I. No. 437 of 2004). The Environmental Protection Agency has been assigned responsibility for its implementation in Ireland. Under these regulations greenhouse gas emissions permits are authorised to various holders who undertake named activities resulting in emissions of carbon dioxides from listed emission points. Allowances for emissions to air of greenhouse gases are allocated through the National Allocation Plan. Kerry Ingredients Ireland Ltd. in Tralee, Co. Kerry is a holder of one such greenhouse gas emission permit (Permit Registration Number IE-GHG 008-02).

Power stations are the principal sources of sulphur dioxide (SO<sub>2</sub>) emissions contributing approximately 60% of the total in 2005. The emissions of SO<sub>2</sub> from industrial sectors have decreased by 69% from 1990 while the emissions in the residential and commercial sectors have decreased by approximately 62% during that time period.

Other greenhouse gases include methane from agriculture and landfills and nitrogen oxides primarily arising from agriculture. The emissions of greenhouse gases from the energy sector in 2005 were 38% above the 1990 levels showing an increased demand for electricity. While some variations in emissions from the residential sector over that period has occurred and seems to reflect a shift from the use of coal and peat to oil and gas, these reductions were negated by the increases in population and housing stock in Ireland.

## 12.2. Baseline Assessment

The Environmental Protection Agency operates a continuous air quality monitoring device at the metrological station observatory in Caherciveen, Co. Kerry. It is operated by Met Eireann as part of their ongoing observations on the vertical ozone profile. Current air quality at this station at the time of preparation of this report is very good.

The EPA also conducted air quality monitoring in Tralee Co. Kerry from the 17<sup>th</sup> November 2003 until the 30<sup>th</sup> June 2004. In summary the monitoring found that the concentrations of carbon monoxide, sulphur dioxide, nitrogen dioxide, benzene and lead were below their respective lower assessment thresholds. The levels of PM10's exceeded the upper assessment threshold for this permit.

### 12.2.1. EPA Licence Facilities

Plants licenced under the EPA Act fall under the IPPC or waste licensing processes which imposes integrated emission limit values on environmental discharges. There are eight EPA IPPC licence facilities in County Kerry and these are shown in Table 12.1.

**Table 12.1: IPPC Licensed Facilities in County Kerry**

Facility	IPPC Licence No.	Location	Principle Activity
Electricity Supply Board (Tarbert)	P0607-02	Tarbert Generating Station, Tarbert, Listowel	Energy
Kerry Ingredients (Ireland) Limited	P0393-02	<ul style="list-style-type: none"> <li>• Tralee Road, Listowel.</li> <li>• Banemore, Listowel</li> <li>• Clooneen, Causeway</li> </ul>	Food and Drink
Parknageragh Pig Breeders Company Limited	P0598-03	West Mein, Toureenmore, Knocknagoshel	Intensive agriculture
Amann Industries Corporation	P0509-01	Clash Industrial Estate, Tralee	Wood, Paper, Textiles and Leather
Heiton Buckley Limited t/a Heiton Buckley Builders Merchants	P0347-01	Edward Street, Tralee	Wood, Paper, Textiles and Leather
Astellas Ireland Company Limited	P0018-01	Banshagh, Killorglin	Chemicals
Liebherr Container Cranes Limited	P0146-01	Gortroe, Killarney	Surface Coatings

Facility	IPPC Licence No.	Location	Principle Activity
Sara Lee (Ireland) Ltd	P0551-01	Park Road, Killarney	Wood, Paper, Textiles and Leather

Landfill sites are a source of greenhouse gas (methane) emissions. There are eight waste licence facilities operating within County Kerry and these are shown in Table 12.2.

**Table 12.2: Waste Licensed Facilities in County Kerry**

Facility	Waste Licence No.	Name
Listowel Civic Amenity	W0224-01	Kerry County Council
North Kerry Landfill Site	W0001-03	Kerry County Council
Dingle Civic Amenity Site	W0225-01	Kerry County Council
Milltown Waste Transfer Station	W0069-01	Kerry County Council
Caherciveen Waste Transfer Station	W0087-01	Kerry County Council
Kenmare Transfer Station	W0086-01	Kerry County Council
Coolcaslagh Transfer Station	W0072-01	Kerry County Council
Killarney Waste Disposal Limited	W0217-01	Killarney Waste Disposal Limited

#### 12.2.2. Existing Environmental Problems with Air

There are no significant environmental problems with regard to air in County Kerry.

#### 12.2.3. Impacts of Air and Climate in the Absence of the County Development Plan

In the absence of the County Development Plan for Kerry there will be no framework for the location of new development and as a consequence uncontrolled dispersed development would be likely to occur.

With the Plan planning controls for development and housing both in urban and rural areas will be required to heat these houses to comply with energy regulations. Consequently use of energy will be minimised and the emissions of greenhouse gases will be proportionally reduced.

In the absence of proper planning and development, construction materials for houses may not comply with the energy regulation requirements. Greenhouse gas emissions would increase and this would be contrary to the policies of the National Climate Change Strategy (2007).

#### 12.2.4. Information Gaps

A review of data undertaken for this assessment found a lack of ambient air quality data for the County.



### 12.3. Environmental Objectives for Air and Climate

The Ambient Air Quality Regulations (2002) sets specific levels for sulphur dioxide, carbon dioxide and nitrogen oxides in ambient air. The main potential sources of air emissions in the County originate from the quarrying industry, IPPC licence industry, waste management and energy. Transportation is also a major contributor to some pollutants. Air emissions from power plants, IPPC licensed facilities and waste management facilities are regulated by the Environmental Protection Agency. Kerry County Council is responsible for regulating air emissions from non-IPPC or waste facilities in the County.

The National Climate Change Strategy 2000 is implemented in Ireland to meet our commitments under the Kyoto Protocol. In summary it commits Ireland to meeting greenhouse gas emission targets. The strategy encourages the use of renewable energy conservation. The recently published national climate change strategy 2007 – 2012 (DoEHLG, 2007) sets out the comprehensive measures that the Irish Government has put in place to reduce Ireland's Greenhouse Gas Emissions. The strategy aims to build on the progress already made since the original National Climate Change Strategy, 2000.

The 2006 Building Regulations sets standards to reduce energy use in new houses by 20%. The environmental objectives and targets listed in Table 12.3 will help County Kerry to achieve the national targets for climate change.

**Table 12.3: Environmental Objectives, Targets and Indicators for Air and Climate**

Air and Climate Aspects (AC)	Objectives (ACO)	Targets	Indicators (ACI)	Indicator information Source
<b>AC1 Climate</b>	<b>ACO1.1</b> Minimise greenhouse gas emissions to meet National and International standards	Increased use of public transport  Increase numbers of cycle lanes and pedestrian routes in the study area  Increase number of permissions granted for renewable energy projects	<b>ACI1.1</b> Use of public transport  Provision of cycle lanes and walking routes  Number of permissions granted for renewable energy projects	KCC
	<b>ACO1.2</b> Building energy Regulation	Increase in number of energy audits conducted on existing facilities and new homes	<b>ACI1.2</b> Number of energy audits conduct	KCC
<b>AC2 Air Quality</b>	<b>ACO2.1</b> Improve ambient air quality	Maintain or improve ambient air quality through reduction of private vehicle usage	<b>ACI2.1</b> Air quality indicators	KCC EPA

## 12.4. Assessment of the Impact of the Plan on Air and Climate

The environmental assessment of the Kerry County Development Plan looks at the aims and objectives that will be put in place by the Council during the lifetime of the Plan to help achieve Ireland's targets in reducing greenhouse gas emissions and assisting in improving ambient air quality in County Kerry.

The settlement strategy in the Development Plan aims to achieve sustainable development in the County which if carried out will have a positive long-term impact on the ambient air quality. Specific urban development and construction details will ensure that greenhouse gas emissions from buildings are also sufficiently reduced.

A number of the objectives in the County Development Plan seek to provide necessary transportation linkages to facilitate the complimentary role of settlements within the functional areas throughout the County. This will have a long-term negative impact on air quality in County Kerry and will not diminish greenhouse gas emissions (Objective SS-20). However, Objective SS-21 (the provision of public transportation facilities) will help to counteract the emissions generated from transportation. The extent and success of the reduction in emissions from transportation will be largely dependant upon public use of public transportation and the degree of public transport infrastructure that will be installed in the County throughout the period of the Plan. Objective EC05-8 (promotion of home working) will have a long-term positive impact on the reduction of air emissions from transportation.

The section on tourism in the County Development Plan (Chapter 6) aims to promote the development of tourist related infrastructure such as transport. This may have a long-term negative impact on air quality. Objective (T6-52) to promote the improvement of road links between the airport at Farranfore and the County's main tourist hubs will increase vehicular emissions. The provision of a public transport service between the airport and the main tourist hubs would help negate this if it was reasonably practical.

Chapter 7 of the Development Plan (Natural Resources) has an objective (NR7-5), to development the extractive industry in the County. By its nature, quarrying, if not properly regulated, may have long-term negative impact by increasing ambient dust levels and noise.

In the same chapter of the Development Plan Kerry County Council's commitment to renewable energy (Objectives NR 7-21 to NR 7-25) will have a positive long-term impact on global warming and on ambient air quality in the County.

Chapter 8 of the Plan (Transport and Infrastructure) has as its main aim the provision of the necessary transportation and infrastructure to ensure the economic development of the County and also to improve road safety for road users. While these aims will benefit road users and provide for increased economy in the County the long-term impacts on air quality and greenhouse gas emissions may be negative. This would conflict with environmental objective AC02.1 (Improve ambient air quality). Objective INF8-9 however does aim to increase public transport in accordance with the principals of sustainability and if these are realised then the impact on air quality will be significantly reduced.

The Council also supports the continued upgrading in improvements of the Tralee/Mallow Rail line. This will have a positive impact on air quality because of a likely reduction in vehicular use and will support environmental objective AC02.1.

Chapter 9 of the Plan deals with the social, community, culture and the Gaeltacht. It has a number of objectives that aims to provide cycle paths and public walkways. These objectives will have a long-term positive impact on air quality in the County.

Objectives EN11-1 and EN11-2 demonstrate Kerry County Council's commitment to preventing pollution in order to maintain air quality in the environs in County Kerry and to ensure that the develop and management system of Kerry County Council includes policies to counteract global warming and climate change.

In summary the County Development Plan has a number of objectives which will assist in the reduction of greenhouse gas emissions and improvement in air quality in the County. The extent and availability of public transportation services offered to inhabitants and the number of cycle ways and walkways that are provided will be a measure of the success of these objectives within the lifetime of this Plan. Overall the objectives of the Plan support environmental objectives AC01.1 (greenhouse gas emissions), AC01.2 and AC02.1.

## **12.5. Mitigation Measures to Reduce/Eliminate the Impacts of the Plan on Air and Climate**

A number of international and national environmental policies such as the Kyoto Protocol and the National Emission Ceilings, and local statutory requirements such as planning permission for quarries have listed appropriate mitigation measures to minimise the impact of developments on air and climate.

On a local level Kerry County Council has a statutory function to place conditions on air emissions licences to ensure emissions from a facility do not impact on the ambient air quality.

The mitigations provided by public transport will mitigate increasing greenhouse gas emissions.

Kerry County Council is encouraging developers and private users to investigate and use alternative energy sources. The Council has prepared drawings illustrating areas within the County that are favourable to wind energy development. These areas should be exploited to the full and wind farm development encouraged by the County Council.

## **12.6. Monitoring Programme**

A monitoring programme for air and climate during the lifetime of this plan is shown in Table 12.4.

**Table 12.4: Environmental Objectives, Targets and Indicators for Air and Climate**

<b>Air and Climate Aspects (AC)</b>	<b>Objectives (ACO)</b>	<b>Targets</b>	<b>Indicators (ACI)</b>	<b>Indicator information Source</b>
<b>AC1 Climate</b>	<b>ACO1.1</b> Minimise greenhouse gas emissions to meet National and International standards	Increased use of public transport  Increase numbers of cycle lanes and pedestrian routes in the study area  Increase number of permissions granted for renewable energy projects	<b>ACI1.1</b> Use of public transport  Provision of cycle lanes and walking routes  Number of permissions granted for renewable energy projects	KCC
	<b>ACO1.2</b> Building energy Regulation	Increase in number of energy audits conducted on existing facilities and new homes	<b>ACI1.2</b> Number of energy audits conduct	KCC
<b>AC2 Air Quality</b>	<b>ACO2.1</b> Improve ambient air quality	Maintain or improve ambient air quality through reduction of private vehicle usage	<b>ACI2.1</b> Air quality indicators	KCC EPA



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## 13.IMPACT ASSESSMENT OF THE DEVELOPMENT PLAN ON LANDSCAPE

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### 13.1. Introduction

County Kerry has a unique and characteristic landscape which is not just limited to the residents of County Kerry but is a major feature in attracting tourists every year. The employment and income generated from tourism is of enormous social and economic benefit to the County. The highly scenic landscapes of rivers, lakes, mountains, bogs and coastline are the main tourist attractions.

Other important tourist attractions include the Conor Pass, Slea Head Drive and a number of marked trails such as the Kerry Way, the Dingle Way, the North Kerry Way, the Beara Way, The Great Blasket Islands and Killarney National Park. The Kerry coastline stretching to over 1,000 km has a rich maritime heritage and is renowned for its variety and beauty. It has a number of blue flag beaches and a number of sailing centres and marinas.

County Kerry relies on the clean unspoilt landscape to attract tourists on an annual basis and protection of landscape is considered in the Development Plan to be “*of primary importance in developing the potential of the county*”.

### 13.2. Baseline Assessment

The Council recognises the importance and uniqueness of the landscape in County Kerry. There are a range of different landscapes from the beaches and undulating pastureland of North Kerry to the coastline and mountainous landscape of South Kerry.

A landscape character study for County Kerry identified the following broad categories of landscape,

- Low
- Moderate
- High
- Special
- Unique

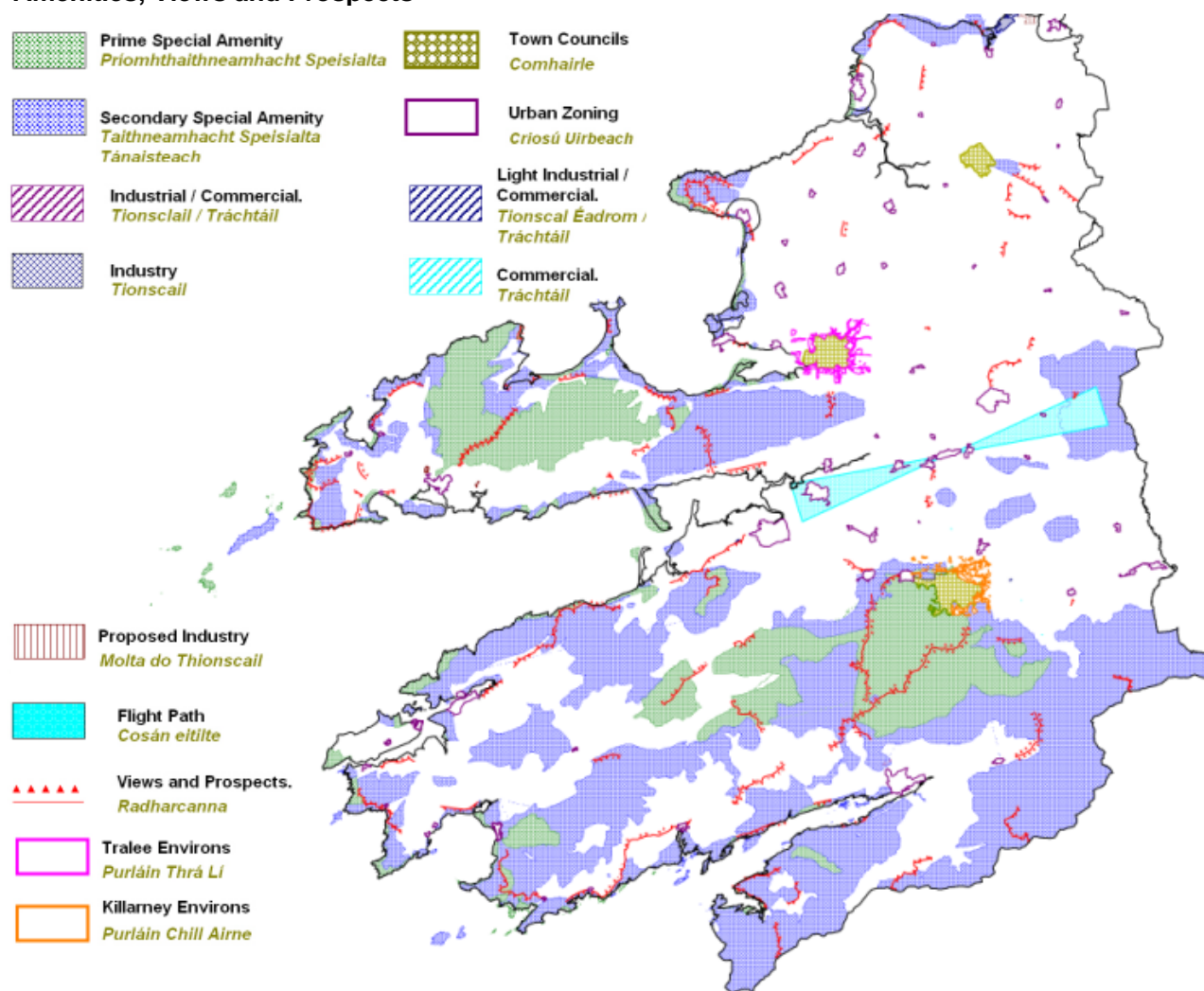
These landscape categories together with existing development in the County resulted in specific zoned areas in the County which relate strongly to the landscape and the sensitivity of a landscape. The sensitivity of the landscape is defined as its capacity to absorb development without altering its character to the extent where its character is changed.

The three general zoning types given in the Development Plan are rural, urban and industrial. While urban zoning is controlled by local area plans and industrial/commercial zoning has the landscape capacity to absorb these forms of development, the rural landscape in Kerry is the most sensitive to development. Map 12.1 in Volume 2 of the Development Plan (Amenity/Views and Prospects) and reproduced in Figure 13.1 shows the different types of rural landscape in the County. This map has been prepared having regard to the value of the landscape, its character, distinctiveness and sensitivities. The Development Plan identifies three types of rural landscape, namely:

- **Prime Special Amenity** These areas constitute the outstanding landscape throughout the County. Mountains, spectacular coastal vistas and unspoilt wilderness are some of the features within these designations. These landscapes have little or no capacity to accommodate development. In these areas all development will be prohibited, other than especially exempted development in accordance with Schedule 2 of the Planning & Development Regulations 2001-2007
- **Secondary Special Amenity.** These areas constitute sensitive landscapes which can accommodate a limited level of development. Developments within these areas are required to be sympathetically designed to minimise visual impacts.
- **General.** These constitute the least sensitive landscapes in the County. These landscapes in general have a higher ability to absorb development without significantly altering the landscape character.

Several views and prospects are also designated in County Kerry such as viewpoint extending from Lough Leane eastwards through the MacGillycuddy Reeks and several around the coast off Mount Eagle looking out towards the Blasket Islands.

Figure 13.1: Amenities, Views and Prospects





### 13.2.1. Existing Problems with Landscape

Maintaining a balance between rural development, holiday homes and protection of the landscape and biodiversity is one of the biggest challenges facing Kerry County Council. There is extreme pressure for holiday homes and second homes during the current Development Plan 2003 to 2009. This has been noted from the demand for these forms of houses against the needs of the indigenous population. Kerry County Council considers this form of one-off development as adversely impacting the rural landscape and in some case the ecological qualities of the landscape.

There is a potential for conflict between development pressures and landscape sensitivity in some parts of the County, for example around Beaufort. Similarly, development around Tralee may impact on sensitive coastal landscapes.

### 13.2.2. Impacts on Landscape in the Absence of a Development Plan

In the absence of a Development Plan, the lack of proper planning controls for single rural housing and holiday homes would result in an impact on landscape and scenic views. Similarly the lack of planning controls for wind farm developments would result in an impact on landscape and scenic views.

The lack of strict planning controls for rural areas would impact on sensitive landscapes particularly on the periphery of prime and secondary special amenity areas.

Pressure for development along the coastline, particularly where there is pressure for tourist related developments would change the character of the coastal areas.

## **13.3. Development of Environmental Objectives, Targets and Indicators for Landscape**

In Part 2 (Rural Development Policies) in Chapter 3 (Settlement Strategy and Rural Development Policies) of the Development Plan, Kerry County Council has prepared objectives and guidelines for rural development.

Based on the information provided in the baseline assessment, environmental objectives to protect landscape in the County are shown in Table 13.1.

**Table 13.1: Environmental Objectives, targets and Indicators for Landscape**

<b>Landscape Aspect (L)</b>	<b>Objective (LO)</b>	<b>Targets</b>	<b>Indicators (LI)</b>	<b>Indicator Information Source</b>
<b>L1 Natural Landscape</b>	<b>LO1.1</b> Protect designated scenic landscapes, views, routes, and landscape features of local value	No significant disruption of designated views and prospects	<b>LI1.1</b> Number of developments located within the designated views and prospects as identified in Maps 12.1(a) to 12.1(u) Volume 2 of the Development Plan.	KCC
<b>L2 Urban Landscape</b>	<b>LO2.1</b> Protect streetscapes in larger towns and villages	No unauthorised developments in the towns in Kerry that will impact significantly on their existing character.	<b>LI2.1</b> Number of unauthorised developments in major towns that will impact significantly on their existing character.	KCC

### 13.4. Impacts of the Plan on Landscape

The assessment of the impact of County Development Plan on Landscape is shown on the tables in Appendix 1 of this document and are summarised below.

The Council has identified areas in the County that can facilitate urban, rural and industrial development. There are specific guidelines detailing the types and level of development that would be permitted within these areas. The Council has prepared a number of maps (12(a) to 12(u)) in Volume 2 of the Development Plan which illustrate zoning within the County. These guidelines support environmental objectives L01.1 and L02.1.

Lands suitable for wind farms development are also identified. These are shown in maps 6.1(a) and 6.1(b), Volume 2 of the County Development Plan. These guidelines support environmental objective L01.1 (Protect views and landscape).

The Tralee/Killarney hub centre and Listowel will be subjected to their own individual landscape plans.

The landscape in Kerry comprises of a number of ecological features as well as cultural heritage features and buildings. A review of the objectives in the County Development Plan demonstrates that none of the objectives will conflict with the environmental objectives for the protection of landscape in the Environmental Report. The provision of rural housing within the County will be protected by Objective SS-34 and the landscape will be protected by the guidelines given in Chapter 3 (Settlement Strategy and Rural Development Policies) and Part 2 (Rural Development Policies) of the Development Plan.

These guidelines will ensure, *inter alia*, that the provision of rural housing will protect the landscape, the natural and built heritage and the economic assets and the environment of the County.

Landscape in the County will be protected by objectives T6-12 to T6-15 in the Plan which specifically deal with landscape tourism. Adherence to these objectives will ensure that no significant impacts on landscape will arise during the lifetime of the Plan.

Maps 6.1(a) and 6.1(b) in Volume 2 of the Development Plan (Wind Deployment Zones) detail preferred areas for wind farms in the County. Areas that are excluded, unsuitable or open to consideration are also shown in the maps. Objectives NR. 7-27 and NR. 7-28 require connections between wind farms and the National Grid in sensitive landscapes to be laid under ground. These objectives support the environmental objectives L01.1 and L02.1 in Table 13.2.

The chapter on the natural environment in the Plan has specific objectives to promoting landscape in the County and to support the implementation of the Great Blasket Island Management Plan.

To summarise, the Council has a number of objectives in the zoning and landscape section of the Plan which specifically aims to protect landscape in the County. Adherence to these objectives will ensure no conflict with the environmental objectives on landscape given in the Environmental Report and that no significant impact on landscape in the County will arise.

### **13.5. Mitigation Measures to Minimise/Eliminate the Impacts on Landscape**

The assessment has concluded that no significant impacts will occur from the implementation of the Development Plan provided that the objectives and guidelines outlined in the Development Plan are adhered to.

### **13.6. Monitoring Programme**

A monitoring programme for landscape is given in Table 13.2.

**Table 13.2: Landscape Indicator Monitoring Programme**

LANDSCAPE						
Environmental Objective		Indicator	Responsible Authority	Frequency	Target	Type of Intervention required
LO1.1	Protect designated scenic sites and protect views routes and landscape features of local value.	Number and type of developments in designated views and prospects	KCC	Review each planning application as submitted.	No significant disruption of views or prospects	--
LO2.1	Protect streetscapes in larger towns and villages	Number and type of developments in designated views and prospects	KCC	Review each planning application as submitted.	No significant disruption of views or prospects	-



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## 14. IMPACT ASSESSMENT OF THE COUNTY DEVELOPMENT PLAN ON GEOLOGY AND SOILS

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### 14.1. Introduction

For the purposes of this section of the Environmental Report, soils and geology refer to “all natural materials underlying a development, from the ground surface to an appropriate depth underground.” This would include bedrock, subsoils and topsoils and geological features such as karst, caves and areas of geological importance.

### 14.2. Baseline Assessment

#### 14.2.1. Soils

The soil types in County Kerry are broadly divided into the lowland areas of north Kerry and the mountainous areas of south Kerry.

The north and middle of the County contains mainly gleys with some peat and brown earth and grey brown podzols. The south of the County contains mainly peaty podzols with some blanket peat and outcropping rock. Due to these soil types, the dominant form of agriculture is pasture based. The more mountainous south Kerry is dominated by sheep pasture with north Kerry being predominantly cattle pasture. The topography of the County is not generally suited to crop production and this is limited to flat areas such as Listowel Rural.

Unlike water quality, there is no formal European legislative protection for soils. The European Union have put forward a proposal for a Soil Framework Directive in September 2006. This proposal is currently in adoption stages with the European Parliament and Council.

The European Commission have, from the process of developing the soil framework, identified the eight main threats to soil quality in the EU, namely;

- erosion,
- organic matter decline,
- contamination,
- salinisation,
- compaction,
- soil biodiversity loss,
- sealing, landslides and
- flooding

(Source "Towards a Thematic Strategy on Soil Protection", (COM(2002) 179), European Union, 2007)

### 14.2.2. Bedrock Geology

The most common rock types of County Kerry are:

- Old Red sandstone (56% of total County land area)
- Namurian sandstone and shale (27% of total County land area)
- Visean shelf limestone and shale (9% of total County land area).

### 14.2.3. Karst Geology

There are several examples of karst features in County Kerry. These features are part of the Southern Valley which includes regions of Cork, Kerry, Tipperary and Waterford. There are examples of coastal limestone exposure at Fenit and lakeside limestone exposure at Killarney. Crag Cave, near Castleisland, is an example of a karst cave.

### 14.2.4. Sites of Geological Importance

The County Kerry Heritage Plan 2008-2012 references 122 no. significant geological sites. These sites have not been designated to date as either proposed natural heritage areas (pNHAs) or county geological sites (CGS). The Heritage Plan contains aim 2.2.2 which plans to *“Examine the inventory of sites of geological importance (appendix 5) with a view to having them designated within future County Development and Local Area Plans.”*

In addition a European “Geopark” is proposed for an area of south-west Kerry encompassing Sneem, Castlecove and Caherdaniel. This would be a amenity and economic asset to the county. The proposed geopark extends from Kenmare Bay to the mountains to the north of Tahilla, Sneem, Castlecove, Caherdaniel and Valentia Island. A Geopark is defined as *“a territory, which includes a particular geological heritage and a sustainable territorial development strategy supported by a European programme to promote development....A European Geopark must comprise a number of geological sites of particular importance in terms of their scientific quality, rarity, aesthetic appeal or educational value.”* Currently there are two geoparks in Ireland, Copper Coast Geopark, Waterford and Marble Arch Caves, Fermanagh.

#### 14.2.5. Landslides

A notable landslide occurred in April 2007 when a 10 m wide section of cliff slipped close to Dunquin graveyard along the Sleah Head Drive. This was a repeat event of a landslide in the early 1980's. No further landslides have occurred since 2007.



**Plate 14.1 Dunquin Landslide, 2007**  
Source: Geological Society of Ireland

#### 14.2.6. Caves

County Kerry has several types of caves including sea caves, underground caves and lake caves. Examples of sea caves are Ferrier's Cave in An Daingean and Pigeon's cave in Ballybunion. An example of an underground cave is Crag Cave in Castleisland which as discussed previously is an example of a karst cave. Muckross Lake in Killarney is an example of a lake cave which has developed from lake erosion.



#### 14.2.7. Evolution of soils and geology in the absence of a Development Plan

The draft Development Plan has listed 24 no. geological and geomorphological sites. In the absence of a Plan there would be no formal protection of geological sites. These sites would be vulnerable to unsympathetic development and could be adversely impacted through development. These sites are valuable to both biodiversity and the economy of the County, evident through the development of show caves and the proposed Geopark in south-west Kerry.

#### 14.2.8. Information Gaps

There was no significant information gaps noted in this section.

### **14.3. Development of Environmental Objectives, Targets and Indicators for Soils and Geology**

The following section of this environmental report sets out the environmental objectives, targets and indicators for soils and geology. The determination of the set of environmental objectives used in this report has been informed by the baseline assessment and the scoping process. However, it should be noted that the final set is also influenced by the availability of existing and relevant indicators, current monitoring programmes and the scale of application.

**Table 14.1: Environmental, Objectives, Targets and Indicators for Soils and Geology**

<b>Soils and Geology Aspect (SG)</b>	<b>Objective (SGO)</b>	<b>Targets</b>	<b>Indicators (SGI)</b>	<b>Indicator Information Source</b>
<b>SG1 Soils</b>	<b>SGO1.1</b> Maximise the sustainable re-use of brownfield sites and maximise the use of the existing built environment.	Specified percentage of new applications granted to be on brownfield sites.	<b>SGI1.1</b> Percentage of new developments on brownfield sites	KCC
<b>SG2 Unregulated Landfill</b>	<b>SGO2.1</b> To identify any unregulated landfill sites in the study area.	Preparation of a report on contaminated/unregulated sites throughout the county	<b>SGI2.1</b> Number of sites identified and remediated.	KCC
<b>SG3 Geological Sites of Importance</b>	<b>SGO3.1</b> To designate sites of geological importance as NHA's or CGS	Sites to be selected for NHA and CGS designations and designation process to have been undertaken during lifetime of the plan.	<b>SGI3.1</b> Number of geological NHAs and CGS designated in lifetime of the plan	KCC

#### **14.4. Assessment of the Likely Significant Effects of the Plan on Soils & Geology**

The objective of this section of this chapter is to determine the “likely significant” effects of the Plan on the environment. The assessment methodology adopted here is based on the criteria listed in Section 5.1 **Error! Reference source not found.** are individually assessed against the Plan objectives.

The full assessment is given in Appendix 1 of this report and the findings are summarised below.

The main objective of the settlement strategy is sustainable development of the County together with implementing proper planning. The re-use of brownfield sites and the existing built environment is more sustainable than developing greenfield sites, and this supports environmental objective SG01.1 (Maximise use of brownfield sites).

Objectives HS-2 and HS-7 require that sufficient lands are acquired and provided for developments to satisfy housing needs for the County. The use of greenfield sites for these developments will have a long term negative impact particularly on biodiversity because it will result in habitat loss. Objective HS4-26 aims to increase the availability of brownfield sites in the County by using the Derelict Sites Act to remove derelicts in built up areas and along tourist routes. Depending on the need to decontaminate a site, if necessary, remediation or soil removal will have a short-term negative impact on water and air in the area. However the avoidance of using a greenfield site for development will outweigh the negative impacts.

Objective T6-17 promotes the redevelopment of derelict, vacant or redundant properties for the provision of new accommodation and tourism development. This would strengthen environmental objective SGO1 because existing infrastructure and brownfield sites would be used rather than development on greenfield sites.

There are no Natural Resource objectives in the Plan which relate directly to the SEA environmental objectives. The objectives do however promote the extractive industry in the County while ensuring there is no detrimental impact to the environment. From an economic view, this would be positive for the County if the protection of the environment could be ensured during extraction.

#### **14.5. Mitigation Measure to Reduce/Eliminate the Effects of the Plan on Soils & Geology**

There were no significant adverse impacts noted on soils and geology from implementation of the Plan therefore there are no SEA specific mitigation measures required.

#### **14.6. Monitoring Programmes for Soil & Geology**

A monitoring programme allows the actual impacts of the plan to be tested against those that were predicted. It allows major problems to be identified and dealt with in a timely fashion, and environmental baseline information to be gathered for future plan reviews.

Monitoring is carried out by reporting on the set of indicators and targets drawn up previously in Table 14.2 and used to describe future trends in the baseline, which enable positive and negative impact on the environment to be measured.

Kerry County Council will be responsible for the implementation of the monitoring programme in relation to the County Development Plan.

**Table 14.2: Monitoring Programme for Soils and Geology**

<b>SOILS AND GEOLOGY</b>						
<b>Environmental Objective</b>		<b>Indicator</b>	<b>Responsible Authority</b>	<b>Frequency</b>	<b>Target</b>	<b>Type of Intervention required</b>
<b>SGO1.1</b>	Maximise the sustainable re-use of brownfield sites and maximise the use of the existing built environment.	Percentage of new developments on brownfield sites	KCC	Review during the lifetime of the plan.	Specified percentage of new applications granted to be on brownfield sites.	-
<b>SGO2.1</b>	To identify any unregulated landfill sites in the study area.	Number of sites identified and remediated.	KCC	Review during the lifetime of the plan.	Report on contaminated/ unregulated sites throughout the county	-
<b>SGO3.1</b>	To designate sites of geological importance as NHA's or CGS	Number of geological NHAs and CGS designated in lifetime of the plan	KCC	Review during the lifetime of the plan.	Sites to be selected for NHA and CGS designations and designation process to have been undertaken during lifetime of the plan.	-



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## 15. CUMULATIVE ENVIRONMENTAL SENSITIVITY

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### 15.1. Introduction

A cumulative environmental sensitivity map was prepared for County Kerry. This mapping was prepared to present, on one drawing, areas of differing cumulative environmental sensitivities.

The methodology used in preparing this mapping is described in Section 15.2 below.

Due to the calculations needed to convert the vector mapping to raster mapping and the cumulative calculations, a pixel size of 0.17 km<sup>2</sup> was used. This means every 0.17 km<sup>2</sup> has an allocated sensitivity value.

### 15.2. Methodology of Cumulative Sensitivity Mapping

This drawing was prepared by using the environmental baseline data available in GIS format and combining it to identify areas of environmental sensitivity and importance. This method is based on current research in GIS and Impact Assessment being undertaken by DIT, UCD and NUI Maynooth. There is an inherent spatial inaccuracy in GIS datasets and when several dataset sources are combined, this increases the inaccuracy. It is recommended that this assessment should be used at a strategic zoning level and used for general guidance only.

Cumulative environmental sensitivity was prepared by applying a weighting to each environmental impact e.g. biodiversity or water depending on its European or National status, for example, sites that are subject to environmental policies or guidelines at a European or national level. SACs or SPA are rated higher than, for example, NHAs or non designated sites of local interest. The same holds for groundwater vulnerability, aquifers of regional importance scored higher than aquifers of local, low productive importance. Wetlands and deciduous woodlands score higher than managed agricultural lands in the land use category. Buffer zones have also been applied to water bodies, structures and sites of heritage value and designated sites. This allows for greater protection of environmental and heritage features.

Scoring detailed in Table 15.1 was applied to the environmental characteristics and the cumulative environmental sensitivity map is shown in Figure 15.1.

**Table 15.1: Examples of Environmental Scoring**

<b>Environmental Characteristic</b>	<b>Weighted Score</b>
European legislation e.g SAC	0 or 10
National legislation e.g NHA	0 to 8
Groundwater vulnerability	0 to 8
Presence of surface water body	0 to 8
Corine land class	0 to 8
Sites and monuments	0 or 8
Aquifers	1 to 8
Zone of archaeological potential	0 or 6

For the cumulative assessment completed for County Kerry, a theoretical maximum score of 74 could be achieved as a worst-case scenario where all maximum environmental sensitivities occurred at the same location. The scorings were broken down as percentiles of the maximum score to present the varying cumulative environmental sensitivities over the study area and a 1 km offset area.

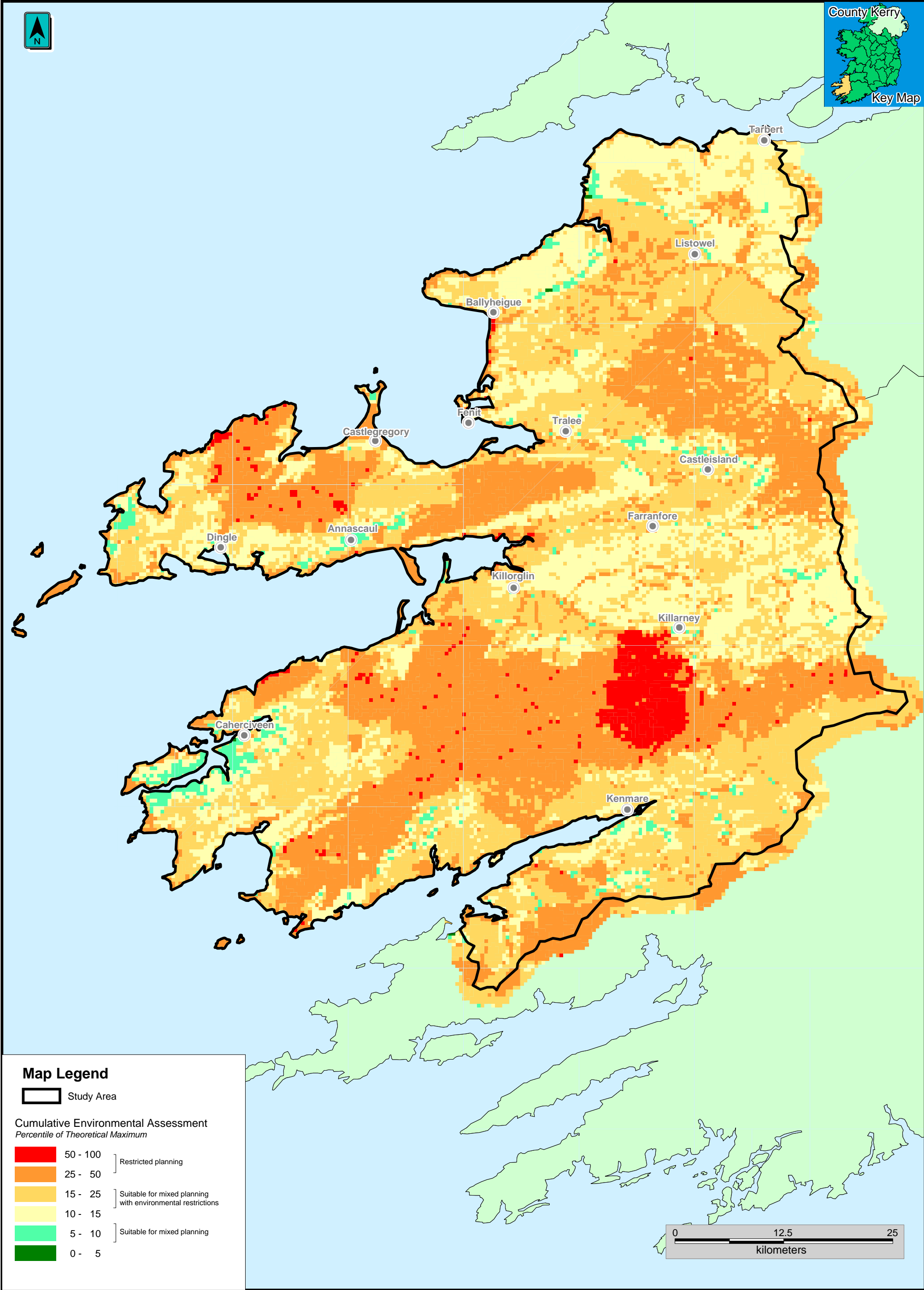
Based on the results of the cumulative assessment, the scorings were broken down as follows:-

0-10 percentile – Suitable for mixed planning. FTC considers that areas under these scorings are amenable to most forms of development.

10–25 percentile – Suitable for mixed planning with environmental restrictions. FTC considers that these areas are suitable for mixed planning but with environmental restrictions. These areas contain some environmental constraints which should be reviewed when zoning in these areas.

FTC recommends when reviewing these areas for development opportunity, they are examined alongside the other environmental baseline figures in this report. This will determine the source of the environmental sensitivity and the development type should be assessed to determine its impact on this particular environmental aspect.

25–100 percentile – Restricted planning. FTC considers these areas to be environmentally vulnerable to development. The scoring of these areas would be driven by European and national environmental policy and legislation through the presence of designated ecological areas, highly vulnerable groundwater and the presence of heritage sites/ monuments.





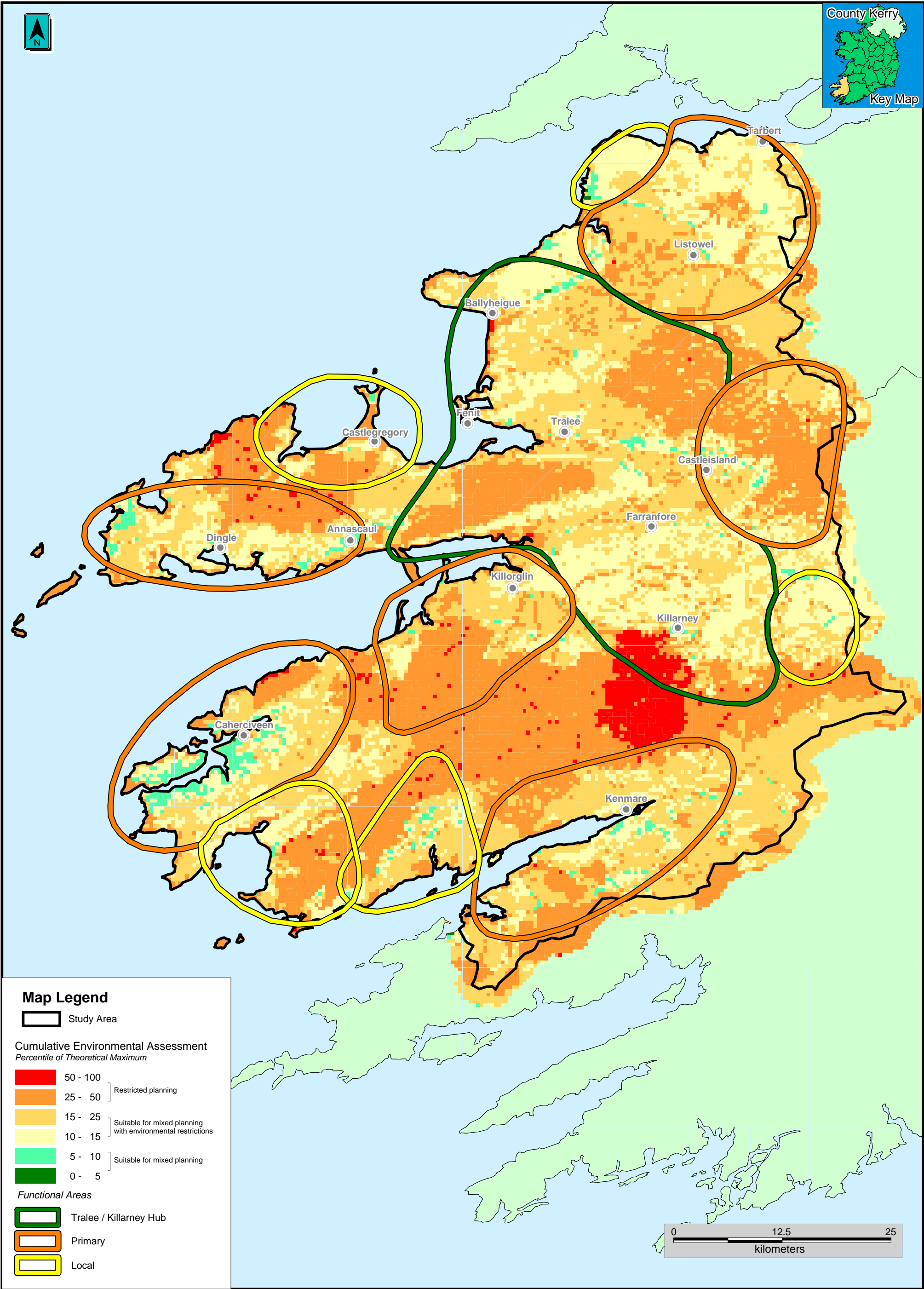
### 15.3. Results

The results of the assessment found that areas around Lough Leane and Killarney National Park were the most sensitive. Lands around the Bandon Mountains, Stacks Mountains and the Macgillicuddy Reeks were also found to be highly sensitive.

Areas south west of Caherciveen, and north of Ballyheigue were found to be more robust.

Figure 15.2 was prepared by overlaying the potential development pressures from the Tralee/Killarney Hub and other functional areas on the cumulative sensitivity mapping. The Tralee/Killarney Hub is predicted to experience strong population growth and developmental pressure. Lands between Tralee and Killarney are of moderate to low sensitivity so conflict between proposed developments and the environmental sensitivity should be minimal.

Conflicts may arise in the primary functional area around Dingle and Annascaul, where environmental sensitivities increase. A potential conflict may arise in the local functional area between Waterville and Castleisland.





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## 16. DEVELOPMENT ALTERNATIVES

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### 16.1. Introduction

The development and assessment of alternatives (or options) is a legal requirement under the SEA Directive. Under Article 5 (O.J. 2001) plans and programme proponents should ensure that:

- Reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated (Article 5.1)
- The Environmental Report includes 'an outline of the reasons for selecting the alternatives dealt with' (Annex 1(h))
- A statement is prepared summarising '... the reasons for choosing the plan or programme as adopted, in the light of the reasonable alternatives dealt with' (Article 9.1(b)).

This section of the Environmental Report identifies and describes the different development scenarios that were assessed by Kerry County Council and the SEA team. The alternatives were evaluated taking into account the vision of the draft County Development Plan and the geographical scope of the Plan.

#### Description of Alternatives

Three alternatives were considered during the preparation of the Development Plan. These were:

- Scenario 1:** Segregate the County by electoral areas with specific Local Area Plans (LAPs)
- Scenario 2:** Segregate the County by settlement with specific Local Area Plans
- Scenario 3:** Segregate the County by defined functional areas based on economies and settlements.

### 16.2. Assessment of Alternatives against Environmental Objectives

The environmental objectives given in Table 5.1 of the Environmental Report were used to assess the different scenarios. The findings of the assessment are described below.

### Scenario 1: Electoral Areas with Specific Local Area Plans (LAPs)

In this scenario, a LAP is prepared for each electoral division in the County. This scenario would not provide for sustainable or economic growth in the County Kerry. The County does not function on political boundary lines. Functional areas are often across electoral areas. To plan on this basis would not identify the most efficient transport or infrastructural provision options. Developments would not occur in areas where they are likely to have the least impact on the natural environment and material assets. This settlement strategy would possibly allow for urban expansion in incorrect locations which would result in a loss of distinction between rural and urban centres.

The impact of this planning scenario would through uncoordinated urban planning put increased pressure on rural areas and on water both from a demand and potential pollution perspective. This scenario may increase pressure for individual rural houses that may be unserved. These dwelling would require a separate treatment system which if not properly maintained could result in discharges to nearby watercourses or groundwater.

The economic cost of providing infrastructure, water, wastewater treatment and amenities would be high.

This scenario would be less favoured.

### Scenario 2: Settlement Areas based on 87 LAPs

In this scenario there would be 87 individual LAPs for the major settlements in County Kerry. It is envisaged that specific planning guidelines would be provided for each individual LAP. However, due to the small size of some of the settlements, adequate infrastructure such as water and wastewater treatment may not be available.

This scenario looks at each settlement in isolation and does not provide an overview of how the areas function, thereby planning in isolation. This may lead to inefficient provision of services and transportation patterns due to a lack of coordination between settlement planning.

Discharges from dwellings within the smaller settlement may be to septic tank or to individual wastewater treatment plants. In the event that these control measures are not adequately maintained or serviced, pollution of water and groundwater may occur.

### Scenario 3: Defined Functional Areas based on Economics and Settlements

For this scenario some trade-offs between development requirements and environmental protection are allowed. It allows for the development of the Tralee/Killarney Hub and the primary functional areas such as Dingle and Caherciveen. It also allows for the provision of infrastructure to cater for the expected increase in population in these areas. Where a conflict between development and environment arises, adequate mitigation measures can be put in place to remedy the impacts.

This scenario allows for controlled development within the County and allows for mixed planning both urban and rural. It looks at how the County functions at a practical level

rather than by political boundaries and groups the provision of services into functional groups thereby providing for the more efficient provision of infrastructure services.

The scenario allows for the protection of designated sites and water bodies within the County. Studies undertaken by the Council have identified the requirements for upgrades and construction of new wastewater treatment plants. The provision of potable water for the public is also included in this scenario.

### **16.3. Assessment of Alternatives against Environmental Objectives**

This assessment is completed to establish how the alternative scenarios would impact on the environmental baseline of County Kerry.

#### Electoral Areas with specific LAPs

The impact on the environmental baseline from segregating the County by electoral areas would be predominantly negative. There are predicted negative impacts on water, biodiversity, population and material assets. The current water quality status is poor especially around the larger settlements such as Killarney and Tralee. However by implementing electoral area segregation, there would be a greater number of wastewater treatment facilities needed as there would be no focus on centralising populations. These new facilities may be under the 500 P.E. design and not be licensed and controlled by the EPA under the new Wastewater Discharge Regulations 2007. This scenario would also be considered to have a negative impact on biodiversity as there would be a greater spatial land take in providing housing and services over a more diverse area with a risk to a greater number of designated sites. There is a predicted negative impact on population as services such as education would be provided at greater distances due to more dispersed populations and there would be greater demand for provision of public transport. There would be negative impacts on material assets as the electoral area segregation would have more dispersed populations and material assets such as water supply, broadband, wastewater and waste management infrastructure would be needed to cover a much greater area.

There are no impacts predicted on cultural heritage, and soils/ geology from implementing the electoral segregation. Cultural heritage is well controlled in Kerry and managing the County from an electoral standpoint would not detract from the stringent control already in place. Soils and geology would not be impacted by an electoral area segregation. Air and climate would be positively impacted as electoral area segregation would not be driven by population development and population dispersion would remain as it is currently. Related air emission from these populations would remain dispersed. The impact on landscape could be positive or negative as developments would be more dispersed reducing significant impacts from large developments and retain the image of the rural environment but there would be greater number of dispersed housing which could negatively impact the landscape character.

#### Settlements with Specific LAPs

There are predicted negative impacts on water and biodiversity with the implementation of the scenario of settlement LAPs. Similarly to the scenario of electoral segregation, a

more dispersed population leads to a greater number of smaller wastewater treatment plants, some of which would fall in under the trigger value for EPA wastewater treatment licensing. This would present a greater risk to water quality. This scenario would also be considered to have a negative impact on biodiversity as there would be a greater spatial land take in providing housing and services over a more diverse area with a risk to a greater number of designated sites. There would be negative impacts on material assets as the scenario would have more dispersed populations, albeit at 87 named settlements, and material assets such as water supply, broadband, wastewater and waste management infrastructure would be needed to cover a much greater area.

There are no predicted impacts on cultural heritage and soils/ geology. There are no impacts predicted on cultural heritage, and soils/ geology from implementing this scenario. Cultural heritage is well controlled in Kerry and managing the County from a settlement specific scenario would not detract from the stringent control already in place. Soils and geology would not be impacted by this scenario.

Air and climate would be positively impacted as this scenario would retain and develop the existing settlements which are spread throughout the county rather than developing high density population centres. Related air emission from these populations would remain dispersed. Population would be positively impacted as the scenario focuses on existing settlements and the local area plan for each settlement would include for quality of life issues. Services to these settlements as material assets would suffer as previously discussed due to the spread of the population. There would be a positive impact on landscape as the each settlement LAP would contain standards for landscape assessment in each LAP. A possible negative impact could occur if the same standards were not applied across each of the LAPs.

#### Defined functional areas

There is a predicted positive impact on water quality with the functional areas scenario. Wastewater treatment services would be more centralised in this scenario and these would be larger plant with P.E. greater than 500 and would be under the jurisdiction of the EPA wastewater licensing regulations. There would also be a positive impact on population as this scenario would develop centralised areas such as the Tralee-Killarney hub and the primary/ secondary areas and hence higher density populations. Infrastructure will be provided for these areas with a positive impact on the provision of material assets. Ambient air quality is good in the County but the denser population centres created by the hub and functional areas will however have greater number of private cars and greater air emissions. Biodiversity is also considered to potentially experience a negative impact from this scenario as the development of denser population's centres and settlements will require additional lands for residential and service developments and habitat loss will occur unless brownfield sites are fully utilised.

Cultural heritage, soils and geology and material assets are not considered to be impacted by this scenario. Cultural heritage is well controlled in Kerry and managing the County from an settlement specific scenario would not detract from the stringent control already in place. Soils and geology would not be impacted by this scenario. There is no expected impact on material assets as the scenario is developing the existing larger settlements where utilities and services are currently being developed.

## 16.4. Preferred Strategy

Based on the environmental assessment of the three alternative policy scenarios, it was found that Scenario 3, which represents the hub function area approach, should be the preferred strategy for the County. This scenario recognises the balance that must be struck between the environment, quality of life and development.

Figure 16.1 Alternatives Assessment																																																																																																														
Alternatives Decision	Geographical Extent	Area Segregation Options	Environmental Objectives Assessment	Existing Environmental Baseline Impact Assessment	Compliance with National Spatial Policy and Regional Planning Guidelines																																																																																																									
	No option available, geographical extent fixed to county scale.	1. Segregate county by set electoral areas with specific LAPs	Less favoured	Less favoured	Less favoured																																																																																																									
		2. Segregate county by settlements with specific LAPs	Least favoured	More favoured	Less favoured																																																																																																									
		3. Segregate county by defined functional areas based on economies and settlements	More favoured	More favoured	Most favoured																																																																																																									
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## GLOSSARY

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### **Air Pollutants**

Substances or energy emitted into the atmosphere in such quantities and in of such duration as being likely to cause harm to humans, plants or animals, damage to materials and structures, changes in weather and climate or interfere with the expected life of property.

### **Air Quality Standard**

A concentration of a pollutant over a specific period above which, if exceeded would breach National legislation.

### **Anthropogenic**

Generated and maintained, or at least strongly influenced, by human activities.

### **Aquifer**

A rock stratum that contains groundwater that allows the groundwater to flow through it. Depending on its geological composition, an aquifer will have a given hence water-holding capacity (porosity) and permeability which affects the rate the potential rate of groundwater flow.

### **Architectural Conservation Area**

An area, townscape or structure which has special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

### **Biodiversity**

A measure of the degree and the number and frequency of the ecosystems and species in a given area. It can refer to global, regional or local ecosystems.

### **Brownfield sites**

A site in an urban area that has been previously built on that may be contaminated.

### **Catchment Area**

An area from which a place draws its population or the area serviced by a water/sewerage scheme. It is also the area of lands that drains into a river.

### **Ecosystem**

An interactive system consisting of a ecological community and the environment in which it exists.

### **Eutrophication**

The process or trend of nutrient enrichment especially by nitrogen or phosphorus which, often leads to ecosystem degradation through excessive nutrient loading. It can occur naturally, but is usually caused by discharges of agricultural runoff and sewage.

**External Objectives**

Objectives to which a plan must have regard. They are often inherited from higher level plans, policies or programmes.

**FTC**

Fehily Timoney & Co., the consultants employed to carry out this SEA.

**Greenfield sites**

A virgin piece of land that has not been developed.

**Groundwater Protection**

The protection of groundwater aquifers. Certain developments are subject to special controls within defined areas close to aquifers.

**Habitat**

A place where an organism lives, a type of environment inhabited by a particular species and/or communities; often characterised by dominant plant forms, physical characteristics, or a combination of these, for example, forest, grassland, marsh and wetland habitats

**Natural Heritage Area (NHA)**

Sites designated under the Wildlife (Amendment) Act, 2000. It is considered by the Parks and Wildlife Section of the DoEHLG to be of particular importance in an Irish context.

**Natura 2000 Site**

European ecological network of sites designated by Habitats Directive (Special Areas of Conservation) and Birds Directive (Special Protection Areas).

**Infrastructure**

Drainage, water supplies, sewerage treatment plants, sewerage networks, lighting, telephone lines, electricity supplies, railways, roads, buildings, schools, community facilities and recreational facilities.

**Local Area Plans**

A plan prepared and adopted in accordance with Section 18 of the Planning and Development Acts, 2000-2006. These plans must be prepared for designated towns with a population in excess of 3,000 people within the functional area of the authority.

**Recorded Monument**

An archaeological monument protected under the National Monuments (Amendment), Act, 1994.

**Objectives**

An objective is a specific statement which is a measurable benchmark that can be used to assess incremental progress in achieving policies and goals within a Development Plan.

**Policies**

These are broad statements that set a preferred course of action.

**Protected Structure**

A building, feature, site or structure identified in the Development Plan as worthy of protection or preservation in accordance with Part 4 of the Planning and Development Acts, 2000-2006.

**Run Off**

Usually defined as channel flow (stream flow) from a site or catchment; but variously used by different authors to include overland flow and all flows.

**Salmonid River**

Salmonid river are those identified under the EU Directive on the Quality of Freshwater to Support Fish Life (78/659/EE). A local authority is required to maintain water quality standards and to control pollution in these waters.

**Scoping**

The process of determining a list of the relevant issues that are required to be discussed in a report. Scoping is carried out in consultation with a number of consultees.

**Special Areas of Conservation (SAC)**

Sites regulated under the Habitats Directive 92/43/EEC which are considered to be of importance both at an Irish and European level.

**Special Protection Areas (SPA)**

Sites that a designated for the protection of bird species under the EU Bird Directive (79/409/EEC).

**Strategic Environmental Assessment**

A formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme. This assessment is done before a decision is made to adopt a plan or programme.

**SEA Regulations**

The Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004), which insert the requirements to undertake a SEA into the Planning and Development Act.

**Sustainable Development**

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

**Water Framework Directive (WFD)**

The WFD (2000/60/EC) was transposed into Irish Law under the European Communities (Water Policy) Regulations 2003 (SI No. 722 of 2003). The WFD sets an objective of achieving good status for all water bodies and aims to ensure that no further deterioration in status of any waters will occur by 2015.