

# Coastal Zone Management

## SUMMARY AND POLICY IMPLICATIONS

### Coastal Erosion/Coastal Deposition

There is firm evidence that rising sea levels, increasing storm frequency, and wave energy can increase the rate of erosion and incidence of flood-related events (e.g. landlord incursion, wave damage flooding etc) in some areas of the coast.

Some 1500Km of the coastline are at risk from erosion, while some 490Km are in immediate danger.

The rate of erosion is currently estimated at 0.2-1.6 metres per annum although rates will vary according to the materials. Some 130-160 Ha of land was lost through coastal erosion in the 1980s.

Human activities such as sand/gravel removal from beaches, dredging, land reclamation and shoreline protection measures.

The areas most vulnerable to coastal erosion are the soft coastlines of the east coast between County Down and County Wexford.

### Sea Level Change

Sea level change around the coast of Ireland is estimated at 17-31 cm. over the next 30 years. The difficulty in predicting such change means a wider range of anywhere between 5cm and 46 cm is possible.

The mean annual rise in sea level is likely to be of the order of 0.2mm with an overall rise between 1990 and 2030 of 0.3m.

The rise in sea level would have serious effects on the coastline, increased erosion, flooding, breaching of coastal defences and loss of habitat and amenity. The country would not be affected uniformly; sea-level changes will impact on the south and southeast first then spreading northwards. The greatest impact of flooding would be felt in the urbanised east coast and in the 3 major cities located on the coast, Dublin, Cork and Galway. On the west coast counties from Cork to Donegal and the Shannon Estuary, the likelihood is that some 150,000 Ha of land is vulnerable to loss by sea-level rise. In addition to loss of land through gradual inundation, the increased storminess and severity of storms expected as the climate changes will exacerbate the potential for coastal damage. The 100-year return period for incidences of extreme levels of water can be expected to be reduced to 5 years.

Overall some 176,000 Ha of coastal land is at risk from sea-level change.

The foregoing assessment arises out of an analysis in 1991 of the outcome of the First Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). The EPA is currently undertaking a fresh assessment of the impacts of climate change on the basis of the Third Assessment Report of the IPCC. While the 1991 assessment has a time horizon to 2030, the current predictions of the IPCC are that the change in sea levels will continue leading to an expected global sea-level rise of between 0.1 and 0.9 metres by 2100.

## Land Use Characteristics

The LACOAST Project examined changes land use in a 10km strip around the coast of Ireland (including NI) over the period 1975-1990. In 1990 55% of all land in the coastal zone is agricultural a fall of 0.53% from 1975 and due primarily to urbanisation around the periphery of coastal cities and towns.

The biggest change in land use was the large-scale expansion in land under afforestation which showed a 38.3% increase (probably due to planting on the west coast)

The urbanised area in the coastal zone increased by 10.3%. The number of houses in the coastal counties increased by between 47% and 180% in the period 1994-97. The amount of industrial land increased by 16.6% over the 1975-90 period.

## Marine Industry

The Irish fleet landed 300 Kt of fish with a value of £144 million. In 1996 the top 20 of the 129 ports accounted for 86% of the tonnage and 75% of the value. These 20 ports dominate the demersal & pelagic sectors while shellfish landings are distributed more evenly amongst the medium and small ports. Killybegs accounts for 50% of the total landed tonnage. Castletownbere and Killybegs are the main demersal ports. On the east coast Carlingford Clogherhead and Arklow are the most important ports. Cobh, Union Hall and Helvick are the landing points. Ports in the southwest land mostly shellfish dominated by cultured mussels. Along the west coast shellfish landings predominate

## Tourism

Tourism in the coastal zone depends quality and variety of the coastal environment yet over-development, increases in tourism numbers threaten areas of high ecological and resource value. There is a wide range of tourism development impacts in the coastal zone, holiday homes, caravan parks, golf courses etc.

## Urban development

Almost all of the coastal towns of 2000+ have increased population in the period 1991-96.

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## Holiday Homes

Extensive stretches of the coastal zone have been developed for holiday homes particularly on the outskirts of towns and villages. The development of second/holiday homes is accelerated by the buoyant economy and to an extent by tax incentive schemes (discussed below). The effect is not only to create a visually intrusive form of development in the landscape but also to distort the availability of local housing supply. One study shows that upto 40% of housing supply in rural NW Connemara was owned by people not resident in the area and in some individual townlands the incidence was as high as 60%

## Offshore Energy

There is extensive exploration off the coast for oil, gas and petroleum. The Kinsale Gas field is nearing the end of its economic life and will be exhausted by 2010. A new gas find off 7 km west of the Mayo coast in the Corrib Field will be exploited over the next 15 years. Landfall for the gas supply will be Bellanaboy near Pollatomish. Exploration in the vicinity of the Corrib field continues. There is also a gas inter-connector with Scotland and investigation is being made into a further connection and connection with Northern Ireland.

The development for offshore wind generation offers considerable potential given the wind resource and the more complex issues affecting land based wind farms.

## Aquaculture

Aquaculture is spatially concentrated along the south, west and northwest coasts with the main finfish areas being southwest (Bantry and Kenmare bays), the northwest (the larger bays in Donegal) and the west coast (the larger bays in Connemara and Mayo). There are important shellfish beds in the northeast and southeast also.

It is planned to expand aquaculture production from the 1997 level of 39,000 tonnes to 160,000 tonnes by 2015.

## **Recreation**

The use of the coastal zone for recreation (all waterbased sports) is increasing substantially. One estimate puts the increase in daytrips to the coastal area at 600% in the period 1970-95. Domestic sea-angling has increased by 50% since 1988 and in 1995 40,000 overseas visitors were attracted to Ireland for sea-angling. Sailing is spatially concentrated with half of the marina berths being located on the south and southwest coasts.

## **Environmental Designations**

The coastal zone contains a high proportion of areas protected under various natural heritage designations SAC/SPA/NHA. Land use conflicts with tourism-related development, recreation, agricultural practices, second home development etc. persist. A study in 1992 identified that 37% of the ASIs (the precursor to SAC/SPA/NHA) in four coastal counties had been damaged and 16% under immediate threat as a result of tourism and recreation pressure.

## **Impact of fiscal policies Seaside Tax Scheme.**

The Pilot Tax Relief Scheme for Certain Resort Areas was introduced in 1995 for a number of seaside towns that were traditional holiday resorts. The scheme was designed to regenerate the resort's attractiveness as holiday destinations.

The Scheme had major implications for the towns involved. Investment polarised on self-catering accommodation, 80% of the investment went to new build development of this type. The scale of development adversely impacted on many of the resorts, 400 new self-catering units in the town of Kilkee (pop. 1300), similarly in Tramore one development alone consisted of over 200 units. The Scheme tended to raise land prices above the means of local people, in the same way as in the undesignated areas where holiday home proliferate. The Scheme may have aided a regional spread of domestic tourism.

## **Coastal Zone Management**

The need for Integrated Coastal Zone Management (ICZM) is accepted by Government as a commitment in its Action Programme for the Millennium and the Department of the Marine and Natural Resources, as lead Department, is charged with preparing (after consulting all relevant Departments etc.) policy and legislative proposals for Government consideration. This very complex task which has an all-Ireland dimension requires time and resources. The Department of the marine and Natural Resources aims to make substantial progress in preparing such proposals in the first half of 2001.

## POLICY IMPLICATIONS

- *Coastal Zone Management: A Draft Policy for Ireland* published in 1997 is still only a discussion document it is not yet official policy.
- A Coastal Zone Management policy is required urgently to guide Local Authority Development Plans. CZM policies may be included under the 2000 Planning Act.
- Coastal Erosion/Coastal Deposition.
- Public pressure will be to implement hard engineering protection measures. Such mitigation is costly and not cost effective in the long term.
- Sea Level Change.
- Management of the change in sea level will present policy issues and choices, Abandonment, Managed retreat (Accommodation), Protection are the main options to be considered.
- Land use characteristics.
- Marine Industry.
- It is essential that ports have good connection to/from national transportation system and that the ports are properly integrated into the national system, focussing on the rail network where possible
- Greater emphasis must be put on the development of a sustainable transport system and integration of marine transport within the total transport chain needs to be examined.
- Expansion of aquaculture will have significant on-shore infrastructure requirements.
- There is no clear CZM structure however CZM will need better co-operation between Local Authorities similar to Waste Management Strategy co-operation i.e. viable/logical groupings of Local Authorities.
- EU Water quality (Framework) Directive requires the preparation of River Basin Plans which have to include Estuaries and Coastal waters up to 1Km from shore. Cross-Border catchments must be managed as an International Basin District. NI is treated as 1 basin but some Cross-Border RBDs may included as NI.
- Ireland is a signatory to the OSPAR Convention. Ireland & UK have X-Border responsibility in the Celtic Sea.
- The UK has Coastal Zone Fora at National level for England/Scotland/Wales and Northern Ireland. There is currently no Irish equivalent to which the UK For a can respond to in relation to OSPAR.