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# Chapter 10

## Natural Environment & Flood Risk Management

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## 10.1 Introduction

County Kerry's natural environment includes a wealth of features that encompass the character of the County. These include the highest mountain in the country, a diversity of wildlife, ecological sites of importance including Killarney National Park, coastal areas including blue flag beaches and sites of geological importance. It is necessary for these features to be protected to the standards required by national legislation and European Directives, whilst accommodating sustainable development in appropriate locations to facilitate sustainable economic growth and development.

In addition to having its own intrinsic value, the natural environment provides opportunities for sustainable recreational activities, employment and tourism and provides natural resources such as drinking water and raw materials which can facilitate sustainable development.



The conservation of biodiversity is of particular significance in County Kerry given its rich natural heritage of wildlife habitats, species, geological features and landforms, including some of international importance. Each chapter of the County Development Plan incorporates policy issues regarding natural heritage as appropriate.

Consideration shall be given to the preparation of a County Heritage/Biodiversity

Plan and Green Infrastructure Strategy as resources permit. This will be drafted with key stakeholders including groups that aim to conserve protected species and/or habitats. Where applicable the strategy will aim to promote community led conservation projects.



Flooding is a natural process and can happen at any time in a wide variety of locations. It constitutes a temporary covering of land by water and presents a risk to people, communities, property, infrastructure and the environment.

Locating development in an area at risk from flooding can lead to property damage, human stress and hardship, problems obtaining property insurance and consequential demands for the expenditure on flood protection works. Understanding flood risk is therefore an essential step in managing the associated impacts of flooding and in making informed decisions in addressing such impacts.



**Strategic Objectives**

**It is an objective of the Council to :**

<b>NE-1</b>	Work with all stakeholders in order to conserve, manage and where possible enhance the County’s natural heritage including all habitats, species, landscapes and geological heritage of conservation interest and to promote increased understanding and awareness of the natural heritage of the County.
<b>NE-2</b>	Ensure that the requirements of relevant national and EU legislation, including the Habitats Directive (92/43/EEC), the EU (Birds) Directive (79/409/EEC), the Environmental Impact Assessment Directive (85/337/EEC), the Water Framework Directive (2000/60/EC), and the Flood Directive (2007/60/EC), are met by the Council in undertaking its functions.
<b>NE-3</b>	Raise awareness, appreciation and enjoyment of the County’s natural heritage and liaise with relevant bodies to promote education and sustainable public participation in environmental and planning matters.
<b>NE-4</b>	Promote best practice with regard to natural heritage conservation and management.
<b>NE-5</b>	Ensure that the cumulative impacts are taken into account when evaluating the impacts of a particular proposal on biodiversity, particularly in relation to habitat loss and wildlife disturbance.
<b>NE-6</b>	Ensure compliance with the provisions of Actions for Biodiversity 2011-2016 - Ireland’s National Biodiversity Plan and any subsequent document adopted during the lifetime of this Plan.
<b>NE-7</b>	Have regard to and implement the recommendations and provisions of the Planning System and Flood Risk Management guidelines (DoEHLG 2009).
<b>NE-8</b>	Facilitate the OPW in the preparation of Flood Zone Maps for Coastal Flooding and Catchment Based Flood Risk Management Plans and to have regard to these (where available) when assessing planning proposals and when reviewing land zoning strategies.

<b>NE-9</b>	Liaise with the OPW on all issues involving river drainage and flood relief, especially when dealing with any development consent applications in the vicinity of important drainage channels.
<b>NE-10</b>	Protect and sustainably enhance, where appropriate, flood conveyance, retention and storage features in the landscape, including wetlands.

## 10.2 Environmental Designations

Biodiversity protection is afforded by International, European and National legislation, most particularly the EU Habitats and Birds Directives, the Planning and Development (Amendment) Act, 2010, the EU (Natural Habitats) Regulations 2011 and the Irish Wildlife Acts (1976 and 2000).

### 10.2.1 International Designations

#### 10.2.1.1 Biosphere Reserves

Biosphere reserves are UNESCO internationally designated sites of conservation value. The designation aims to integrate the interests of nature conservation, sustainable development, research and education. Killarney National Park was designated as a Biosphere Reserve in 1981 by the United Nations Educational, Scientific and Cultural Organisation (UNESCO).

#### 10.2.1.2 Ramsar Sites

Ramsar Sites are internationally designated for the conservation of wetlands, particularly those of importance to waterfowl. There are two Ramsar sites in Kerry – Castlemaine Harbour (3IE016) and Tralee Bay (3IE015). The boundaries of these Ramsar sites overlap the SPA designations of the Tralee Bay Complex 004188 and Castlemaine Harbour 004029.

#### 10.2.1.3 Marine Protected Areas

Under the OSPAR Convention to Protect the Marine Environment of the North East Atlantic, Ireland committed to establishing marine protected areas to protect biodiversity (i.e. OSPAR MPAs). Ireland established a number

of its cSACs as OSPAR MPAs for marine habitats. In Kerry these are the Tralee Bay and Magharees Peninsula, West to Cloghane cSAC, the Kenmare River cSAC and the Blasket Island cSAC.

### 10.2.2 European Designations (Natura 2000 network)

Natura 2000, as an EU wide network of nature protection areas, is the centrepiece of EU nature & biodiversity policy and is derived from the Habitats and Birds Directives. The aim of the Natura 2000 network is to assure the long-term survival of Europe's most valuable and threatened species and habitats. Natura 2000 is not a system of strict nature reserves where all human activities are excluded.

While the network includes nature reserves, most of the land is privately owned, with the emphasis on ensuring that future management is both ecologically and economically sustainable. Natura 2000 sites, also known as European sites, incorporate Special Protection Areas (SPAs) and Special Areas of Conservation (SACs).

There are 31 SACs and 14 SPAs designated in County Kerry, some of which extend beyond the functional area of the County. These Natura 2000 sites are listed in Appendix iv and mapped in Volume 3. The National Parks and Wildlife Service (NPWS) may, during the lifetime of this plan, designate new and/or extend or modify existing nature conservation areas. Up to date maps are available from the NPWS or on line at [www.NPWS.ie](http://www.NPWS.ie).

Article 6 of the Habitats Directive is a step by step scientific assessment process to allow development but only where the interests of Natura 2000 sites are safeguarded (Stages I to IV). Assessment of proposals must be completed before consent is given. Guidance on this process is provided within the DEHLG (2010) document *'Appropriate Assessment of Plans and Projects in Ireland'*.

The Planning Authority will not give favourable consideration to proposals that would adversely affect the overall integrity of a Natura 2000 site. This assessment is based on the qualifying interests and nature conservation objectives of the site. Information on these is available from the NPWS. In certain instances, proposals located outside of a designated site may still negatively impact upon it. Issues to be considered include the potential for impact on hydrology, water quality and wildlife disturbance. Normally exempted development requires planning permission where such works may have a significant effect on a Natura 2000 site, i.e. where a stage 2 Appropriate Assessment / Natura Impact Statement is required. A declaration may be sought from the Council as to whether any proposed work (i) is or is not development and (ii) is or is not exempted development.

Article 10 of the Habitats Directive recognises the importance of local ecological networks in ensuring the coherence of Natura 2000 sites. The Article states that local biodiversity networks *"by virtue of their linear and continuous structure (such as rivers with their banks or the traditional systems for marking field boundaries) or their function as stepping stones (such as ponds or small woods), are essential for the migration, dispersal and genetic exchange of wild species"*. This issue is addressed in this Plan by way of supporting text relating to ecological corridors, green infrastructure and the protecting of biodiversity features in the landscape.

### 10.2.3 National Designations

Nationally designated conservation areas include Nature Reserves, Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs). These are listed in Appendix iv and mapped in Volume 3. Nature Reserves are areas of land, inland water or foreshore areas established for conservation of one or more species, communities, and habitats or for any feature of geological, geomorphological or other natural interest which is provided for by the Minister in accordance with the Wildlife Acts, 1976 and 2000. NHAs are a national designation introduced by the Wildlife (Amendment) Act 2000 to protect natural heritage of national importance. These sites are of significance to wildlife and habitats. pNHAs are sites which have not progressed to NHA status but nonetheless are likely to have ecological value.

### 10.2.4 National Parks

There are six National Parks in Ireland, one of which is located in Killarney. Killarney National Park contains many features of national and international importance such as native oakwoods and yew woods together with an abundance of evergreen trees and shrubs and a profusion of bryophytes and lichens which thrive in the mild Killarney climate. All National Park lands and buildings are owned by the State.



Designated Conservations Areas	
It is an objective of the Council to:-	
<b>NE-11</b>	Ensure that all projects likely to have a significant effect on a Natura 2000 / European site will be subject to Habitats Directive Assessment prior to approval.
<b>NE-12</b>	Ensure that no projects which will be reasonably likely to give rise to significant adverse direct, indirect or secondary impacts on the integrity of any Natura 2000 sites having regard to their conservation objectives, shall be permitted on the basis of this Plan (either individually or in combination with other plans or projects) unless imperative reasons of over riding public interest can be established and there are no feasible alternative solutions.
<b>NE-13</b>	Maintain the nature conservation value and integrity of all Natural Heritage Areas (NHAs), proposed Natural Heritage Areas (pNHAs), Nature Reserves and Killarney National Park. This shall include any other sites that may be designated at national level during the lifetime of the plan in co-operation with relevant state agencies

countryside, together with a wide range of common plants and animals which are all part of the interrelated natural fabric of the landscape

In County Kerry there are several rare, protected and/or threatened plant and animal species. Species are protected under a range of EU and National legislation. The current list of plant species protected by Section 21 of the Wildlife Act, 1976 is set out in the Flora (Protection) Order, 1999. The vulnerability status of other species is listed under Ireland's Red Data Books.

Flora and Fauna species are also protected under EU legislation, specifically through Annex II, IV and V and Articles 12 and 13 of the Habitats Directive and Annex I of the Birds Directive.



BirdWatch Ireland maintains a list of bird species prioritised for conservation action in Ireland. The *Birds of Conservation Concern in Ireland* is published under three classifications Red, Amber and Green. Classifications are based on the conservation status of the bird and conservation priority. Red indicates birds are of high conservation concern, Amber of medium conservation concern and Green are not considered threatened<sup>(1)</sup>. Several species from the red/amber and green lists are found in County Kerry including the Barn Owl (Red) and Kestrel (Amber).

### 10.2.5 Legally Protected Plant and Animal Species

The occurrence of protected flora and fauna species is not confined to protected sites. Protected birds, bats, salmon and otters for example are frequently found in the wider

(1) [www.bwi.ie](http://www.bwi.ie)

<b>Legally Protected Plant and Animal Species</b>	
<b>It is an objective of the Council to:</b>	
<b>NE-14</b>	Protect species of plants listed in the Flora Protection Order (S.I. No. 94 of 1999) and their habitats, species and the habitats of species that require strict protection under the Habitats Regulations (S.I. No. 94 of 1997, 233 of 1998 and 378 of 2005) and animal and bird species and their habitats protected under the Wildlife Acts 1976-2000.

### 10.3 Water Quality

#### 10.3.1 Water Framework Directive

The Water Framework Directive (WFD) is a key initiative aimed at improving water quality throughout the EU. It applies to rivers, lakes, groundwater and coastal waters. The Directive requires an integrated approach to managing water quality on a river basin basis; with the aim of maintaining and improving water quality. County Kerry covers two River Basin Management Plans; the Shannon International River Basin District (RBD) and the South West RBD.

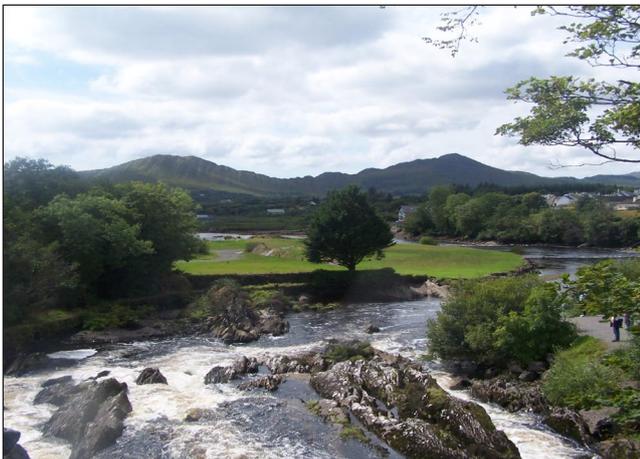
These plans set out the status and quality of waters in the County, the objectives to be achieved and the programme of measures to be implemented in order to achieve those objectives. The two most significant impacts on water quality in County Kerry are discharges from wastewater treatment plants and pollution arising from agricultural activities. Measures to address wastewater discharges are being implemented through the Water Services Investment Programme which has been fully aligned with the environmental priorities identified in the River Basin Management Plans.

In addition, all local authority wastewater discharges must now be authorised by the EPA and conditions may be imposed in order to protect the environment. Diffuse pollution from agriculture is primarily addressed through the Nitrates Action Programme. The rivers and lakes in County Kerry contain internationally important populations of water dependent species including Salmon, Freshwater Pearl Mussels, Lamprey and Otter. Maintenance of good water quality and flows, fish passage, spawning grounds and riparian vegetation are therefore of importance.

There are also a number of formally designated shellfish areas around the coast of County Kerry. Pollution Reduction Programmes have been adopted for these and are currently being implemented. It is important, therefore, that any proposals for development within the catchments of these areas are assessed to identify any potential impact on the quality of the waters in question.

<b>Water Services</b>	
<b>It is an objective of the Council to:-</b>	
<b>NE-15</b>	Achieve water quality targets by implementing the River Basin Management Plans (and associated programmes of measures) and to ensure that development undertaken or permitted by local authorities; other public agencies or private operators, shall not contravene the objectives of the Water Framework Directive, the European Communities Environmental Objectives (Surface Waters) Regulations 2009 SI 272 of 2009 and the European Communities Environmental Objectives (Groundwaters) Regulations 2010, SI 9 of 2010.

- NE-16** (a) Promote the protection of Protected Areas as outlined in Annex (IV) of the Water Framework Directive and the application of relevant Government Guidance in this area.
- (b) Implement Sub-basin Management Plans in accordance with the Fresh Water Pearl Mussel Regulations (SI 296 of 2009).



### 10.3.2 Groundwater and Source Protection

The EU Water Framework Directive (WFD) and Nitrates Directive set out a new approach to the protection and enhancement of the Country's water resources. The fundamental objective of the WFD is to maintain the high quality status of waters where it exists, preventing any deterioration in the existing status of waters and achieving at least "good status" in relation to all waters by 2015.

As outlined previously, for the purposes of the WFD, County Kerry is located within the South West and Shannon River Basin District Regions. River Basin Management Plans (RBMP's) examine all of the issues impacting

on water quality. Delivering the plans is a major challenge for Local Authorities both in financial terms and also in monitoring and negotiations to bring about the necessary improvements.

Ireland has an obligation under the EU Directive 91/676/EEC to prevent pollution of groundwater and surface water by nitrates from agricultural sources. Nitrates in water pose a number of risks. These include effects resulting from eutrophication and the risk posed to human health resulting from excessive levels of nitrates in drinking water.

It is important that all current drinking water sources and potential future sources, of water supply are protected. The Lough Guitane catchment is the source of the Central Regional Water Supply Scheme and is the largest single water supply source in County Kerry. In view of the impact of a contaminated water supply on the local economy and public health, it is critical that this source be protected.

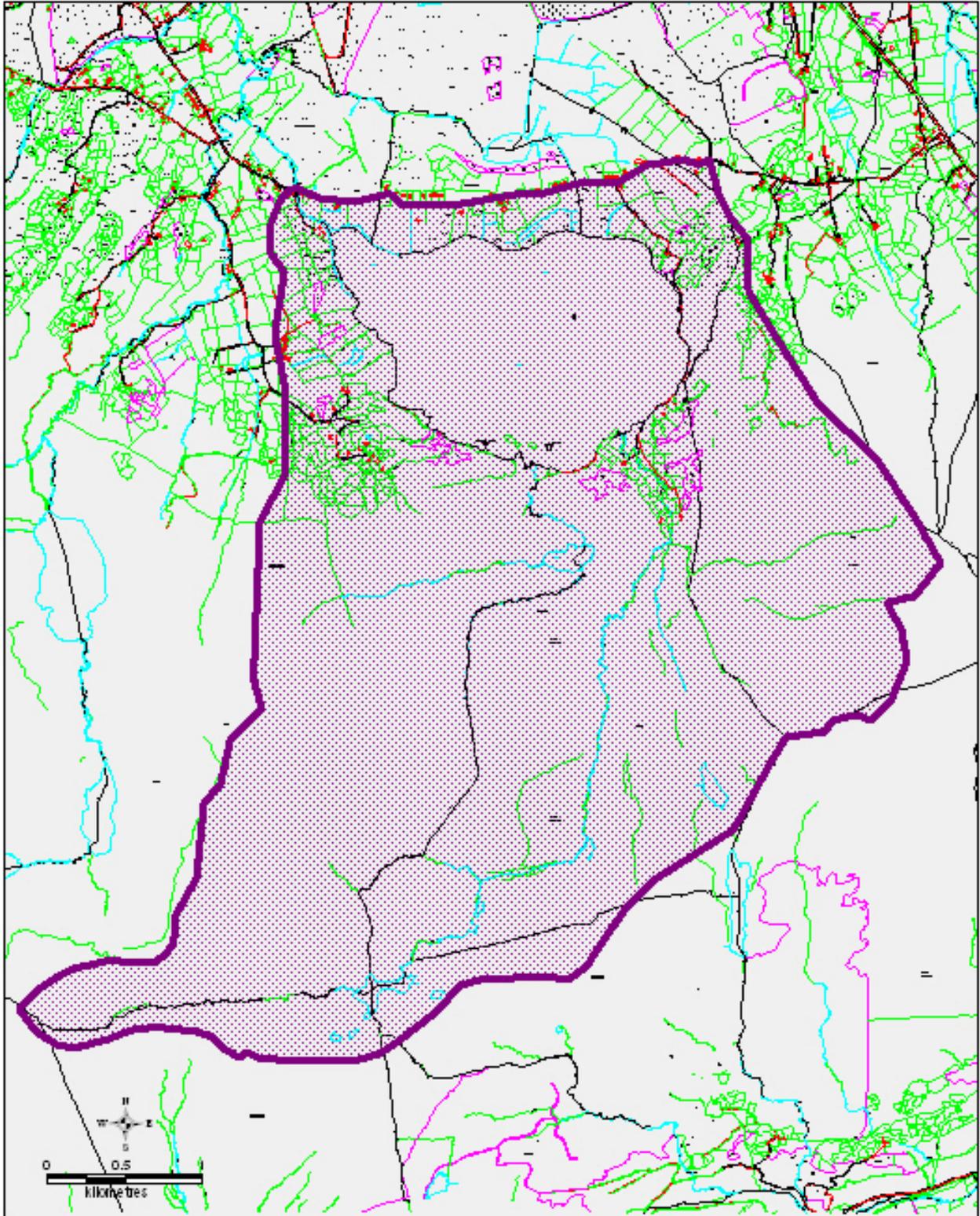
It is the policy of the Council to have the Water Safety Plan approach which protects the catchment area and the ground water zone of contribution. Development in the vicinity of the lake could result in increased risk of pollution to the water body; therefore the precautionary principle will be adopted with regard to development in its catchment area.

Water of good quality is a major resource and must be protected. In areas not served by public or group schemes, groundwater is the principle source of water. In rural areas especially, the impacts of housing, agriculture, industry, tourism, extractive industries and waste disposal are potentially harmful to groundwater resources. The location of groundwater resources will therefore be taken into account when assessing planning applications.



<b>Water Quality</b>	
<b>It is an objective of the Council to:-</b>	
<b>NE-17</b>	Prohibit any form of development within the catchment area of Lough Guitane (including the lake itself) that will have a potentially detrimental effect on water quality (See Map 10.1).
<b>NE-18</b>	Assess all planning applications within Source Protection Areas and the Zones of Contribution (as identified by or on behalf of Kerry County Council) or potential Zones of Contribution (as set out in the document “Groundwater Protection Schemes” (GSI/EPA/DoELG, 1991) of any public or group scheme groundwater source in terms of their potential impact on the water quality of that source.
<b>NE-19</b>	Ensure that planning applications are assessed with regard to the Groundwater Protection Scheme and the likely impacts the development may have on groundwater quality. Development considered inappropriate by the Council will be prohibited in the vicinity of important aquifers. Cumulative impacts shall also be taken into consideration.
<b>NE-20</b>	Ensure that any development that would have an unacceptable and significant impact on the water resource of the area, including surface water and groundwater quality and quantity, any fish bearing watercourse, riparian zone, river corridors and associated wetlands of significance will not be permitted.

<b>NE-21</b>	Protect all sources and potential sources of public water supply within the County from pollution resulting from any development and/or land use.
<b>NE-22</b>	Protect rivers, streams and other watercourses including those outside Protected Areas and maintain them where possible in an open state capable of providing suitable habitat for fauna and flora and to work with other agencies, as appropriate, to prevent the spread of invasive species in or along the county’s aquatic habitats by implementing biosecurity measures, where appropriate.
<b>NE-23</b>	Protect the County’s waters from pollution by nitrates and phosphates from agricultural sources through implementation of the European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2010 or any amending or replacement Regulations.
<b>NE-24</b>	Support any initiative by IFI or other relevant bodies, including community groups, to undertake river restoration works that would enhance the biodiversity of waterways.
<b>NE-25</b>	Promote in collaboration with Coillte, Inland Fisheries Ireland and Failte Ireland, an improvement in the quality of our inland waterways in order to encourage greater recreational use particularly among anglers.



Map 10.1 **Lough Guitane**  
Loch Coiteáin  
Learscáil Uimh 10.1

 Lough Guitane catchment area.  
Gobharachneastar Loch Coiteáin

### 10.4 Septic Tanks and Proprietary Waste Water Treatment Systems

There are in the region of 36,000 domestic onsite waste water treatment systems in County Kerry of varying age and condition. It is a legal requirement that all septic tanks and waste water treatment units are registered with the Local Authority.

Due to the individual nature of the soil and subsoil conditions relating to each site it is necessary that an assessment is carried out to establish the suitability of the site for the satisfactory treatment and disposal of effluent and to ensure that groundwater is protected. This assessment will establish whether effluent can be treated to the required standards and whether the nature of effluent treatment system is appropriate to the site. The standards and requirements relating to wastewater treatment systems are outlined in the Development Management, Standards and Guidelines in chapter 13 of this Plan.

It is the policy of the Council to require that all individual effluent treatment systems and septic tank drainage systems be provided in accordance with the standards set out in the EPA Code of Practice (2010).

<b>Waste Water Treatment</b>	
<b>It is an objective of the Council to:-</b>	
<b>NE-26</b>	Ensure that all waste water treatment systems for single houses are designed, constructed, installed and maintained in accordance with the manufacturers guidelines and the E.P.A. Publication 'Wastewater Treatment Manuals Treatment Systems for single houses' (2010) or any amending/replacement guidance or standards.

### 10.5 Features or Areas of Geological Interest

The Geological Survey of Ireland (GSI), with the National Parks and Wildlife Service (NPWS), is identifying the best nationally significant geological and geo-morphological sites for statutory designations as NHAs (Natural Heritage Areas). Other geological sites of national or local importance are being identified as County Geological Sites (CGS) and by their recognition in the County Development Plans, will be protected from potentially damaging developments through the Development Management System. Over 100 sites have been identified by the GSI as sites of geological interest in County Kerry as listed in Appendix iv, Table 10.6.

<b>Features or Areas of Geological Interest</b>	
<b>It is an objective of the Council to:-</b>	
<b>NE-27</b>	Seek the preservation of important features of geological interest and to maintain the conservation value of those features or areas of geological interest that are listed in Table 10.6 and map 10.6, Appendix iv and protect them from inappropriate development.

### 10.6 Wetlands

Wetlands have a valuable and beneficial role in flood regulation, water purification, wildlife habitat and recreation. In certain instances wetlands can be important carbon sinks and can contain archaeological features of interest. A number of wetlands in the County offer educational, recreational and micro business opportunities, most notably the Tralee Bay Wetlands centre. Not with standing this, in certain instances the loss of particular wetlands



may be justified on wider sustainability grounds, e.g. certain road construction or agricultural production proposals etc. Any such development proposals will be considered on their merits having regard to the proper planning and sustainable development of the area. Wetlands include a wide range of habitats including swamps, marshes, peatlands and inter-tidal areas.

In accordance with the requirements of the Planning and Development Regulations 2001-2013, planning permission is required for proposals which involve the drainage of 0.1Ha of wetlands, while planning permission accompanied by a mandatory EIA is required for proposals which involve the drainage of 2Ha of wetlands. Proposals which involve the drainage of less than 0.1Ha of wetlands require planning permission where either an Environmental Impact Assessment or a stage 2 Appropriate Assessment is required.

A declaration may be sought from the Council as to whether any proposed work (i) is or is not development and (ii) is or is not exempted development.



<b>Wetlands</b>
<b>It is an objective of the Council to:-</b>
<b>NE-28</b> Ensure that impacts on flood risk, biodiversity, carbon storage and archaeology are taken into consideration when assessing any development proposals involving the drainage or loss of wetlands.

<b>NE-29</b>	Support the sustainable use of wetlands for educational, recreational and or tourism uses where appropriate and compatible with environmental protection designations.
<b>NE-30</b>	Have regard to the provisions of the (draft) National Peatlands Strategy, the (draft) National Raised Bog Special Areas of Conservation (SAC) Management Plan and a Review of Raised Bog Natural Heritage Areas (NHAs) and subsequent related Government policy adopted during the life-time of the Plan.

### 10.7 Ecological Corridors

Ecological corridors or stepping stones are habitat patches that may not necessarily be of high conservation value themselves, but serve to maintain ecological connectivity in the landscape. An ecological corridor permits the movement of fauna and flora between areas of high conservation interest or through areas that have little ability to support these species. Corridors are not necessarily linear features, and not all linear features can function well as ecological corridors<sup>(2)</sup>. Examples of such ecological corridors include watercourses and field boundaries comprising of stone walls, hedgerows and tree-lines, which support biodiversity by providing food and shelter for plants and animals. They also act as pathways along which species travel and disperse though the wider countryside. The cumulative impact of loss of ecological corridor features on an incremental or site-by-site basis over time can have significant repercussions for biodiversity in the County, including both designated and non-designated habitats and species.

*(2)The Heritage Council (2011) Best Practice Guidance for Habitat Survey and Mapping*

Habitat mapping can be useful in identifying landscape features of ecological corridor or other biodiversity value. In recent years, habitat maps have been prepared for the towns of Tralee, Killarney, Listowel, Cahersiveen and Tarbert.

### 10.7.1 – Riparian Buffer Zones

Riparian Buffer Zones along with hedgerows, rivers, streams and lakes provide the single most extensive natural migratory transport network in the County. Where riparian corridors do not exist or removed through the introduction of impasses/obstructions (e.g. impassable pipe culvert, dams, bridge aprons, infill, building etc. removal of bio-diverse habitats) fragmentation and loss of migratory pathways occurs.

A riparian/buffer zone is a vegetated area near a stream, which helps shade and partially protect a stream from the impact of adjacent land uses. It is a discrete ecological and geographical entity. It is the point of contact between the land (i.e. the terrestrial ecosystem) and the freshwater body (i.e. the aquatic ecosystem). It plays a key role in protecting/improving water quality in associated watercourses (streams, rivers, and lakes), thus providing environmental benefits. With the decline of many aquatic ecosystems due to development (both urbanisation and agricultural production), riparian buffers have become a common conservation measure aimed at improving water quality and lessening pollution impacts.

<b>Ecological Corridors</b>	
<b>It is an objective of the Council to:</b>	
<b>NE-31</b>	Promote the concept of connecting corridors for the movement of wildlife.
<b>NE-32</b>	Encourage and facilitate the retention and creation of features of local biodiversity value, ecological corridors and networks that connect areas of high conservation value such as woodlands, hedgerows, earth banks, watercourses and wetlands.
<b>NE-33</b>	Identify key areas in the County, in collaboration with other relevant bodies, where habitat mapping would be of particular benefit to record existing features of local biodiversity and to integrate this information in the development management process.
<b>NE-34</b>	Have regard to habitat maps, where available, when preparing town / local area plans and when assessing development proposals.
<b>NE-35</b>	Promote the integration and improvement of natural watercourses in development proposals.



The riparian/buffer zone must be sufficiently wide to protect the watercourse and to accommodate amenity uses, where appropriate. Riparian buffers in addition to water quality benefits (bank stabilisation, interception of nutrients, sediments and pesticides) also provide habitat benefits in

terms of providing shade, enhancing in stream diversity (overhanging vegetation creates niches and supplies invertebrates and leaf-litter into the aquatic zone) and help mitigate habitat fragmentation by providing connectivity i.e. as linear features in the landscape, riparian zones/woodlands can reduce fragmentation by connecting isolated habitats/woodlands, thereby creating greater structural diversity and critical mass. Protection of aquatic zones can require riparian/buffer zones of up to 50m. However the width of the riparian/buffer zone will depend on factors such as land use constraints, land topography (e.g. slope), soil type, channel width/gradient and critical habitats to be protected and a width of 5-10 meters may suffice at some locations.

### 10.8 Woodlands and Trees

Trees and woodlands, particularly broadleaf deciduous ones, provide a valuable resource in terms of both biodiversity and by contributing to a varied, interesting and attractive landscape. Kerry County Council will seek to protect trees, groups of trees and woodland areas of particular importance because of their biodiversity or visual amenity value. Careful consideration will be given to the potential impact of proposed developments on trees. Landowners and developers will be encouraged to retain existing trees, where practicable and to plant additional trees of native species, locally provenanced and grown where possible. Local provenance

Riparian Buffer Zones	
<b>It is an objective of the Council to :-</b>	
<b>NE-36</b>	Maintain and improve aquatic riparian zones along watercourses, free from inappropriate development. Proposals which may have a significant impact on the riparian zone / habitat will only be considered favourably if they can be justified on wider sustainability grounds and where no viable alternative exists.
<b>NE-37</b>	Require, where necessary, that proposals comply with the relevant provisions of the Shannon Regional Fisheries Board document "Planning for watercourses in the urban environment".



refers to the use of plantings derived from local seed or other propagule material and its use is preferable from a biodiversity point of view. Plants sourced from outside of the Country can bring with them diseases which can threaten native stocks (eg. ash die back).

Where the Council is satisfied that existing trees cannot be retained, for example due to poor condition or location within the site etc, it will require acceptable replacement planting using native species.

The National Parks and Wildlife Services (NPWS) have identified 11 native woodlands in Kerry of particular biodiversity value.



The woodlands identified in Kerry are listed in, Appendix iv, Table 10.7. Development proposals affecting the identified woodlands will be assessed with regard to eliminating or adequately mitigating negative impacts on their biodiversity value.

Eleven of these woodlands are also located within other nature conservation designations (cSAC, SPA, NHA and or pNHA) and certain biodiversity interests are already afforded protection by way of those designations.

Other native woodland areas of importance in the County are indicated on Map 10.7 in Appendix 4 and these are all located within either cSAC and or pNHA designations. Kerry also contains a considerable area with coniferous plantation type woodlands – particularly in the Stack Mountains in North East Kerry. Coniferous woodlands also present opportunities for biodiversity and recreation and a number of amenity walkways have been provided within these in recent years. Kerry County Council requires that development sites be screened / landscaped with native Irish trees and hedges. The development standards in relation to tree planting are set out in Chapter 13.

Woodlands and Trees	
It is an objective of the Council to:	
<b>NE-38</b>	Preserve and enhance the general level of broadleaf tree cover throughout the County in both urban and rural areas and ensure that development proposals satisfactorily retain existing trees and/or provide additional native planting.

<b>NE-39</b>	Encourage the provision of locally provenanced native tree species as part of development landscaping schemes.
<b>NE-40</b>	Protect and sustainably enhance the biodiversity and where appropriate the landscape and recreational interests of woodlands in the County, particularly those listed in Table 10.7 and map 10.7, Appendix iv and any other woodlands subsequently identified or designated in need of protection.

### 10.8.1 Community Woodlands

The Native Woodland Trust is pioneering an initiative to create community woodland reserves planted with native Irish woodland species in each county of Ireland. The reserves grow along with the local community and is a direct action towards increasing the amount of native woodland habitat in Ireland as well as creating a resource for the local community to walk, relax, play and learn .

Community Woodlands	
It is an objective of the Council to:	
<b>NE-41</b>	Support and facilitate the development of Community Woodlands in the County. Where applicable the collaboration with other groups that aim to promote the conservation of protected species and/or habitats will be encouraged.

### 10.9 Green Infrastructure

Green infrastructure is a network of green spaces that help conserve natural ecosystems and also provide benefits to human populations through such means as water



purification, flood control, carbon capture, food production and recreation space. Examples include woodlands, coastlines, flood plains, hedgerows, city parks and street trees<sup>(3)</sup>. Green spaces provide environmental, social, economic and physical benefits. Habitat mapping where available can be of particular use in identifying green infrastructure opportunities.

<b>Green Infrastructure</b>	
<b>It is an objective of the Council to :-</b>	
<b>NE-42</b>	Protect, enhance and provide green infrastructure throughout the County.

### 10.10 Urban Ecology

Urban habitats are sometimes viewed as being less important than rural habitats, however urban settlements are often located near biodiversity hotspots, such as along rivers or on the coast. In urban areas, artificial habitats such as parks and water features also support wildlife, and this can be enhanced through improved wildlife friendly management. Studies have also found brownfield sites, in certain instances to be diverse for flora, particularly those that persist longer on nutrient poor substrate or under disturbance. Private gardens can also encourage wildlife and buildings can incorporate biodiversity through features such as green roofs and living walls. Although these features are no replacement for the loss of natural habitats, they can play an important role in supporting biodiversity in urban areas.

(3) Actions for Biodiversity 2011-2016 – Ireland’s National Biodiversity Plan (2011) Department of the Arts, Heritage & Gaeltacht

<b>Urban Ecology</b>	
<b>It is an objective of the Council to :-</b>	
<b>NE-43</b>	Encourage and where appropriate enhance the provision of biodiversity features in urban areas through the town / local area plan preparation and development management processes.

### 10.11 Habitat Loss and Fragmentation

The primary threat to biodiversity both within and outside protected areas is habitat degradation, fragmentation and loss. This results from changes in agricultural practices, commercial forestry, fisheries over-exploitation, peat extraction, air and water pollution, invasive species, disease, land clearance and development, tourism and recreational activities and climate change. To address this issue, Kerry County Council will, where it is considered necessary, require planning applications to be accompanied by habitat mapping of the proposed development site.

This habitat mapping should be undertaken at an appropriate scale and season in accordance with the Heritage Councils *Best Practice Guidance for Habitat Survey and Mapping*, 2011. The habitat map should be overlaid with the emerging development to highlight sensitive habitats and help assess potential impacts. Consultation with Kerry County Council and NPWS in this regard is advised. Habitat provision / restoration may also be required to address the reinstatement of natural features and to allow for positive ecological impacts associated with the development. Such plans should be developed in consultation with Kerry County Council and the National Parks and Wildlife Service.

Habitat Loss and Fragmentation	
<b>It is an objective of the Council to :-</b>	
<b>NE-44</b>	Require, where necessary, proposals to be accompanied by a habitat map prepared in accordance with the Heritage Councils <i>Best Practice Guidance for Habitat Survey and Mapping</i> , 2011.

Invasive Species	
<b>It is an objective of the Council to :</b>	
<b>NE-45</b>	Require as necessary, as part of the planning application process, the eradication/control of invasive introduced species including Japanese Knotweed, when identified on a site or in the vicinity of a site (underground parts of the plants may extend laterally up to 7 meters).
<b>NE-46</b>	Raise in association with relevant authorities, awareness of potential threats caused by invasive species and how they can be spread.
<b>NE-47</b>	Facilitate, in conjunction with relevant agencies, the appropriate cleaning of boats and other potential vectors of introduction, prior to entry into sensitive waters in the County.
<b>NE-48</b>	Liaise with the relevant authorities to address the issue of eradicating invasive species, using ecologically sound and sustainable methods. Locate an appropriate site in the County for the safe and secure disposal of invasive species and contaminated soil, further to best practice guidelines.

### 10.12 Invasive Species

Invasive non-native plant and animal species are often cited as the second greatest threat to biodiversity worldwide after habitat destruction. They can negatively impact on native species, can transform habitats and threaten whole ecosystems causing serious problems to the environment, agriculture and the economy<sup>(4)</sup>. Invasive introduced species tend to reproduce rapidly and are difficult to eradicate once established. Roadsides and brown field/derelict lands are of particular risk due to their accessibility and to the high concentrations of disturbed soil generally found at these locations. It is therefore very important to prevent the movement of earth contaminated with propagule material (e.g. seeds, rhizomes/roots, cuttings from hedge trimming or other fragments) from one area to another. The issue of invasive species is of particular importance given the potential for impact on protected habitats and species.



<sup>(4)</sup><http://invasivespeciesireland.com/>



### 10.13 Biodiversity and Planning Applications

Kerry County Council advises that biodiversity issues be considered at the earliest stage of planning and designing of a development. Pre-planning consultations and advice from planning and biodiversity officers will highlight possible issues relevant to a proposal. Guidance may also be contained in the town / local area plan for the area concerned.

<b>Biodiversity</b>	
<b>It is an objective of the Council to:-</b>	
<b>NE-49</b>	Ensure that in the formulation of development proposals the protection of the biodiversity of flora and fauna is taken into consideration.
<b>NE-50</b>	Prepare planning guidelines for developers / applicants on the incorporation of biodiversity considerations in development proposals, during the lifetime of this Plan.
<b>NE-51</b>	Ensure that flood and coastal protection works are designed, implemented and managed in a manner which takes into account biodiversity considerations and shall in all cases be compatible with Natura 2000 nature conservation objectives. As part of this, where coastal protection works are proposed cognisance shall be given to the potential impacts of coastal squeeze on vulnerable habitats (e.g. saltmarsh, mud flats and beaches).

### 10.14 Environmental Impact Assessment

Environmental Impact Assessment (EIA) is the process by which the anticipated effects on the environment of a proposed development or project are assessed. If the likely effects are significant / unacceptable, design measures or other relevant mitigation measures maybe sufficient to reduce or avoid those effects.

EIA will be required where it meets the thresholds specified in Schedule 5 Part 1 or 2 of the Planning and Development Regulations 2001-2013. An Environmental Impact Statement shall also accompany an application for sub threshold developments where the Planning Authority is of the opinion that the potential environmental impact is such that an EIA is warranted. Regard should be had to relevant EIA guidelines at the time of the application being made. Current guidance is contained in the following documents:-

- Department of the Environment, Community and Local Government (2013) Guidelines for Planning Authorities and An Bord Pleanala on carrying out Environmental Impact Assessment.
- EPA (2002) Guidelines on Information to be contained in Environmental Impact Statements.
- EPA (2003) Advice Notes on Current Practice in the preparation of Environmental Impact Statements.
- Department of the Environment, Heritage and Local Government (2003) Guidance for Consent Authorities regarding sub-threshold development.

### 10.15 Marine

County Kerry has 684km of coastline which is a significant resource in terms of visual amenity, recreation, tourism, biodiversity, ports/harbours, fishing and mariculture/aquaculture. The coast has a diverse range

of habitats, including those of national and international importance and an intrinsic natural scenic and special amenity value, all of which must be adequately protected.

Directive 2008/56/EC, the Marine Strategy Framework Directive (MSFD), establishes a framework within which EU Member States are required to take the necessary measures to achieve or maintain Good Environmental Status (GES) in the marine environment by 2020. The Directive aims to protect Europe’s marine waters by applying an ecosystem-based approach to the management of human activities, while enabling the sustainable use of marine goods and services for present and future generations<sup>(5)</sup>. The Directive requires each Member State to produce a marine strategy, which involves defining GES, setting environmental targets and indicators, implementing monitoring programmes for ongoing assessment and developing and implementing Programmes of Measures to achieve or maintain GES. Ireland’s Marine Strategy is currently being prepared and it is envisaged that it will be published in 2014.



*(5) Department of the Environment, Community & Local Government, Marine Institute (2012) Ireland’s Marine Strategy Framework Directive Implementation.*

The coastline and off-shore islands are of significant ecological importance, which is demonstrated by the number and extent of designated Natura 2000 sites on islands, peninsulas and estuaries and the numerous protected species in these areas. Information on heritage features, including coastal features, is available on <http://heritagemaps.biodiversityireland.ie/#/Map>

Marine	
<b>It is an objective of the Council to:-</b>	
<b>NE-52</b>	Comply with the provisions of EU Marine and Coastal Zone Management Directives.
<b>NE-53</b>	Take an ecosystems-based approach to the assessment of the potential impact of development proposals on coastal and maritime areas. In assessing the impact that development would have on coastal and maritime natural heritage values, the Council will take a precautionary approach and proposals will be required to demonstrate that there will be no likely significant adverse impact on key environmental attributes. Development proposals shall comply with all relevant objectives and standards of this plan including those relating to biodiversity and environmental assessment.

### 10.16 Integrated Coastal Zone Management (ICZM)

A number of separate agencies have responsibility with regard to coastal areas. One of the greatest obstacles to proper coastal zone management has been identified as the



separation of land use and maritime planning. For example, with regard to land-use planning, the local government planning jurisdiction ends at the mean high-water mark, except in cases where the development adjoins the functional area of the local authority. The provisions of the Foreshore Acts are applicable below mean high-water mark<sup>(6)</sup>. In this regard, there is a greater emphasis on the need to achieve better integration between maritime spatial planning and integrated coastal management. Maritime spatial planning's ultimate aim is to draw up plans to identify the utilisation of maritime zone for different maritime uses.

Integrated Coastal Management provides a tool for the integrated management of all policy processes affecting the coastal zone, addressing the land-sea interactions of coastal activities in a coordinated way with a view to ensuring the sustainable development of coastal and marine areas<sup>(7)</sup>. The preparation of the 'Shannon Integrated Framework Plan for the Shannon Estuary' is an example of integrated coastal management.

(6)<http://www.coastalheritage.ie>  
 (7)European Commission (2013) Proposal for a Directive of the European Parliament and of the Council establishing a framework for maritime spatial planning and integrated coastal management

<b>NE-56</b>	Co-operate with adjoining local/ planning authorities in promoting sustainable coastal zone management in a particular area, where the identification of coastal zone units involves crossing administration boundaries.
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### 10.16.1 Coastal Development Zone

A Coastal Development Zone is defined in this instance as including the areas over which the coastline has a functional and visual influence.

#### Coastal Development

**It is an objective of the Council to:-**

<b>NE-57</b>	Prohibit development: In those parts of the Coastal Development Zone where such development could not be adequately safeguarded over the lifetime of the development without the construction of coastal defences.  <b>or</b> Where existing coastal defences, properly maintained, would not provide an acceptable standard of safety over the lifetime of the development.
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<b>NE-58</b>	Prohibit development in areas of the Coastal Development Zone where the natural erosion process is likely to threaten the viability of such development.
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#### Integrated Coastal Zone Management

**It is an objective of the Council to:-**

<b>NE-54</b>	Assist relevant agencies and bodies in the development of a Sustainable Integrated Coastal Zone Management Strategy for the County.
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<b>NE-55</b>	Liaise with the relevant authorities to ensure a consistent and sustainable approach to development above and below the high-water mark.
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<b>NE-59</b>	Prohibit development in areas of the Coastal Development Zone where the impact on protected / designated landscapes, species populations, habitats or amenity areas would be significantly adverse.
<b>NE-60</b>	Discourage the coalescence of development along the coast and between roads and coast where the visual impact would be significant.
<b>NE-61</b>	Ensure that, where appropriate, coastal developments comply with the objectives and standards relating to underwater archaeology as set out in Section 11.3.8.

County Kerry has 684km of coastline, of which 306km can be designated as hard coastline with the remaining 378km being soft and more susceptible to erosion.

Types of Coastline		Total (km)	At Risk (km)
Beach	Dunes	98	44
	Glacial Cliff	207	50
Marine Wetland		26	6
Estuarine		47	8
Total		378km	108km

### 10.16.2 Coastal Protection

#### Coastal Erosion

Coastal erosion is a dynamic natural process involving the wearing away of land and the removal of sediment. This process normally takes place slowly but in certain instances the rate of erosion may be accelerated, for example as a result of climate change. The European Commission study, living with Coastal Erosion in Europe, which was completed in 2004, highlighted some important findings including the fact that some previous interventions, while solving erosion problems locally, have exacerbated coastal erosion at other locations or generated other environmental problems. The mechanisms at play in erosion and accretion (deposition) can be very complex and must be understood to ensure appropriate management regimes are put in place.

It has been found that extensive areas of soft coastline around the Irish coast, particularly in the east, are currently undergoing rapid erosion <sup>(8)</sup>.

#### Analysis of Soft Coastline susceptible to Risk of Erosion

##### Sand Dunes

Sand dunes form an effective natural coastal defence and interference with dunes can have a serious impact on the coast. Serious sand dune erosion continues to occur in many of the well known recreational areas in the County.

The Council proposes to preserve these areas by undertaking appropriate management measures in consultation with relevant agencies and landowners.

(8) Heritage Council & Fáilte Ireland (2009) Climate Change, Heritage and Tourism – Implications for Ireland’s Coast and Inland Waterways

## Coastal Protection

### It is an objective of the Council to:-

<b>NE-62</b>	Prohibit any coastal protection works which have not been the subject of a recognised design process and have not been assessed in terms of their likely impact on the marine and coastal environments.
<b>NE-63</b>	Implement sustainable site specific management policies and initiatives to reduce the risk of coastal erosion, as appropriate.
<b>NE-64</b>	Prohibit the removal of beach material, aggregates, sand and gravel, including the removal of material from sand dune ecosystems.
<b>NE-65</b>	Protect the sand dunes of the County, (which include annexed habitats), and prohibit any development that would damage the integrity (ecological and visual) of these areas.
<b>NE-66</b>	Regulate coastal facilities such as car parking and surf board rental services in sand dune areas so as to protect the overall integrity of the sand dunes. As part of these proposals due regard should be paid to nature conservation, landscape designations and the objectives, policies and standards of this Plan, particularly as they relate to the Natural Environment and Flood Risk Assessment.
<b>NE-67</b>	Ensure that due regard is given to the ICPSS reports, including coastal flood hazard and predictive coastal erosion maps, as part of flood risk assessment, development management and forward planning.

### 10.16.3 Irish Coastal Protection Strategy Study (ICPSS)

ICPSS reports provide strategic level flood event (hazard) maps for 0.1% AEP (Extreme Flood Extent), the 0.5% AEP (Indicative Flood Extent) as well as a number of less extreme annual exceedance probabilities (AEPs). It also provides predictive erosion maps prepared for the years 2030 and 2050, which are based on a strategic level erosion hazard assessment for the coastline. Kerry is included in the ICPSS report titled *'Irish Coastal Protection Strategy Study (ICPSS) from Bantry Bay to Ballyvaughan Bay'* which was published in December 2013.

The ICPSS studies are referenced in the publication "The Planning System and Flood Risk Management, Guidelines for Planning Authorities, DEHLG, Nov 2009" and as such are to be taken into consideration as part of the planning policy and development management processes and as part of Flood Risk Assessments processes.

The primary areas of potential coastal flood risk identified in the ICPSS report for County Kerry are:-

- Castlemaine Harbour
- Tralee to Derrymore
- Ballyheigue to Barrow
- Moneycashen to Finuge

The primary areas of potential significant coastal erosion hazard identified in the ICPSS report for County Kerry are:-

- Waterville to Ballinskelligs
- Rossbehy to Cromane
- Fermoy to Tonakilly
- Ballyheigue to Banna
- Ballybunion

### 10.17 Blue Flag Beach and Green Coast Awards

The Blue Flag beach system is operated in Ireland by An Taisce-The National Trust for Ireland on behalf of the Foundation for Environmental Education (FEE). The Blue Flag is one of the world’s most recognised eco-labels. Beaches and marinas that achieve this accolade must comply with a specific set of criteria relating to water quality, information provision, environmental education, safety and beach management. At beaches the bathing water must comply with the excellent standard in accordance with the EU Bathing Water Directive<sup>(9)</sup>. The Blue Flag beaches in County Kerry in 2014 are set out below:-

Kerry Blue Flag Beaches 2014
Ballybunion North
Ballybunion South
Ballinskelligs
Ballyheigue
Banna
Derrynane
Fenit
Inch
Kells
Magherabeg
Ventry
White Strand

**Table 10.1  
Kerry Blue Flag Beaches 2014**

The Green Coast Award is for beaches which have excellent water quality, but which are also prized for their natural, unspoilt environment and therefore are often located in more rural / remote areas. In 2013 an Béal Bán beach Ballyferriter received the Green Coast Award.

(9)<http://www.blueflagireland.org/>

### Beach Protection

**It is an objective of the Council to:-**

**NE-68** Support coastal initiatives such as the Green Coast Award and Blue Flag scheme and seek to ensure that coastal areas and bathing waters are maintained to the highest level to provide a valuable recreational resource in the County.

### 10.18 Coastal Squeeze

Coastal squeeze is defined as the squeeze of coastal ecosystems (e.g. beaches, salt marshes, mud, and sand flats) between rising sea levels and naturally or artificially fixed shorelines, including hard engineering defences.



According to the European Commission 2004 study ‘living with Coastal Erosion in Europe’, the combined effect of coastal erosion, infrastructure, development and the erection of defences to protect them have created, in many areas, a narrow coastal zone.

Coastal squeeze typically effects low-lying and inter-tidal areas, which would other wise naturally adjust to changes in sea level, storms



and tides but can not do so as a result of the presence of physical barriers.

<b>Coastal Squeeze</b>	
<b>It is an objective of the Council to:-</b>	
<b>NE-69</b>	Ensure that coastal squeeze is taken into account when formulating and assessing coastal development proposals.

given magnitude or severity occurring or being exceeded in any given year. For example, a 1% probability indicates the severity of a flood that is expected to be exceeded on average once in 100 years, i.e. it has a 1 in 100 (1%) chance of occurring in any one year.

Consequences of flooding depend on the hazards associated with the flooding (e.g. depth of water, speed of flow, rate of onset, duration, wave action effects, water quality), and the vulnerability of people, property and the environment potentially affected by a flood (e.g. the age profile of the population, the type of development, presence and reliability of mitigation measures etc).

### 10.19 Flood Risk Management

There are essentially two major causes of flooding, coastal and inland. Coastal flooding is caused by higher sea levels than normal, largely as a result of storm surges, resulting in the sea overflowing onto the land. Inland flooding is caused by prolonged and/or intense rainfall and includes overland flows, river flooding, flooding from artificial drainage systems, groundwater flooding and estuarial flooding. Flooding can also arise from the failure of water infrastructure.

Additional Flood Risk Management objectives are included in the Development Management Section of this plan, which should also be taken into account at all stages of the development management process.

#### 10.19.1 Flood Risk

Understanding flood risk is a key step in managing the impacts of flooding. Flood risk is a combination of the likelihood of flooding and the potential consequences arising.

$$\text{Flood Risk} = \text{Likelihood of Flooding} \times \text{Consequences of Flooding}$$

Likelihood of flooding is normally defined as the percentage probability of a flood of a

#### 10.19.2 Climate Change Impacts

Current predictions of climate change in Ireland indicate that more intense rainfall events are likely to occur and that sea levels are likely to rise. This would mean that areas may be at greater risk from flooding in the future.

#### 10.19.3 Flood Risk Vulnerability

The vulnerability of development to flooding depends on the nature of the development, its occupation and the construction methods used. The classification of different land uses and types of development as highly vulnerable, less vulnerable or water-compatible is influenced primarily by the ability to manage the safety of people in flood events and the long-term implications for recovery of the function and structure of buildings. The Planning Guidelines on the *Planning System and Flood Risk Management (DoEHLG 2009)* and in particular Table 3.1 classifies different types of development according to flood risk vulnerability.

##### 10.19.3.1 Flood Zones

Flood zones are geographical areas within which the likelihood of flooding is in a particular range and they are a key tool in flood risk management within the planning process as well as in flood warning and emergency

planning. These flood zones are determined on the basis of the probability of river and coastal flooding only. The three types or levels of flood zones defined in the DEHLG (2009) guidelines are as follows:-

### **Flood Zone A**

Where the probability of flooding from rivers and the sea is highest (greater than 1% or 1 in 100 for river flooding or 0.5% or 1 in 200 for coastal flooding).

### **Flood Zone B**

Where the probability of flooding from rivers and the sea is moderate (between 0.1% or 1 in 1000 and 1% or 1 in 100 for river flooding and between 0.1% or 1 in 1000 year and 0.5% or 1 in 200 for coastal flooding).

### **Flood Zone C**

Where the probability of flooding from rivers and the sea is low (less than 0.1% or 1 in 1000 for both river and coastal flooding). Flood Zone C covers all areas of the plan which are not in zones A or B.

The flood zones described above are indicative of river and coastal flooding only. They should not be used to suggest that any areas are free from flood risk, since they do not include the effects of other forms of flooding such as from groundwater or artificial drainage systems.

### **10.19.3.2 Sequential Approach and Justification tests**

The sequential approach ensures that development, particularly new flood vulnerable development, is first and foremost directed towards land that is at low risk of flooding.

The justification test as outlined in the *Planning Guidelines on the Planning System and Flood Risk Management (DoEHLG 2009)* has been designed to rigorously assess the appropriateness, or otherwise, of flood vulnerable zonings and developments that are being considered in areas of moderate or high flood risk.

**It is the policy of the Planning Authority to:-**

- Implement the recommendations and provisions of the Planning Guidelines on the Planning System and Flood Risk Management (DoEHLG 2009).
- Adopt a sequential approach to flood risk management in the making of subsidiary plans and local area plans, to guide flood vulnerable development away from undeveloped areas that have already been identified as being at risk and such areas that emerge as being at risk when flood risk maps have been prepared for the County.
- Zone/designate land for flood vulnerable development in areas with a high or moderate risk of flooding (Zone A & B) only where it can be clearly demonstrated, on a solid evidence base, that the zoning or designation will satisfy the justification test set out in the Planning System and Flood Risk Management Guidelines (DoEHLG 2009).
- Fulfill its responsibilities arising under the Flood Directive and to co-operate with the Office of Public Works in the preparation of Catchment-based Flood Risk Management Plans. Recommendations and outputs arising from Flood Risk Management Plans will be implemented and incorporated as appropriate.
- Ensure that the objectives and guidance for Flood Risk Management as set out in this chapter and within the Development Management Section are adhered to.
- Adopt a strategic, integrated, sustainable and proactive approach to catchment management in the County to reduce and manage flood risk arising from:-
  - tidal effects around estuaries and along the coast including the implications of the latest predictions for sea level rise;



- fluvial flooding along river corridors and other significant watercourses resulting from catchments within and beyond the County and other sources of flooding; and
- flooding resulting from surface water runoff and capacity constraints in surface water drainage systems.

The following are flood risk management objectives of the Planning Authority to be adhered to as part of the Town / Local Area Plan preparation process.

<b>Flood Risk Management and Sustainable Planning</b>	
<b>It is an objective of the Council to:-</b>	
<b>NE-70</b>	Facilitate the sustainable growth and expansion of key urban settlements located within flood risk areas through the careful expansion of the urban core and the implementation of appropriate land uses in areas at risk. The Sequential and Justification Tests as described in the DoEHLG Planning Guidelines The Planning System and Flood Risk Management will be taken into consideration in this context.
<b>NE-71</b>	Ensure that Municipal District Plans and all lower tier plans include a Strategic Flood Risk Assessment. Due regard shall be given to relevant CFRAM and ICPSS studies and reports.

<b>NE-72</b>	Ensure that the zoning / designation of lands, for development in areas with a high or moderate risk of flooding, satisfies the sequential approach and justification test set out in the Departmental Guidance on the Planning System and Flood Risk Management (DoEHLG 2009).
<b>NE-73</b>	Ensure that Town and Local Area Plans include policies and objectives requiring and / or supporting flood resilient land uses and flood resilient designs for ground floors of existing and proposed buildings in flood vulnerable locations within existing urban centres, as appropriate.
<b>NE-74</b>	Ensure that SUDS based drainage plans are prepared in conjunction with Town / Local Area Plans to optimise flood/runoff management potential of the areas. The full suite of SUDS design measures should be considered in the SUDS drainage plans.
<b>NE-75</b>	Ensure that new development proposals provide a comprehensive SUDS design with the planning application where appropriate.



The following are flood risk management objectives of the Planning Authority to be adhered to as part of the Development Management Process.

Flood Risk Management	
It is an objective of the Council to:-	
<b>NE-76</b>	Ensure that development proposals which would be sensitive to the effects of flooding, or which would be located in flood prone or marginal areas are accompanied with Flood Impact Assessments, detailed Justification Tests and detailed mitigation measures within the context of the DoEHLG (2009) guidelines on Flood Risk Management.
<b>NE-77</b>	Ensure that developments, which in the opinion of the Planning Authority would have an unacceptable risk of flooding or which would result in an unacceptable risk of flooding elsewhere will not be permitted.
<b>NE-78</b>	Ensure that significant developments in upland areas, such as wind farm developments, roadway construction, peatland drainage and forestry proposals, provide sufficient storm water attenuation so as to avoid the occurrence of river erosion or flooding downstream.
<b>NE-79</b>	Support and facilitate Agencies in the sustainable provision of flood defences at appropriate locations throughout the County which are identified as vulnerable to flooding, including those identified in Catchment Flood Risk Management Plans (CFRAMS).

### 10.20 Kerry International Dark-Sky Reserve

International Dark Sky Reserves (www.darksky.org) are areas recognised as possessing an exceptional or distinguished quality of starry nights and nocturnal environment specifically protected for scientific, natural, educational, cultural, heritage or public enjoyment. The accreditation also means that a brand new branch has opened in the Irish Tourism Industry called Astro-tourism.

The Kerry International Dark-Sky Reserve (as the area will be known) measures approximately 700 km<sup>2</sup> and includes Kells/Folimore, Cahersiveen, Portmagee, Valentia Island, Dromid, The Glen, Ballinskelligs, Waterville and Derrynane/Caherdaniel.

Kerry County Council supports this project and where resources allow intends to replace the public lighting system throughout Kerry with a more energy efficient, money saving, dark-sky compliant lighting system.

Kerry International Dark-Sky Reserve	
It is an objective of the Council to:-	
<b>NE-80</b>	Encourage measures to support the Kerry International Dark-Sky Reserve throughout the lifetime of the Plan.