

# 10. Environmental quality



## 10.1 Water quality

Water quality includes surface water, groundwater, estuarine and coastal waters. The main sources of water pollution are agriculture, forestry, industrial discharges, wastewater treatment plant discharges and effluent discharges from unserviced developments. It is the objective of Sligo County Council to control the aforementioned developments and activities, through planning and development policies and through the enforcement of national water quality legislation, to ensure they do not adversely affect water quality.

Water quality monitoring and management is governed by the EU Water Framework Directive (WFD - EC/2000/60/EC) and provides for water management on the basis of River Basin Districts (RBDs). The functional area of County Sligo falls within three of these RBDs: the Western RBD, Shannon International RBD and the North-Western International RBD. In accordance with the provisions of the Directive, waters fall into five status categories: bad, poor, moderate, good and high. The WFD requires that our waters achieve at least good status and that none of our waters deteriorate by 2015.

The overall objectives of a river basin project are:

- to establish an integrated monitoring and management system for all waters within a River Basin District,
- to develop a dynamic programme of management measures and
- to produce a River Basin Management Plan (RBMP).

The Management Plans will identify the specific environmental objectives to be achieved by the end of 2015 and the programme of measures, which are the actions that will be taken to achieve the objectives.

Sligo County Council is responsible for the implementation of the RBMPs. Development plan policy must have due regard for the programme of measures detailed in the Management Plans. The RBMPs came into effect in July 2010.

### 10.1.1 Quality of estuarine and coastal waters

Sligo County Council must ensure that planning and development policies take due account of the provisions of the Water Framework Directive and the European Communities (Quality of Shellfish Waters) Regulations 2006, in order to maintain the existing water quality status in estuarine and coastal waters.

#### **The Garavogue Estuary and Sligo Bay (including Ballysadare Bay and Drumcliff Bay)**

Water in the Garavogue Estuary is classed as having good status, while Sligo Bay is classified as high status. The new wastewater treatment plant serving Sligo City and Environs is now fully operational. This will ensure that municipal discharges of wastewater are treated in accordance with the requirements of national legislation. Ballysadare Estuary and Drumcliff Estuary are classed as good status and high status respectively. In 2009, Drumcliff Bay and Sligo Bay were designated as shellfish waters in accordance with the European Communities (Quality of Shellfish Waters) Regulations 2006 (implemented as S.I. No 268 of 2006). Ballysadare Bay may be designated a shellfish water at some date in the future.

The DoEHLG has prepared Pollution Reduction Programmes for Sligo Bay and Drumcliff Bay, which must be implemented by Sligo County Council. Monitoring of shellfish waters is carried out by the Marine Institute on a national basis.

#### **Part of Killala Bay (and Moy Estuary)**

Water quality in the Moy Estuary is currently classed as moderate status and Killala Bay as high status. A portion of the functional area of Sligo County Council borders the Moy Estuary, south-west of Enniscrone.

### 10.1.2 Bathing water quality

A new Directive on bathing water quality (Directive 2006/7/EC), which came into force on 24 March 2006, will replace the existing 1976 Directive with effect from 31 December 2014. The new Directive gives a stronger focus to the protection of public health and requires a more proactive approach to the management of bathing water quality.

The Directive will require the preparation of bathing water profiles and assessments of the causes of pollution that might affect bathing waters and impair bathers' health. The Directive also requires an increased provision for public participation, allowing the public to make informed choices about when and where to bathe.

The new Bathing Water Quality Regulations 2008 (S.I. No. 79 of 2008) transposed the EU Bathing Water Directive 2006 into Irish Law on 24 March 2008. Transitional measures will be in place until the Regulations are fully implemented. The existing designated bathing waters at Mullaghmore, Enniscrone and Rosses Point will be regarded as 'identified bathing waters' pending the identification of bathing waters by 2011 as required by the 2008 Regulations.

The overall objective is to ensure that the quality of bathing water is maintained and, where necessary improved, so that it complies with specified standards designed to protect public health and the environment.

### 10.1.3 River water quality

The most recent EPA report on river water quality in County Sligo relates to 2008. The regional EPA laboratory monitored 65 sampling stations on 34 rivers and streams in County Sligo during 2008. In 2009, all rivers within the county were assigned a specific 'current status'.

The Water Framework Directive places an obligation on local authorities to achieve the good status classification of all rivers within the timescales detailed in the Directive. It will be necessary to improve current bad, poor and moderate status rivers to the good status classification and prevent existing good and high status rivers from deteriorating.

There are two designated salmonid rivers in the County: the Moy and the Owengarve. Sligo County Council will strictly control development and activities in the catchments of rivers in order to protect waters from pollution and achieve the requirements of the Water Framework Directive.

### 10.1.4 Lake water quality

Lough Gill, Lough Easky and Lough Talt are particularly important in terms of public water supply, while Lough Arrow is used as a raw water source in a number of Group Water Schemes serving a wide rural hinterland. These four larger lakes are targeted for particular attention in terms of water quality monitoring, due to their scale and economic and social significance as a raw water source for drinking water supplies.

Lough Talt and Lough Easky are currently classified as high status and good status respectively, and these classifications must be retained. Lough Gill and Lough Arrow are currently classified as moderate status. Good status must be achieved within the timescales detailed in the Directive.

Sligo County Council will control development and activities in the catchments of all lakes in order to protect and maintain existing water quality and improve water quality in lake systems that are currently not achieving the requirements of the Water Framework Directive. Lakes classified under the Water Framework Directive are detailed in Table 10.A below.

**Table 10.A Lakes and water quality status in County Sligo**

Lake type	Lake name	River Basin District	Current water status	Grid reference
<b>Branded fishery lakes*</b>	Talt	WRBD	high	G-39-15
<b>Framework Directive lakes</b>	Arrow	WRBD	moderate	G-79-11
	Cloonacleigha	WRBD	good	G-61-15
	Easky	WRBD	good	G-44-22
	Gara	SIRBD	good	G-71-00
	Gill	WRBD	moderate	G-75-34
	Templehouse	WRBD	bad	G-61-10
	Bellanascarrow	WRBD	moderate	G-68-15
	Dargan	WRBD	moderate	G-72-28
	Glencar Lake	WRBD	good	G-74-43
<b>Important trout fishery lakes</b>	Colgagh	WRBD	n/a	G-73-36
	Bo	SIRBD	n/a	G-79-18
	Nasool	WRBD	n/a	G-79-07
	Labe	WRBD	good	G-73-12
	Bree	WRBD	n/a	G-56-28
	Aghree	WRBD	n/a	G-51-29
	Gal	WRBD	n/a	G-44-21
	Rumduff	WRBD	n/a	G-44-21

Note: N/A = interim status not assigned

\* Branded fishery lakes are designated by Bord Fáilte and the Central Fisheries Board and are considered significant in terms of their value as salmon and trout fisheries

### 10.1.5 Groundwater quality

In accordance with the provisions of the Water Framework Directive groundwater is assigned a status based on both chemical status and quantitative status. All groundwater within the functional area of Sligo County Council has been assessed as at “good status” in terms of quantitative status. In terms of chemical status, groundwater is generally at good status, but specific poor status groundwater bodies must be improved within timescales detailed in the relevant river basin district management plans. Under the provisions of the Water Framework Directive, Sligo County Council must protect and maintain the existing good status groundwater bodies and improve poor status groundwater in Sligo by 2021. An extended timeframe until 2021 has been included in the RBD Plans to allow compliance with the requirements of the Water Framework Directive.

A practical and effective means of protecting groundwater and preventing pollution is the use of a Groundwater Protection Scheme. The Geological Survey of Ireland (GSI) prepared a Groundwater Protection Scheme for County Sligo in 2009. The scheme will offer guidelines for local authority departments in carrying out their functions and will provide a framework to assist in decision making on the location, nature and control of developments and activities in order to protect groundwater.

It is the policy of Sligo County Council to ensure that the water quality status objectives detailed in the Water Framework Directive are achieved and to protect groundwater from pollution, by controlling development activities that may have an adverse effect on groundwater quality.

### Water quality policies

It is the policy of Sligo County Council to:

- P-WQ-1** Ensure that all development proposals have regard to the policies, objectives and measures detailed in the River Basin Management Plans.
- P-WQ-2** Ensure that all development proposals have regard to the policies and objectives of the Sligo Groundwater Protection Scheme to ensure the protection of groundwater resources and groundwater-dependent habitats and species.
- P-WQ-3** Ensure compliance with the provisions of the European Communities Environmental Objectives (Surface Waters) Regulations 2009 the European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I.9 of 2010) and the Groundwater Directive (2006/118/EC) on the protection of groundwater against pollution and deterioration.
- P-WQ-4** Ensure compliance with the provisions of the European Communities (Quality of Shellfish Waters) Regulations and the objectives of Shellfish Pollution Reduction Programmes.
- P-WQ-5** Ensure compliance with the requirements of the Bathing Water Quality Regulations 2008 (S.I. No. 79 of 2008).
- P-WQ-6** Protect the quality of estuarine, coastal and designated Shellfish Waters by controlling land-based discharges to these waters.
- P-WQ-7** Strictly limit and control new development in or near the catchment areas of water bodies, particularly salmonid rivers and those that are the source of the following drinking water supplies:
  - Lough Gill
  - Lough Arrow
  - Kilsellagh Source catchment
  - Lough Talt
  - Lough Easky
  - Gortnaleck and Lyle streams
  - Riverstown Source Catchment
  - GWS Source Catchments
- P-WQ-8** Require adherence to any source protection plans for the above-mentioned drinking water source catchments.
- P-WQ-9** Require that all proposals for on-site wastewater treatment systems be designed and constructed in accordance with the Environmental Protection Agency's *Code of Practice for Wastewater Treatment and Disposal Systems Serving Single Houses (PE≤10)* (2009).
- P-WQ-10** Prohibit any development which is likely to lead to the deterioration of water quality.
- P-WQ-11** Ensure compliance with European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2009.



River Moy at Banada

### Water quality objectives

It is an objective of Sligo County Council to:

- O-WQ-1** Implement the management measures contained in the Western RBD, Shannon International RBD and North-western International RBD Management Plans.
- O-WQ-2** Implement the Shellfish Pollution Reduction Programmes.
- O-WQ-3** Ensure the continuation of measures to enforce water pollution legislation.
- O-WQ-4** Seek to achieve consistency between development management and environmental pollution control measures, taking adaptation to climate change into account.
- O-WQ-5** Continue monitoring, auditing and reviewing County Sligo's environmental status with regard to the quality of groundwater, river, lake, estuarine and coastal waters.
- O-WQ-6** Require farmers in high-risk areas to prepare nutrient management plans.
- O-WQ-7** Consider drafting bye-laws under the Local Government (Water Pollution) (Amendment) Act 1990, where it is considered necessary for the regulation of agricultural and forestry activities and on-site wastewater treatment systems.
- O-WQ-8** Maintain existing satisfactory water quality and improve all unsatisfactory waters in the County in accordance with the provisions of the EU Water Framework Directive (2000/60/EC).
- O-WQ-9** Prepare and enforce Source Protection Plans for drinking water catchments within the County.
- O-WQ-10** Require that all discharges to waters and sewers be licensed in accordance with the provisions of the Local Government (Water Pollution) Acts 1977 & 1990, European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. No. 272 of 2009) and European Communities Environmental Objectives (Groundwater) Regulations, 2010.
- O-WQ-11** Promote public awareness of invasive species, to maximise protection for all water bodies from infestation by invasive species, including Zebra Mussel, and Japanese Knotweed.
- O-WQ-12** Promote public awareness on the protection of water quality and water conservation.

## 10.2 Coastal zone management

From sheltered bays, beaches, small islands and wild Atlantic surf, Sligo possesses a varied and spectacular coastline. The coastline, however, is a finite resource that provides environmental, economic, recreational and aesthetic benefits and access to marine resources such as fisheries and aquaculture. It also contains many sensitive ecosystems – ranging from sand dune systems to salt marshes and estuaries rich in marine and bird life – and is significant in terms of cultural and archaeological heritage.

The primary attraction of the Sligo coast is its relatively unspoilt character, its geological and hydrodynamic variability. Increasingly, the coastal zone is coming under pressure from, for example:

- tourism providers who may seek to exploit scenic views in the provision of accommodation or other facilities;
- individual homeowners;
- maricultural developments;
- wind farm operators who wish to avail of coastal locations with high wind speeds;
- holiday makers and/or surfers looking for unspoilt coastlines.

### 10.2.1 Development in coastal areas

The coastal zone shall generally refer to the area between the nearest continuous road and the High Water Mark. However, it may extend beyond such roads and therefore, for coastal zone management purposes, “it extends as far inland and seawards as is required by management objectives” (The European Workshop on Coastal Zone Management, Dorset, 1991). Accordingly, planning-related matters will be determined on a case-by-case basis by the planning authority when considering planning applications or development proposals.

Pressure for development needs to be examined in the context of a coastal environment undergoing fairly rapid change, as the coastal zone is subject to constant pressures from various agents of erosion, potential pollutants and conflicting user groups. It is estimated that coastal zone erosion results in a loss of land area of up to 300 hectares per year around the Irish coast.

Coastal Zone Management aims to achieve a more efficient and sustainable use of the coastal resource. The impacts arising from climate variability, including changing weather patterns and predicted rising sea levels, will be most readily discernible at the coast.

Flooding of low-lying coastal areas is likely to become more frequent as a result of predicted increased intensity and frequency of oceanic storms. The likely outcome may exacerbate coastal erosion, which could have a devastating effect on existing development and infrastructure. New proposed developments in all low lying coastal areas should include flood risk assessment.

The Government’s only discussion document on the subject, entitled *Coastal Zone Management - A Draft Policy for Ireland* (1996), which is not yet official policy, states that “policies of limitation and curtailment on tourism and leisure development and use are ... necessary to deal with the increasing pressure”.

Within the County there are 19 coastal NHAs, SPAs, SACs, Ramsar Sites and Nature Reserves. The boundaries of such areas do not, however, define the limits of actual or potential conservation interest within the coastal zone. Some sites without formal recognition are locally important and will be taken into consideration in the assessment of development proposals. (See policies in Section 7.1 Natural heritage).

## Policies for development in coastal areas

It is the policy of Sligo County Council to:

- P-DCA-1** Generally restrict development in the coastal zone - specifically between coastal roads and the sea - except where it can be demonstrated that it does not detract from views or impact on environmentally sensitive areas. Exceptions will be considered for sustainable tourism development, public infrastructural works and development that is contiguous with existing towns and villages.
- P-DCA-2** Restrict the location of industrial development within the coastal zone to resource-based activities that have a clear and demonstrable need, i.e. those dependent on resources offered at the sea or coast (e.g. maritime industries, mariculture). All such proposals will be subject to the strict application of location, siting and design criteria.
- P-DCA-3** Promote existing degraded coastal areas, e.g. those where quarrying or other deleterious activities have taken place, as significant brownfield development sites, subject to appropriate environmental mitigation measures and the strict application of location, siting and design criteria.
- P-DCA-4** Any development proposal in coastal areas will be subject to the requirements of the Habitats Directive, including the assessment of potential cumulative, in-combination effects in association with other, plans, programmes, projects and works.

## Objectives for development in coastal areas

It is an objective of Sligo County Council to:

- O-DCA-1** Maintain and update the Marine Emergency Response Plan for the Sligo Coast.
- O-DCA-2** Control and minimise sources of water and land pollution.
- O-DCA-3** Consider the establishment of a local forum for each of the coastal cells along the County's coastline, involving landowners, local communities and relevant interest groups, to explore and resolve coastal zone management issues that are specific to each area.

### 10.2.2 Coastal protection

Coastal protection works aim to reduce land loss and the frequency of flooding. In the past, engineering works tended to impose armoured defences along the shoreline, whereas in recent times there has been a preference for a 'softer' approach, i.e. working with natural processes rather than opposing them, where possible. The coastline is subject to a continuous natural process of erosion and deposition within specific coastal cells. These cells consist of a source area (where erosion is the dominant process) and a sink area (where accretion is the dominant process). This interlinked system requires that any intervention – e.g. in the form of a breakwater, seawall, pier or groyne – be restricted to the cell or sub-cell boundaries within which the intervention occurs.

The following general guidelines should also be adhered to in the coastal zone:

- no building or development within 100 metres of 'soft' shorelines;
- no further reclamation of estuary land;
- no removal of sand dunes, beach sand or gravel;
- all coastal defence measures should be assessed for environmental impact;
- careful consideration should be given to the implications of using 'hard engineering' solutions.

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Initial studies (*Sligo Coastal Zone Management Plan - Draft*, H.A. Saunders, 1995 for Sligo County Council) suggested that there may be five coastal cells along the Sligo coastline (see Fig. 10.B). Hard or semi-hard engineering structures are often the only robust protection solutions at exposed locations. Such structures are normally confined to densely-populated coastal villages or locations where it is considered necessary to protect significant public infrastructure (e.g. harbours, piers, outfalls and public roadways).



**Fig. 10.B Features of Sligo's coastal zone**

The planning and design of such works must have regard to the existing coastal cell systems and the associated coastal dynamic behaviour. In light of the sometimes high cost of such defences, there is a case for restricting and containing development near the coast, so as to minimise the demand for costly protection measures.

Coastal protection works that have been carried out by the Council are the Strandhill Coast Protection Scheme and Mullaghmore Harbour Breakwater Improvement Works. Dune management schemes involving 'softer' methods have been carried out at Enniscrone, Strandhill and Mullaghmore, on a phased basis. Other proposed projects (subject to funding) are set out in Box 10.C

### Box 10.C Proposed coastal protection works in County Sligo

Strandhill effluent treatment works – coastal protection works
Enniscrone strand - protection of riverbank, pumping station and lifeguard building
Pullaheeny - coastal protection
Strandhill - dune management
Easkey - scenic drive protection



### Policies for coastal protection

It is the policy of Sligo County Council to:

- P-CP-1** Ensure that regard is paid to visual and environmental considerations in the design of coastal defence works.
- P-CP-2** Ensure that any developments permitted within the coastal zone are appropriately sited, having regard to coastal flooding, vulnerability and the predicted rise in sea level.
- P-CP-3** Require that flood risk assessment is carried out in relation to development proposals within the coastal zones, where appropriate.
- P-CP-4** Establish development limits and natural buffers at the coast, particularly in conjunction with the preparation of local area plans and mini-plans.
- P-CP-5** Strictly control the nature and pattern of development on all promontories and headlands, and ensure that, if development is permitted, it is designed and landscaped to the highest standards. Landscaping will be of a type that is predominantly native to the area and sea-salt spray-resistant.

### Objectives for coastal protection

It is an objective of Sligo County Council to:

- O-CP-1** Carry out the coastal zone management and protection works outlined in Box 10.C.
- O-CP-2** Identify, prioritise and implement coastal protection works within the coastal zone that are considered necessary, subject to the availability of resources.
- O-CP-3** Monitor existing dune management schemes on an ongoing basis and effect appropriate repairs, improvements and extensions, subject to the availability of resources and compliance with the Habitats Directive.
- O-CP-4** Examine existing beach bye-laws and make appropriate amendments, in the interest of protecting sand dunes from encroachment and damage.
- O-CP-5** Continue to employ soft engineering techniques (i.e. dune stabilisation and planting) where appropriate.

## 10.3 Air quality

Sligo is fortunate in enjoying a high-quality environment, with very little industry contributing to problems of air pollution. However, emissions caused by car use and the burning of fossil fuels have a detrimental effect on the environment. In this regard, steps will be taken to reduce dependence on bituminous coal. Some progress has been made through the ban, in October 2003, on the marketing, sale and distribution of this kind of coal in Sligo City and the adjoining townlands of Finisklin, Ballydoogan and Knappaghmore. At present there are no government plans to extend the ban to smaller towns and villages in County Sligo. The Council will seek to implement the provisions of the Air Pollution Act 1987.

In association with the foregoing, the Council will promote an increase in the use of alternative energy sources through the design and servicing of buildings – e.g. improving solar gain through building orientation and using solar panels and ground source heat pumps. A reduction in the number of car trips will also be facilitated through more sustainable development patterns in towns and villages that encourage walking and cycling. The Council will also support rural public transport initiatives.

### Air quality policies

It is the policy of Sligo County Council to:

- P-AQ-1** Support the ban on bituminous coal in Sligo City and Environs and encourage the use of smokeless fuel throughout the County.
- P-AQ-2** Encourage a more energy-efficient approach to the design and servicing of buildings for residential, commercial, industrial and other uses, including public buildings.
- P-AQ-3** Facilitate and encourage an increase in the supply and use of public transport.
- P-AQ-4** Ensure, in conjunction with the EPA, that all existing and new developments are operated in a manner that does not contribute to deterioration in air quality.
- P-AQ-5** Ensure all new developments incorporate appropriate measures to minimise odour nuisance from the development.
- P-AQ-6** Promote the retention of trees, hedgerows and other vegetation, and encourage tree planting as a means of air purification and filtering of suspended particles.
- P-AQ-7** Protect the air quality in the County and promote the preservation of best ambient air quality compatible with sustainable development.

## 10.4 Noise control

In Irish legislation, noise is addressed under the EPA Act 1992 and the EPA Noise Regulations 1994. Most large-scale activities that result in high noise levels are subject to an Integrated Pollution Control (IPC) licence from the EPA.

### Noise control policies

It is the policy of Sligo County Council to:

- P-NC-1** Seek to protect the amenity of dwellings, businesses, community facilities and other existing developments when assessing proposals for development that is likely to generate significant levels of noise.
- P-NC-2** Ensure all new developments incorporate appropriate measures to minimise noise nuisance from the development.

## 10.5 Major Accidents Directive (Seveso II)

The Major Accidents Directive (96/82EC), also known as the Seveso II Directive, was introduced into Irish law through the EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2000 (S.I. No. 74 of 2006). The Directive seeks to prevent major accidents involving dangerous substances and chemicals and limit their consequences for humans (in terms of health and safety) and the environment.

This development plan does not designate sites or zones for uses that might be classified as Seveso establishments and no such establishments exist at present. However, such uses will not normally be permitted in the vicinity of residential areas, areas of concentrated public use or in environmentally sensitive areas. There may also be sites in neighbouring counties that might impact on land in Sligo.

The Council is obliged to pursue the aims of the Directive through controls on the siting of new establishments. The Council must seek technical advice from the National Authority for Occupational Health and Safety in relation to:

- the provision of a new Seveso establishment (or modification to an existing establishment) which may pose risks of major accidents;
- development within a certain distance of a Seveso establishment;
- certain developments considered as being capable of adding to the risk of a major accident in the vicinity of a Seveso establishment.

Any relevant development proposals will be referred to the Health and Safety Authority, whose technical advice will be taken into account in the overall assessment of the development, in addition to normal planning criteria.

### Major Accidents Directive policy

It is the policy of Sligo County Council to:

- P-MAD-1** Consult with the Health and Safety Authority when assessing proposals for a new Seveso establishment or modifications to an establishment, and when assessing proposals for development in the vicinity of existing Seveso establishments.

### Major Accidents Directive objective

It is an objective of Sligo County Council to:

- O-MAD-1** Maintain appropriate distances between establishments covered by the Major Accidents Directive and residential areas, areas of public use and areas of particular natural sensitivity or interest.

## 10.6 Climate change and flood risk management

### 10.6.1 Climate change

Ireland's *National Climate Strategy (2007-2012)* builds on the Government's commitment to sustainable development as outlined in the document *Towards 2016* and the NDP 2007-2013. The Strategy is one of a number of inter-related Government initiatives that will address energy and climate change issues. Significant work has been done to predict the likely impacts of climate change for Ireland. There will be implications for water supply, flooding, coastal erosion, agriculture, land use planning and health.

Sligo Borough and County Councils have commenced the preparation of a joint Climate Change Strategy, in accordance with the national Strategy. It is an objective of Sligo County Council to implement the provisions of the Joint Sligo Borough and County Council Climate Change Strategy, when finalised.

The impact of climate change on sea levels, the nature and pattern of rainfall events and weather patterns generally is relevant. Although the impacts of climate change are not known, it is widely believed that climate change may result in higher risk of flooding both inland and at coastal locations, through the raising of sea levels, the occurrence of more intense rainfall events and more frequent and intensive storm activity. It is important, therefore, that this issue is addressed within the CDP as decisions on the scale and location of future development may increase flood risk.

### 10.6.2 Flood risk

Flooding from rivers and coastal waters is a natural phenomenon that cannot be entirely prevented. Flooding occurs when the capacity of a watercourse to convey water through an area is exceeded. Flooding also occurs in coastal areas, when sea water encroaches on land due to failure of coastal defences, exceptional climatic or other factors. Flooding from the sea and from rivers is probably best known, but prolonged and intense rainfall can also cause sewer flooding, flooding from overland flow and ponding in hollows.

The man-made environment can exacerbate the consequences of flooding. Development in a flood plain, or building in areas where existing drainage infrastructure is deficient or inadequate, places property and people at risk. Flooding may impact on the economy, social well-being, public health and the environment. The impact on individuals and communities can be significant in terms of personal suffering and financial loss.

#### **Guidelines for Planning Authorities – The Planning System and Flood Risk Management**

Following from the EU Directive 2007/60/EC on the assessment and management of flood risks, the DoEHLG and the Office of Public Works (OPW) published *Planning Guidelines: The Planning System and Flood Risk Management* in November 2009. An accompanying document entitled *Technical Appendices* outlines the scale at which it is appropriate to carry out flood risk assessment. The Guidelines recommend a clear and transparent assessment of flood risk at all stages in the planning process, and indicate that Strategic Flood Risk Assessment is required at County Development Plan level in order to provide a broad assessment of all types of flood risk, to inform strategic land-use planning decisions.

The precautionary approach should be adopted in carrying out Flood Risk Assessments and the following key guiding principles should be followed in all instances:

- avoidance of development in areas at risk of flooding by not permitting development in such areas unless fully justified and where capability exists to manage risk without impacting elsewhere;
- application of a sequential approach to flood risk management based on:
  - avoidance of development in areas of high/moderate flood risk;
  - reduction of flood risk through incorporation of less vulnerable uses;
  - mitigation of flood risk in assessing suitability of locations for development;
- the incorporation of flood risk assessment into the process of making decisions on planning applications and planning appeals.

### Progress in flood risk assessment

The OPW is currently involved in preparing Preliminary Flood Risk Assessments (PRFAs) with the relevant local authorities, the Environmental Protection Agency (EPA) and other key agencies. This will identify Areas with Potential Significant flood Risk (APSRs) based on historic and predictive data and consultation with stakeholders.

Catchment-based Flood Risk Assessment and Management Plans (CFRAMs) will be established nationwide and will include a prioritised set of flood risk management measures for their relevant areas, including the use of physical and management responses.

Detailed flood mapping is not yet available for County Sligo and therefore Strategic Flood Risk Assessment (SFRA) at this stage must rely on available information.

### Available information

The current sources of information regarding flooding and flood risk are as follows:

- historical recording of spatial information prepared by the OPW in consultation with local authorities (this map gives a clear illustration of the number and distribution of previous flood events across the County and is available on [www.floodmaps.ie](http://www.floodmaps.ie));
- OPW benefiting lands mapping which shows lands that would have benefited from arterial drainage works (available as a layer on [www.floodmaps.ie](http://www.floodmaps.ie)), which is a surrogate indicator of flood risk;
- extent of historical flooding shown on 6-inch Ordnance Survey mapping;
- mineral alluvial soil mapping (An Teagasc dataset).

It should be borne in mind that works have taken place in some flood locations to alleviate risk of repeat flood events and data quality is variable.

### Strategic Flood Risk Assessment (SFRA)

In compliance with the DoEHLG Guidelines, a Strategic Flood Risk Assessment (SFRA) has been prepared as part of the CDP (see separate document accompanying this Plan). The SFRA provides a description of the spatial distribution of flood risk at appropriate scales for the Plan.

The 30 mini-plans contained in the Plan have each been dealt with at a detailed local scale. Whilst the resulting areas that are depicted as being liable to floods are not entirely reliable, they do provide an indication that further assessment of flood potential may be required.

County Sligo and its settlements have been analysed using GIS to determine the presence of flood risk factors. In turn, these factors form the basis of a scoring system that prioritises the need for detailed flood risk assessment and management studies. The settlements have been ranked according to flood risk, position within the settlement hierarchy, and the availability and status of recent flood studies.

It should be noted that this is a county-scale strategic GIS analysis based on available flood risk criteria only. Flood risk analyses for subsidiary land-use plans as well as for the next County Development Plan will be able to draw upon more detailed and accurate studies that will become available during the lifetime of this Plan. The mapping and plans that will emerge from these studies (PFRAs, CFRAMs etc.) will form the basis for future consideration of flood risk.

The impact of flood risk on decisions regarding location of future development is recognised as being of significant importance to the growth of the county. The recommendations arising from the SFRA have been incorporated into the policies and objectives outlined below.

## Flood risk management policies (I)

It is the policy of Sligo County Council to:

- P-FRM-1** Protect and enhance the County's floodplains, wetlands and coastal areas subject to flooding as vital green infrastructure which provides space for storage and conveyance of floodwater, enabling flood risk to be more effectively managed and reducing the need to provide flood defences in the future.
- P-FRM-2** Establish a 20-metre-wide strip/buffer zone around lakes and along both sides of all rivers, and a 50-metre-wide buffer zone from soft shorelines. Development proposals will be required to maintain these buffer zones free from development.
- Exceptions to this may be considered for strategic road projects, river banks enhancement works, bridge and road repair works, in the case of brownfield sites and in cases where the maintenance of the buffer zone is not practically achievable. In such cases a reduced buffer width may be accepted and any such cases will be assessed on an individual basis.
- P-FRM-3** Restrict development within 50 m of soft shoreline and require any development proposal in the coastal zone to consider the implications of predicted sea-level rise.
- P-FRM-4** Where new or upgraded flood/coastal defences are essential to protect existing development, subject all such proposals to assessment in accordance with the requirements of the Floods and Habitats Directives.
- P-FRM-5** Ensure that no removal of sand dunes, beach sand or gravel is undertaken.
- P-FRM-6** Implement the provisions of the DEHLG's *Planning System and Flood Risk Management Guidelines for Planning Authorities*.
- P-FRM-7** Direct strategically significant growth, projects and infrastructure to areas with a low risk of flooding.
- P-FRM-8** Zone/designate land for development in areas with a high or moderate risk of flooding 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 chapter 4 of the *Planning System and Flood Risk Management Guidelines*.
- P-FRM-9** Restrict development in areas at risk of flooding unless:
- it is demonstrated that there are wider sustainability grounds for appropriate development;
  - the flood risk can be managed to an acceptable level without increasing flood risk elsewhere;
  - the overall flood risk is reduced, where possible.

Developments considered necessary in order to meet the objectives of this Plan, or required on wider sustainability grounds, will be subject to the development management justification test outlined in chapter 5 of the *Planning System and Flood Risk Management Guidelines*.

Measures such as flood compensation storage works or new hard-engineered flood defences alone will not be acceptable as justification for development in flood risk areas. Such measures will only be considered as part of a proposal if the development is warranted by the justification test on planning and sustainability grounds in the first instance, and where no alternative site is available.

[continues on the next page]

## Flood risk management policies (II)

It is the policy of Sligo County Council to:

- P-FRM-10** Require development proposals, where appropriate, to be accompanied by a detailed flood risk assessment in accordance with the provisions of the DoEHLG's *Planning System and Flood Risk Management Guidelines for Planning Authorities* and to address flood risk management in the detailed design of development, as set out in Appendix B of the Guidelines.
- P-FRM-11** Require new developments and extensions to existing developments, where relevant, to use Sustainable Drainage Systems (SDS) in order to minimise the extent of hard surfacing and paving.
- P-FRM-12** Assess flood risk in Local Area Plans in accordance with the Flood Risk Management Guidelines (OPW and DoEHLG, 2009) in a manner that is appropriate to the scale and circumstances of each area and having regard to the priorities set out in the SFRA that accompanies this Plan.

## Flood risk management objectives

It is an objective of Sligo County Council to:

- O-FRM-1** Cooperate with the Office of Public Works in developing catchment-based Flood Risk Management Plans (CFRAMs) and incorporate relevant CFRAM recommendations into the Development Plan.
- O-FRM-2** Work with the OPW to establish catchment-based Flood Planning Groups involving all key actors and groups representing agriculture, forestry, water management and land management.
- O-FRM-3** Complete future SFRAs/FRAs in accordance with the prioritisation set out in the SFRA, subject to review and the availability of additional data during the lifetime of this Plan.
- O-FRM-4** Undertake Stage II Flood Risk Assessments when reviewing local area plans, in accordance with the OPW/DoEHLG's *Flood Risk Management Guidelines*.

### Disclaimer

It is important to note that compliance with the requirements of the *Guidelines on Flood Risk Management* and of the Floods Directive 2007/60/EC is a work in progress and is currently based on emerging and incomplete data, as well as estimates of the locations and likelihood of flooding. The Assessment and mapping of areas of flood risk, in particular, still awaits the publication of both Preliminary Flood Risk Assessments [PFRA] and of Catchment-based Flood Risk Assessment and Management Plans [CFRAMs]. As a result, Strategic Flood Risk Assessment in County Sligo is based on available information.

Accordingly, all information in relation to flood risk is provided for general policy guidance only. It may be substantially altered in light of future data and analysis. As a result, all landowners and developers are advised that Sligo County Council and its agents can accept no responsibility for losses or damages arising due to assessments of the vulnerability to flooding of lands, uses and developments. Owners, users and developers are advised to take all reasonable measures to assess the vulnerability to flooding of lands in which they have an interest prior to making planning or development decisions.

# 11. Energy and telecommunications



## 11.1 Energy

The availability of energy is of critical importance to facilitate new development. The NDP 2007-2013 sets out the strategic context and programmes for the provision of energy and related infrastructure. In addition, the Government has also issued a number of policy documents and guidelines in relation to energy in the following publications:

- *National Climate Change Strategy 2007-2012* (2007)
- *Energy White Paper – Delivering a sustainable Energy future for Ireland* (2007)
- *Maximising Ireland's Energy Efficiency – National Energy Efficiency Action Plan 2009-2020* (2009)

Sligo County Council aims to facilitate, promote and achieve a balance between responding to central Government policy on renewable energy and enabling energy resources within the plan area to be harnessed in a manner which is in accordance with the principles of proper planning and sustainable development.

### Strategic energy policies

It is the policy of Sligo County Council to:

- SP-EN-1** Support the sustainable infrastructural development of energy generation and transmission networks, to ensure the security of energy supply and provide for future needs, subject to compliance with the requirements of the Habitats Directive.
- SP-EN-2** Promote energy conservation and efficiency measures and facilitate innovative building design that promotes energy efficiency in accordance with national policy and guidelines.
- SP-EN-3** Encourage the development of sustainable, energy-efficient buildings throughout the plan area.