CYNGOR CEFN GWLAD CYMRU

COUNTRYSIDE COUNCIL FOR WALES

MID WALES REGIONAL COMMITTEE Mid 03-02(p6)

DATE: 17 May 2002

TIME: 10.30 –1.30

VENUE: NUDD PENDRE, TYWYN

COASTAL EROSION AT TYWYN: A CCW PERSPECTIVE

1. ROLE OF CCW

1.1 The Countryside Council for Wales is the statutory adviser to government on sustaining natural beauty, wildlife and the opportunity for outdoor enjoyment throughout Wales and its inshore waters. With English Nature and Scottish Natural Heritage, CCW delivers its statutory responsibilities for Great Britain as a whole and internationally, through the Joint Nature Conservation Committee.

1.2 In the context of erosion at Tywyn and adjacent areas it is important to note that CCW's primary role is in providing **advice** to regulators such as Local Authorities, the Environment Agency and DEFRA (in relation to FEPA licences). In a broader context CCW inputs to the Cardigan Bay Coastal Groups and the production of Shoreline Management Plans and endorses the strategic approach they represent.

2. SITES DESIGNATED FOR NATURE CONSERVATION IN THE AREA

2.1 CCW is involved in the protection of a number of important Nature Conservation assets which lie between the Dyfi Estuary and the mouth of the Dysynni Estuary to the north. These are listed below, but please note that designations frequently overlap.

2.2. Pen llyn a'r Sarnau candidate Special Area of Conservation (cSAC)

This area, which extends from south of the Dyfi estuary along the coast to include the lagoon and spit at Broadwater and then continues north, has been recommended as a

cSAC because it contains habitat types and/or species which are rare or threatened within a European context. The features of interest are estuaries (including sand dunes at the estuary mouth), a coastal lagoon, Atlantic salt meadows, large shallow inlets and bays, mudflats and sand flats, reefs, otter, and grey seal.

2.3 Dyfi Site of Special Scientific Interest (SSSI)

This SSSI is important for its biological, Pleistocene/Quaternary and coastal geomorphological interest. The Dyfi is outstanding for the size, range and the quality of its habitats and their transitions, which include sand dunes and saltmarsh, and for the plants and animals which they support.

2.4 Dyfi Estuary proposed Special Protection Area (pSPA)

This area is within the Dyfi estuary, extending to Aberdyfi. The pSPA is specifically to safeguard the wintering flock of Greenland white-fronted geese, which represents 1% of Great Britain's population at the southernmost point of its range.

2.5 Cors Fochno and Dyfi Ramsar site (Ramsar) and proposed extension

CCW is likely to recommend that the current Ramsar site be extended to be co incident with the SSSI. The selection criteria for this international wetland designation includes reference to rare and representative examples of near-natural wetland types supporting rare and/or typical plants or animals within a biogeographic region. There are other criteria for waterbirds and fish. Features of interest potentially affected by coastal erosion include breeding lapwing, water vole and nationally scarce and uncommon/typical plants of the freshwater pool and marshy grassland at Penllyn, south of Tywyn.

2.6 Dyfi National Nature Reserve(NNR)

2.7 Dyfi Biosphere Reserve (UNESCO)

2.8 Broadwater Site of Special Scientific Interest (SSSI)

This SSSI includes Broadwater spit, lagoon and the Afon Dysynni saltmarsh.

3. EROSION: AN OVERVIEW

3.1 In a geological context man changes in the boundary between the land and the sea is the norm. We only have to go back 10,000 years to find sea levels approximately 100 metres lower than they are today. Since then sea levels rose at differing rates to reach current levels.

3.2 As sea levels increased, the waves and tides have eroded the soft sediment left over from the last glacial advance. This has been reworked and redistributed with some of the 'excess' sediment, for example, ending up in sand dune systems. On many lengths of the Welsh coastline this ongoing pattern of erosion is continuing and we are already in a situation of ongoing retreat.

3.3 Erosion has both positive and negative aspects. Erosion of sand dunes during a storm re-supplies beaches that are the first line of defence against the waves. If we interrupt this supply of sediment we can potentially have an adverse impact on the beaches in front of the defences and other parts of the coastline. From a nature conservation perspective erosion is an important natural process that sustains habitats such as soft boulder clay cliffs.

3.4 We have all heard about global warming and climate change but few have yet to factor it fully into the decision making process. In Wales two of the main predicted consequences of global warming at the coast are sea level rise and increased storminess.

3.5 Sea level is predicted to increase significantly over the next 100 years with allowance of 5mm per year being made in terms of sea defences. A 5mm a year increase may not sound much but is potentially very significant in relation to the coastal processes operating around the coast of Wales. Increased storminess will result in increased wave energy reaching the shoreline producing increased rates of erosion.

3.6 The question of which assets need protecting and can be protected without adversely impacting other interests is a key question addressed in Shoreline Management Plans. To date many of these plans recommend 'hold the line' options which in the longer term may be deemed unsustainable.

3.7 Many of the soft coastlines of Wales are of high nature conservation and landscape importance and to maintain this value we need to maintain the natural processes that sustain them. Placing hard defences in front of sand dunes risks fossilising them and destroying the very environment that attracts tourists.

3.8 With modern engineering it is possible in the short, medium and even long term that man can play King Canute and hold back the sea but there may be a significant price to pay both in resources and environmental terms for so doing. The question as to what is the most sustainable option with respect to management of the coast is of key importance.

4. CCW OBJECTIVES

4.1 In advising on issues of erosion control in the vicinity of Tywyn and adjacent coastline

CCW has a number of key objectives namely:

4.2 To conserve the sites designated for nature conservation listed in section 2 and the local landscape especially within the Snowdonia National Park. This may best be achieved by maintaining the operation of natural processes particularly in those areas of nature conservation interest. For example, sand dunes are dynamic systems that should not be cut off from the beach by sea defences.

4.3 To maintain the integrity of the coastal habitats and species dependent on these dynamic areas.

4.4 To minimise the impact of any coastal works on the landscape.

4.5 To help deliver Government biodiversity commitments on the coast. In this context the Shoreline Management Plan Guidance states that "SMPs provide an opportunity to contribute to the biodiversity targets set out in Biodiversity Action Plans, and any local biodiversity action plans prepared by local authorities and others." "In England, flood and coastal defence authorities have a specific high-level target in relation to biodiversity. When carrying out flood and coastal defence works they must aim:

- to avoid damage to environmental interests:
- to ensure no net loss to habitats covered by National Biodiversity Action Plans
- to seek opportunities for environmental enhancement (e.g. through creating inter-tidal habitats to contribute to biodiversity targets."

4.6 A key issue for The Welsh Assembly Government’s role relates to the flexibility of financial mechanisms to enable both organisations and individuals to deal in the most environmentally beneficial way with erosion problems including the issue of compensation for those who are significantly disadvantaged by change.

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