

Chapter 9

Marine and Coastal Management

The marine and coastal environment is a living and active ecosystem that requires care and attention. Harnessing the potential of the marine sector as a national asset is a priority while addressing the potential threat of coastal flooding and the challenges associated with the coastal edge.

9.1 Introduction

County Galway has an extensive coastline that is home to a variety of natural habitats, rugged coastline and scenic terrain which all contribute to this unique and iconic landscape. The marine economy is a significant contributor, in the area of fisheries, aquaculture and marine tourism. The coastal waters off County Galway provide an important resource supporting and generating employment and recreational activities.

In 2012 the publication of the Integrated Marine Plan by the Inter-Departmental Marine Co-ordination Group set out a clear road map of the Government's vision for the delivery of a strategic document that gave recognition to Ireland's marine potential. This policy document emphasises greater co-ordination in relation to policy approaches across a range of marine sectors and associated disciplines.

This Marine and Coastal Management chapter will set out the development priorities for the marine sector in the county. The chapter will identify the key industries that make up the marine sector in the county. There will be policy objectives to support the advancement of new technologies and innovations within the industry in support of Galway's existing marine industries. Climate Change and the direct relationship with the marine and coastal management sector will also be addressed in section 9.3 and in *Chapter 14 Climate Change, Energy and Renewable Resources*.

9.2 Strategic Aims

Galway County Council shall work with the appropriate stakeholders and agencies in relation to Marine and Coastal Management and will continue to safeguard the delivery of marine related development in a sustainable manner. This will accord with the following strategic aims:

- To promote growth in the marine sector and deliver a thriving maritime economy harnessing; the opportunities that present themselves in a co-ordinated and sustainable manner;
- To facilitate the development and upkeep of marine infrastructure;
- To support the maintenance and protection of the maritime ecosystem;
- To seek to protect the coast from erosion and to combat the issue of coastal flooding.

9.3 Strategic Context

This chapter has been prepared in the context of the following National and Regional Plans, Policies and Guidelines:

National Planning Framework – Ireland 2040
National Development Plan 2018-2027
National Marine Planning Framework – Baseline Report
National Marine Planning Framework – Roadmap
National Marine Planning Framework – Stakeholder Advisory Group
National Marine Planning Framework – National Legislation
National Marine Planning Framework – Marine Data and Decision-making
Regional Spatial and Economic Strategy for the Northern and Western Region 2020-2032
Climate Action Plan 2019
National Mitigation Plan 2017

Offshore Renewable Energy Development Plan
Integrated Marine Plan 2012
Harnessing Our Ocean Wealth An Integrated Marine Plan for Ireland Roadmap
Ireland's Marine Atlas – Marine Institute
Challenges and Opportunities for Ireland's Major Ocean Economy Industries

9.3.1 National Planning Framework

The National Planning Framework (NPF) highlights the importance of co-ordination between the stakeholders within the industry to achieve balanced marine spatial planning. The marine environment covers a wide range of industries, which include tourism, seafood processing, products of marine biotechnology and bio-discovery, recreation, renewable energy, energy exploration and production.

The NPF was prepared with the acknowledgment that the *European Maritime Spatial Planning Directive* requires the adoption of a national maritime spatial plan by 2021 to harness the resource that exists within the marine sector. These two national strategies would therefore interlink and complement each other, which will ensure there is close correlation between the marine sector and land use-based planning. This chapter seeks to facilitate the effective co-ordination of marine and land use based activities in accordance with the requirements of the of NPO 39 of the NPF. The NPF also recognises the importance of the maritime economy, NPO 39 supports the sustainable growth and maritime economy with emphasis on remote rural coastal communities and islands.

In relation to Coastal Management, NPO 41a and 41b identifies the requirements to protect the coastline in order to sustain its physical and environmental qualities and the need to address the impacts of climate change in relation to the effects in sea level changes.

9.3.2 Regional Spatial and Economic Strategy

The Regional Spatial and Economic Strategy (RSES) references the strong maritime culture and tradition that exists within the county, it refers to the potential benefits that could be derived from a sustainable energy and offshore renewable energy sector. The marine sector also hosts an array of valuable heritage conservation and biodiversity attributes. Marine based health, medicine, technology, along with research and development are also emerging sectors that contribute to a potentially buoyant marine economy. The threat of coastal flooding and coastal erosion is now identified as a threat to future generations.

The marine and blue economy is considered an important asset to the country and is referenced in RSES under Growth Ambition 1-Economy and Employment Regional Policy Objective (RPO 4.34) identifies Páirc Na Mara as a potential contributor to the marine industry. The RSES also supports the upgrade of marine infrastructure ports in strategic locations as outlined in RPO 4.31.

9.4 Climate Change

A key target within the Climate Action Plan requires 70% of national electricity to be generated by renewable resources. Climate change targets are in some instances considered to be a challenge. However, for the marine sector, these parameters represent an opportunity for significant renewable energy production which would yield numerous benefits. It is expected that in the years ahead as offshore renewable energy development gains pace that the marine sector has the potential to make a very significant contribution to the climate change agenda on an international scale.

The coastline is one of the most vulnerable areas in relation to the impacts of climate change. The intensity and frequency of winter storms has been rapidly increasing. These storms not only erode the coastline, but cost millions of euro worth of structural damage, flooding, and damage to fishing vessels and operations. Coastal erosion and the loss of natural coastal defences due to changing weather patterns has increased the risk of flooding in coastal areas. *Chapter 14 Climate Change, Energy and Renewable Resources* further addresses these challenges.

9.5 National Marine Planning Framework (NMPF)

The Marine and Blue Economy is contained within the 2012 document *Harnessing Our Ocean Wealth An Integrated Marine Plan for Ireland Roadmap* which is reviewed regularly. The delivery of a planning framework for the Maritime Economy is set as a goal within this document which has subsequently been enshrined in an EU Directive described above. The National Marine Planning Framework (NMPF) is a twenty-year national plan for the country's maritime areas and is currently being prepared. The NMPF contains a series of overarching policies over environmental, social and economic themes, and provides sectoral policies for 16 sectors ranging from renewable energy, aquaculture, port, harbours and shipping to tourism and defence. The NMPF gives a commitment to prepare sub-national and/or regional plans.

The NPF supports the alignment of land use spatial planning and marine spatial planning. NPO 39 requires regional and local development plans to take account of and integrate relevant maritime spatial planning areas such as renewable energy, electricity networks, coastal and flood defences, fishing and aquaculture, ports and harbours, public access, tourism and recreation, protected sites and species, seascape and landscape.

The Marine Planning and Development Management Bill 2019 represents a significant change to the consenting process for marine based developments. The Bill will amend the existing Foreshore Act and create a new regulatory area and a new single state consent regime for the entire maritime area.

Policy Objectives National Marine Planning Framework

NMPF 1 Marine Planning Framework

To seek to implement the policy objectives as set out within the National Marine Planning Framework to support the effective management of marine activities and more sustainable use of the county's marine resources.

NMPF 2 Marine Planning and Development Management Bill

To support and accommodate any change to the marine spatial planning system which is proposed under the Marine Planning and Development Management Bill 2019 (or any subsequent Bill) once enacted into law.

9.6 Marine and Coastal Development

Development proposals within coastal areas must take cognisance of the changing and dynamic nature of the coast. It is acknowledged that hard engineering solutions are the most resource intensive and involve the highest level of interference with natural processes along this sensitive environment.

As a general principle, development on greenfield sites will only be considered in exceptional circumstances where it is not possible to utilise existing locations.

Policy Objectives Marine and Coastal Development

MCD 1 Protection of the Coastline

To protect the special character of the coast by preventing inappropriate development, particularly on the seaward side of coastal roads. New development, wherever possible, shall be accommodated within existing developed areas and shall be climate resilient in its location and design.

MCD 2 Pattern of Development along the Coast

To strictly control the nature and pattern of development within coastal areas and ensure that it is designed and landscaped to the highest standards and sited appropriately so as not to detract from the visual amenity of the area.

9.7 Marine and Coastal Economy

The marine sector has provided a source of employment generation within the county. Its importance is therefore recognised and reflected in this chapter. Challenges to this sector include the effects of external shocks to fishing exports such as Brexit and the requirement to transition to a low carbon economy.

Ireland's marine sector employed in the region of 30,000 full time equivalents in 2019. The annual turnover of the marine sector in Ireland was estimated to be approximately €6 billion.

The profile of the ocean economy in Ireland is made up of a range of sectors which include some the following:

- Shipping and Maritime Transport;
- Marine Coastal Tourism;
- Marine Aquaculture;
- Seafood Processing;
- Marine Technology Products;
- Marine Renewable Energy.

The shipping, maritime transport and tourism sectors are a significant contributor to the ocean economy.

Policy Objective Marine and Coastal Economy

MCE 1 Maritime Economy

To support development and growth of the maritime economy and balance the competing demands for available space along the coast by different users and encourage co-location and co-existence of activities and infrastructure while having regard to appropriate environmental considerations

9.8 Shipping and Maritime Transport

Ports, harbours and associated infrastructure play a significant role in the continued development of the Marine and Coastal economy. Support for their improvements and upkeep will be imperative in the coming years with the renewable energy agenda now focusing on offshore renewable energy.

Ros an Mhíl is the largest and busiest port within the County Galway with a number of key functions that are pivotal to the success of the marine sector. This facility is an established location as a fishing port, which in turns makes it one of the country's top ten ports for fish landings.

It is also the headquarters for the Galway and Árann Deep-Sea fishing fleet and it has been designated as one of the country's six Major Fishery Harbour Centres.

RPO 4.31 of the RSES seeks to protect, upgrade and expand key fisheries ports including Ros an Mhíl to ensure adequate continued investment in facilities to safeguard its continued prosperity.

The port supports the islands and the tourism industry by providing a year-round ferry service to Oileáin Árann for both passengers and goods. Other routes to offshore islands from Ros an Mhíl will be supported as appropriate. The continued improvement of the marine sector is reliant on the delivery of additional port capacity.

Policy Objectives Shipping and Marine Transport

SMT 1 Marine Potential

To support the marine potential of the county's piers and harbours and related infrastructure and other appropriate marine related development and support the sustainable development of this infrastructure to enable the marine economy to develop.

SMT 2 Expansion of Ros an Mhíl

To support within the lifetime of this plan the potential of Ros an Mhíl as a port of significance and to ensure its development potential is fully realised in accordance with environmental considerations.

9.9 Aquaculture and Fishing

Aquaculture relates to the farming of finfish, shellfish, seaweed species and aquatic food types. It is not exclusively related to sea-based fishing, although the marine environment on the foreshore makes up the majority of aquaculture activity. The fisheries industry plays an important role in maintaining the counties strong marine economy. In recent years the national employment figure in the fisheries industry

was in excess of 14,000 people either directly or indirectly. Given the extensive coastline, number of existing fishing villages and the employment created from this industry requires recognition and protection in this plan.

The plan will seek to facilitate the development of this industry further in a sustainable manner, without detriment to the natural environment. It is also considered that the enabling infrastructure to facilitate a thriving aquacultural industry is of paramount importance. The development and maintenance of harbours, piers and associated infrastructure will also be required to ensure the continued development of this industry.

Policy Objective Aquaculture and Fishing

AF 1 Marine Aquaculture

To support the sustainable development of marine aquaculture and fishing industries, so as to maximise their contribution to jobs and growth in coastal communities where it can be demonstrated that the development will not have significant adverse effects on the environment.

9.10 Shellfish

In order to protect existing shellfish waters and to ensure the future protection of these areas, the European Union introduced the Shellfish Waters Directive (2006/113/EC). The purpose of this Directive was to put in place concrete measures to protect waters, including shellfish waters, against pollution and to safeguard certain shellfish populations from various harmful consequences, resulting from the discharge of pollutant substances into the sea. Since 2013, the Shellfish Waters Directive has been subsumed into the EU Water Framework Directive (WFD) which brings a more integrated approach to managing water quality on a river basin (catchment) basis, in order to protect and enhance both ecological and chemical quality of rivers, lakes, groundwater, estuaries and coastal waters, including shellfish waters.

There are 9 areas along the County Galway coastline that are identified as shellfish waters:

- Cuan Chill Chiaráin;
- Clarinbridge/Kinvara Bay;
- Aughinish Bay;
- Outer Galway Bay Indreabhán;
- Mannin Bay;
- Clifden Bay/Ardbear Bay;
- Streamstown Bay;
- Ballinakill Bay;
- Killary Harbour.

A Pollution Prevention Programme is in place regarding these designated areas. Generally, development is required to have regard to the requirements of the Western River Basin Management Plan which make reference to the protected shellfish waters. Developments adjoining, or in the vicinity of, designated Shellfish Waters must have regard to the designation and ensure that development does not have a negative impact on the quality of the water and Natura 2000 sites in the area.

Policy Objectives Shellfish

SF 1 Shellfish Waters Directive

To continue to work with local communities, relevant stakeholders and with the Department of Agriculture, Food and Marine to ensure the proper and successful implementation of the Shellfish Waters Directive along County Galway's coastline.

SF 2 Protection of Shellfish Waters

To seek to protect the quality of designated shellfish waters off the County Galway coast.

9.11 Marine and Coastal Tourism

The high amenity value of County Galway's coastline provides an opportunity for a range of uses associated with tourism. The WAW has encouraged visitors to certain rural parts of the County within the Conamara Region which has had a significant positive impact on these communities.

The success of marine tourism depends on the quality and maintenance of supporting infrastructure. Blue Flag status for beaches in the county will continue to be attained. The maintenance of harbours and piers are also recognised as important in ensuring that water-based activities remain safe and attractive to visitors. The roll out of coastal trails as part of the blueway network in recent years has been a valuable attraction.

Policy Objectives Marine and Coastal Tourism

MCT 1 Water Based Sports and Marine Recreation

To encourage proposals that promote sustainable development of water-based sports and marine recreation in coastal areas and on river systems across the County in accordance with environmental considerations.

MCT 2 Coastal Tourism and Recreation

To facilitate sustainable tourism and recreation activities where appropriate, whilst encouraging the diversification and utilisation of existing facilities in accordance with environmental considerations.

MCT 3 Existing Coastal Walkways

To support proposals that improve the existing network of coastal walks within the county in accordance with environmental considerations.

9.12 Marine Renewable Energy

Transitioning to a Low Carbon and Climate Resilient Society is a National Strategic Outcome set out in the NPF which now also forms part of the National Climate Policy Position. NPO 42 of the NPF supports the development of Ireland's offshore

renewable energy potential which includes domestic and international grid connectivity enhancements in accordance with the Offshore Renewable Energy Development Plan. To reach this target, there is a quest to deliver a quantum of renewable energy both on shore and offshore. A key national resource to Ireland in this regard is the abundance offshore energy that can be reaped off its coast. This would be sourced from wind wave and tidal combined and connected to the major sources of demand as confirmed in the accompanying Local Authority Renewable Energy Strategy (LARES).

The County has the benefit of an existing test site in Galway Bay which is known as Marine Renewable ETS.

There have been considerable technical advances in renewable energy generation in recent years which make it an attractive and viable development option. The development of offshore energy sources will be an important contributor in ensuring Ireland meets its climate change reduction responsibilities.

Policy Objective Marine Renewable Energy

MRE 1 Renewable Energy

Support as appropriate, sustainable offshore renewable energy generation off the County Galway coast subject to environmental and amenity considerations.

9.13 Marine and Coastal Heritage

The marine environment forms a significant part of our heritage and identity, which is reflected in the vibrant coastal and island communities. Pier harbours, coastal forts and lighthouses form an intrinsic part of our heritage. As outlined in the RSES under RPO 4.15 requires the protection and preservation of our coastal, archaeological and built heritage and it calls for the restoration of our key coastal assets. numerous biodiversity sites are protected through their designation as SAC and SPA sites under the Habitats Directive, however the range of aquatic biodiversity is not just limited to these designated sites

Policy Objective Marine and Coastal Heritage

MCH 1 Cultural and Marine Heritage

To prevent where possible marine development from compromising the quality and significance of marine culture and heritage in accordance with proper planning and sustainable development.

MCH 2 Marine Based Environment

It is a policy objective of the Local Authority to protect and enhance where appropriate marine biodiversity in accordance with proper planning and sustainable development.

9.14 Marine Research and Innovation

RPO 4.3.2 of the RSES seeks the expansion of the regional assets in the Blue Economy. e research and innovation. Páirc na Mara is referenced in RPO 4.34 of the RSES, which seeks to enable the development and expansion of a number of regional strategic Marine Resource Innovation Parks.

The port of Ros an Mhíl has the potential to develop as a location for a 'maritime/marine cluster within the County. This would be achieved through close collaboration with other bodies and agencies such as private businesses and educational and research institutes such as the Marine Institute and the Socio-Economic Marine Research Unit at National University of Ireland Galway for example.

Policy Objectives Marine Research and Innovation

MRI 1 Marine Research and Innovation

Support marine development such as research and innovation facilities in the County. This will be subject to detailed environmental considerations and proposals must be carried out in accordance with proper planning and sustainable development.

MRI 2**Marine Resource Innovation Park**

To support the development and expansion of strategic Marine Resource Innovation Parks including Páirc na Mara at Cill Chiarán and seek to support the increase in aquaculture and seafood sectoral growth in the Marine Economy in accordance with proper planning and environmental considerations.

9.15 Marine and Coastal Challenges

As outlined in the NPF NPO 41b seeks to address the effects of sea level changes and coastal flooding and erosion and to support the implementation of adaptation responses in vulnerable areas. Recent decades have seen a persistent rise in temperature that has not been seen since prior to 1950. During the twentieth century and the beginning of the twenty first century a sea level rise of 0.19m was recorded. This is set to increase to 0.91m by the year 2100. Climate change and sea level rise make a significant contribution to the effects of coastal erosion. The two issues are inextricably linked. For example, climate changes increase the frequency and severity of storms which results in exacerbated coastal inundation. This could prevent access to aquaculture facilities offshore and make the port and prohibit the safe use of ports and harbours.

The Local Authority Coastal Erosion Policy and Practice Audit which was issued in 2017 highlights the extent of coastal erosion as perceived by 19 Local Authorities. In County Galway it was estimated that 154km of coast are reported at risk of coastal erosion.

A challenge to the marine and coastal environment relates to changes in sea temperature. This has the potential to impact on the aquaculture sector with incidence of algal blooms of phytoplankton. This would affect shellfish and finfish aquaculture production, reduce the quality of other habitats and effect the functioning of certain species. A number of mitigation measures to counterbalance the change in sea temperature such as offshore renewable energy and the development of an integrated multi-trophic aquaculture where aquaculture sites cultivate multiple species, which could include finfish and seaweed occupying the same site. This

would potentially sequester carbon which would be supported as an innovative concept.

Policy Objectives Marine and Coastal Challenges

MCC 1 Environmental Values of the Coast

Protect the amenity, character, visual, recreational, economic potential and environmental values of the coast. Ensure that natural coastal defences including sand dunes, beaches and coastal wetlands are not compromised by inappropriate development.

MCC 2 Protection of Coastal Habitats

To strictly control the nature and pattern of development within coastal areas and ensure that it is designed and landscaped to the highest standards and sited appropriately so as not to detract from the visual amenity of the area.

(a) Development shall be prohibited where the development poses a significant or potential threat to coastal habitats or features, and/or where the development is likely to result in altered patterns of erosion or deposition elsewhere along the coast;

(b) To prohibit development along the coast outside existing towns and villages where such development is not adequately safeguarded over the lifetime of the development without the need to construct additional coastal defences.

MCC 3 Protection of Coastal Area

It is a policy objective to protect the Coastal Area through the following measures:

(a) Ensure that conservation works undertaken in coastal areas are in accordance with best practice and measures to protect the coast, the coastal edge and coastal habitats are supported;

(b) Seek to prevent the unauthorised removal of sand and related beach material;

(c) Protect, enhance and conserve beaches in the County from inappropriate development and seek to maintain the current status of the designated Blue Flag beaches and Green Coasts and to increase the number of beaches and coasts holding this status in the future;

(d) Facilitate an Integrated Coastal Zone Management approach to ensure the conservation, management and protection of man-made and natural resources of the coastal zone;

MCC 4**Integrated Framework Management Plan**

Support the preparation of an Integrated Galway Bay Framework Management Plan by all relevant stakeholders to provide for the sustainable and integrated development of the Galway Bay Area in a co-ordinated manner