



Cyngor Cefn Gwlad Cymru Countryside Council for Wales

NATIONAL ASSEMBLY FOR WALES ENVIRONMENT AND SUSTAINABILITY COMMITTEE INQUIRY INTO COASTAL PROTECTION IN WALES

WRITTEN EVIDENCE FROM THE COUNTRYSIDE COUNCIL FOR WALES

KEY MESSAGES

The coastline of Wales is a high quality resource and an economically, socially and environmentally important asset. Coastal protection measures should therefore seek to maintain and enhance this resource for all of the services it provides.

- The coastal environment of Wales is a major attraction to visitors who are drawn by the quality of the landscape, wildlife and sea water. The environmental quality is reflected in the wide range and large number of designations and protected sites that cover the coastline. The high quality coastline is also economically important for Wales and is vital to the tourism industry. Coastal habitats are important for a range of regulating services, with coastal defence being the most important.
- Records show that global sea level has been rising at an increasing rate, and climate change projections indicate that this trend is highly likely to continue. This will lead to an increase in tidal flood risk on the coast and in estuaries.
- The Countryside Council for Wales (CCW) welcomes the publication of the National Strategy for Flood and Coastal Erosion Risk Management in Wales. CCW particularly welcomes the emphasis on the need to adapt to climate change within the National Strategy.
- CCW considers that progress with respect to delivery of the National Strategy is consistent with the timetable set out and is appropriate given the timescales since publication.
- The delivery of the National Strategy provides an opportunity to take forward a more holistic approach to coastal management, and to provide sustainable solutions with multiple benefits. An exemplar of integrated coastal zone management in practice.
- **Integration** between the National Strategy and other key Welsh Government initiatives (e.g. the Sustainable Development Scheme: One Wales One Planet; Sustaining a Living Wales and delivery of the Ecosystem Approach, the Climate Change Strategy, and development of Marine Planning) is a well recognised ICZM principle and will be critical in securing sustainable management of the Welsh coast.
- **Continued strategic leadership from WG** is required to deliver the high level aspirations, and ultimately, sustainable solutions at the coast that meet the objectives set out in the National Strategy. WG must therefore maintain efforts to bring together the relevant government

departments (e.g. FCERM, Planning, Visit Wales, Regeneration, and Transport) with other partners.

- Partnership working is central to the delivery of the National Strategy, and successful delivery will take time and commitment from all partners. We **perceive that there may be insufficient staff resource, rather than a lack of drive and enthusiasm** within WG FCERM which may make ongoing delivery of the Strategy a significant challenge. In addition there is considerable expertise in EA HQ and DEFRA that Wales has been able to draw on and learn from in the past. Careful consideration is required to ensure that Wales has access to adequate staff resource and technical expertise going forward.
- CCW believes that the existing **funding** regime (defined in section 3 of the National Strategy) for coast protection works is a significant constraint on the delivery of outcomes which are sustainable and have the potential to deliver multiple benefits. CCW therefore welcomes the measure under Object 4 of the National Strategy to develop a ‘National funding policy and prioritisation methodology.’
- CCW recommends that provision of **evidence** remains high on the agenda to ensure that robust decisions can be taken with respect to managing the coast sustainably.

1. INTRODUCTION

1.1 CCW’s Role in Relation to Coastal Protection

- 1.1.1 The Countryside Council for Wales (CCW) welcomes the opportunity to participate in the Environment and Sustainability Committee inquiry into coastal protection in Wales.
- 1.1.2 CCW champions the environment and landscapes of Wales and its coastal waters as sources of natural and cultural riches, as a foundation for economic and social activity and as a place for leisure and learning opportunities. We aim to make the environment a valued part of everyone’s life in Wales.
- 1.1.3 CCW is the Welsh Government’s statutory advisor on sustaining natural beauty, wildlife and the opportunity for outdoor enjoyment in Wales. CCW was created by the Environmental Protection Act 1990 to provide advice on nature conservation, landscape and recreational matters throughout Wales and Welsh waters.
- 1.1.4 CCW staff engage in a wide range of coastal protection related matters, including
 - Advice on designation of sites of National and International nature and geological conservation importance, and advice on their status and management;
 - Management of 16 National Nature Reserves on the coast;
 - Co-ordination of the delivery of the All Wales Coastal Path on behalf of Welsh Government;
 - Advice on coastal landscapes and seascapes;
 - Advice on CCWs remit relating to strategic planning processes of relevance to the environment including, Local Development Plans, River Basin Management Plans, and the developing Marine Planning framework;
 - Advice on the development and delivery of policy relating to the coastal environment, including the National Strategy; Shoreline Management Plans;

- Input to the Wales Coastal Monitoring Centre;
- Advice on coastal and marine casework
- Research and evidence gathering on coastal environmental status, interactions and pressures relating to our remit;
- And detailed advice on the impact of individual coastal protection schemes.

1.1.5 CCW is represented on the Welsh Coastal Groups responsible for preparation of SMP2s, the Welsh Coastal Groups Forum which oversees the work of the Coastal Groups, and the DEFRA/EA FCERM Stakeholder Forum. CCW is also a member of the Wales Coastal Maritime Partnership and the UK Marine Climate Change Impacts Partnership.

1.2 Importance and Value of the Welsh Coast as a Natural Resource

1.2.1 Wales' coast is considered of international significance as well as a nationally important asset, reflected in the extent of sites designated for conservation purposes. Approximately 75% of the Welsh coast is designated as Sites of Special Scientific Interest to protect nationally important nature conservation and/or geological features. More than 60% of the Welsh coast is also designated under the European Habitats or Birds Directives.

1.2.2 The high quality coastal landscape/seascape is reflected by over 800 km of Heritage Coast, three coastal Areas of Outstanding Natural Beauty, and two National Parks. A recent workshop on coastal protected landscapes and the marine planning system¹ set out some of the special qualities of coastal protected landscapes. These included emotional connections such as 'wildness', and 'untamed'; the visual, ecological and physical transitions from land to sea; the importance of visible geology and geomorphology; and the cultural connections such as 'maritime landmarks', and 'myths and legends'. The economic importance for recreation and tourism, sailing, traditional fishing and local sources of food was also noted.

1.2.3 According to the Coastal Tourism Strategy for Wales², the coastal environment is a major attraction to **visitors who are drawn by the quality of its landscape, wildlife and sea water**. The environmental quality of the Welsh coastline is reflected in the wide range and large number of designations and protected sites that cover the coastline. The **high quality coastline** is also economically important for Wales and is vital to the tourism industry in Wales. In 2006, spending associated with an overnight visit to the coast amounted to around £648million, nearly 40% of total tourism spending in Wales. Visits to the coast account for 41% of all overnight trips in Wales - a much higher proportion than in England and Scotland where visits to the seaside only account for 20% and 13% of trips.

1.2.4 The total length of the coastline of Wales is approximately 2740 km, of which about 28% is protected by artificial sea defences^{3, 4}. The rest of the coast is afforded

¹ Europarc Federation: Atlantic Isles (2010). Coastal protected landscapes and the marine planning system a report from a workshop held at Losehill Hall, May 2010

² Welsh Assembly Government (2008). Coastal Tourism Strategy.

³ Brazier, P., Birch, K., Brunstrom, A., Bunker, A., Jones, M., Lough, N., Salmon, L. and Wyn, G. (2007). *When the tide goes out. The biodiversity and conservation of the shores of Wales - results from a 10 year intertidal survey of Wales*. The Countryside Council for Wales.

‘protection’ from natural habitat resources. According to the UK National Ecosystem Assessment⁵ **Sand Dunes, Saltmarsh and Sea Cliffs are the most extensive coastal habitats in Wales and are important for a range of regulating services.**

- 1.2.5 **Coastal defence is the most important regulating service provided by Coastal Margins⁶.** All habitats contribute to coastal defence either directly by dissipating or attenuating wave energy or indirectly through regulating sediment. Sand dunes and shingle provide direct protection as a barrier, while saltmarsh primarily attenuates wave energy.
- 1.2.6 Up to 50% of wave energy is attenuated in the first 10–20 m of vegetated saltmarsh, reducing the size needed for landward defences⁶. Therefore even the relatively narrow saltmarshes that fringe the exposed Welsh coast of the Severn Estuary perform an important part of the defence function.
- 1.2.7 In 2007, the sea defence services of sand dunes were calculated to be worth between £53 and £199 million in Wales⁵. For example, the dunes at Crymlyn Burrows near Swansea provide a critical part of the defence function to Fabian Way, and Baglan Dunes provide protection to the Baglan Energy Park.
- 1.2.8 The CIRIA Beach Management Manual, 2010⁷ highlights the importance of beaches as a form of coastal defence, and this role is recognised in SMP2s in areas such as Aberystwyth where management of the beach will be required alongside maintenance of defences in order to achieve the required protection standards.
- 1.2.9 The coastal margin is also important or highly important for a variety of ecosystem services alongside coastal erosion protection. These include climate, hazard, soil and air quality (regulating services); local places and landscapes/seascapes (cultural services), wild species diversity (cultural/provisioning services) and fish (provisioning services).
- 1.2.10 The 870 mile long All Wales Coastal Path was opened on 5th May 2012, with a view to encouraging and enabling the public, both locals and visitors, to enjoy the coastline of Wales; to encourage and enable more people to enjoy physical recreation at the coast, thus helping in efforts to become a fitter, healthier nation; and to make coastal access a 'flagship' tourism product, thus bringing economic benefit to coastal communities.
- 1.2.11 The challenge of managing the dynamic coastal environment where a significant level of human activity occurs is recognised and promoted at the European Level with a focus on ICZM. CCW, through the Wales Coastal and Maritime Partnership, inducted to the development of the ICZM strategy for Wales⁸. Furthermore, the EU OURCOAST programme⁹ aims to ensure that lessons learned from the coastal management experiences and practices across EU member states will be shared and made accessible to those who are seeking sustainable solutions to their coastal management practices.

⁴ UK Climate Change Risk Assessment, 2012- A Climate Change Risk Assessment for Wales

⁵ Russell, S. *et al* (2011). Chapter 20: Status and Changes in the UK's Ecosystems and their Services to Society: Wales in The UK National Ecosystem Assessment Technical Report. UK National Ecosystem Assessment, UNEP-WCMC, Cambridge.

⁶ Jones, L. *et al* (2011). Chapter 11: Coastal Margins in The UK National Ecosystem Assessment Technical Report. UK National Ecosystem Assessment, UNEP-WCMC, Cambridge.

⁷ CIRIA Beach Management Manual (Second Edition), 2010.

⁸ Welsh Government, 2007. Making the Most of Wales' Coast -The Integrated Coastal Zone Management Strategy for Wales

⁹ <http://ec.europa.eu/environment/iczm/ourcoast.htm>

- 1.2.12 The above highlights the strategic importance of the Welsh coastal environment to our society – including the range of sometimes underappreciated ‘services’. **It is critical, therefore, that coastal protection activities are delivered with the aim of sustaining and maximising the value of this natural resource.**

1.3 Status of and Pressures on the Natural Resources of the Welsh Coast

- 1.3.1 60% of population of Wales lives and works in the coastal zone⁸. The coast is also recognised as a popular tourist destination¹⁰.
- 1.3.2 According to the UK Climate Change Risk Assessment, 2012¹¹, global sea level has risen at a mean rate of 1.8 mm per year since 1955. From 1992 onwards a higher mean rate of 3 mm per year has been observed. **The climate change projections indicate that the sea level is highly likely to continue to rise and that the rate of rise is projected to increase.** This would lead to an increase in tidal flood risk on the Welsh coast and in estuaries.
- 1.3.3 The 2012 Climate Change Risk Assessment for Wales¹² indicates that the most significant threats for Wales from climate change include increases in flooding both on the coast and inland, and changes in coastal evolution including erosion and coastal squeeze. Estuary models for the Dyfi, Mawddach and Loughor Estuaries¹³, developed through collaboration between CCW and Bangor University, have also demonstrated the potential impacts of rising sea-levels.
- 1.3.4 A CCW report¹⁴ which examined constraints imposed by rail assets at the coast concluded that more than 160 km of railway lies within zones potentially subject to tidal flooding or coastal erosion over the next 100 years, and furthermore that 99 km of coastal railways potentially constrain protected nature conservation sites.
- 1.3.5 The National Habitat Creation Programme Interim Report (2011)¹⁵ collated predicted coastal habitat losses due to coastal squeeze through the implementation of the Shoreline Management Plans. Excluding the Severn Estuary, this report refers to possible losses of 105 ha in the first epoch (0-20 years), 473 ha in the second epoch (20-50 years), and 993 ha in the third epoch (50-100 years). The figures for the Severn Estuary are not split between England and Wales within this report and are significantly higher (5737 ha over 100 years) than for the rest of Wales combined. This presents significant challenges for the future management of this area, and the need for close cross border working between Agencies and Government in England and Wales.

¹⁰ Welsh Assembly Government (2008). Coastal Tourism Strategy

¹¹ UK Climate Change Risk Assessment, 2012- Coastal Report

¹² UK Climate Change Risk Assessment, 2012- A Climate Change Risk Assessment for Wales

¹³ Robins, P. 2009 Development of a Morphodynamic model of the Dyfi Estuary to inform future management decisions. CCW Contract Science Reports 898a; Robins, P. 2009 Development of a Morphodynamic model of the Burry inlet to inform future management decisions. CCW Contract Science Reports 898b; Robins, P. 2011 Development of a Morphodynamic model of the Mawddach Estuary to inform future management decisions. CCW Contract Science Reports 898c.

¹⁴ Halcrow, 2006. Assessment of Constraints Imposed on Future Shoreline Management by Rail Assets Adjacent to the Coast. CCW Science Report. Report No. 756.

¹⁵ Environment Agency Wales, 2011. National Habitat Creation Programme Interim Report for Welsh Government

- 1.3.6 The Welsh coast is a high-quality asset which is under pressure. The available evidence suggests that these pressures are set to increase with time and will need to be addressed in a strategic and integrated way to maintain the value of the coast whilst managing the risks to coastal communities.

1.4 Opportunities for Sustainable Future Coastal Management

- 1.4.1 CCW welcomes the publication of the National Strategy for Flood and Coastal Erosion Risk Management in Wales which was launched in November 2011. We particularly welcome the references to *'new, sustainable and innovative approaches required to ensure that in future we move beyond defence and drainage alone and find ways to work with natural processes'* and that *'the Welsh Government is committed to ensuring that the actions we take are sustainable, and that we manage the risks to our wider environment'*.
- 1.4.2 We welcome the emphasis on the need to adapt to climate change within the National Strategy and the reference to *'reducing the consequences ...for the environment'* in the first objective. Whilst the National Strategy is an excellent foundation for future work towards sustainable management of the coast, we advocate closer linkages with other key initiatives, plans and strategies, including those set out below.
- 1.4.3 The objectives need to embrace the principles of both ICZM¹⁶ and "The Ecosystem Approach"¹⁷, including conservation of ecosystem structure and function and not just those related to societal choice and local management. Both frameworks highlight the importance of taking a long-term view working with natural processes and sustaining ecosystem structure and function.
- 1.4.4 As set out in the 'Sustaining a Living Wales' consultation document¹⁸, and CCW's response to it¹⁹, CCW is working to implement the Ecosystem Approach. This includes the need to think and act at the ecosystem or landscape scale to 'ensure that Wales has increasingly resilient and diverse ecosystems that deliver environmental, economic and social benefits now and in the future.' The coastal environment is a particular challenge where an integrated, holistic approach to management as set out in 'Sustaining a Living Wales' could add real value.
- 1.4.5 Studies on the valuation of Welsh ecosystem services have been identified as a priority by Welsh Government, and are being carried forward in parallel with the spatial mapping of ecosystem services in Wales²⁰.
- 1.4.6 The Welsh Government's approach to climate change²¹ is set within the context of the Assembly Government's *Sustainable Development Scheme: One Wales One*

¹⁶ Welsh Government, 2007. Making the Most of Wales' Coast -The Integrated Coastal Zone Management Strategy for Wales

¹⁷ Principles of the Ecosystem Approach, Convention on Biological Diversity:

<http://www.cbd.int/ecosystem/principles.shtml>

¹⁸ Welsh Government, 2012. Sustaining a Living Wales- Consultation Document

¹⁹ CCW's response to the 'Sustaining a Living Wales' Consultation, May 2012

²⁰ Russell, S. *et al* (2011). Chapter 20: Status and Changes in the UK's Ecosystems and their Services to Society: Wales in The UK National Ecosystem Assessment Technical Report. UK National Ecosystem Assessment, UNEP-WCMC, Cambridge.

²¹ Welsh Government (2010). Climate Change Strategy for Wales

*Planet*²². Within the Climate Change Strategy Adaptation Delivery Plan we specifically welcome the links between Action 11 and the requirements for implementation of the National Strategy. These linkages demonstrate WG commitment to a long term vision and integrated action to address climate change issues.

- 1.4.7 CCW supports the intention to review funding for Flood and Coastal Erosion Risk Management Activities (identified under Objective 4 of the National Strategy). In our view, this could provide improved flexibility in funding arrangements to enable delivery of the National Strategy. Further details are provided in section 2.3 below.
- 1.4.8 The consultation on ‘Sustaining a Living Wales’ and the recent announcement to establish a Single Body (SB) for Wales provide a significant opportunity to bring together and maximise synergies between CCW and EAW, both of whom have a significant role in the coastal environment²³. Going forward, it is critical that adequate skills are retained or replaced to ensure that the SB can continue to support WG in the delivery of the National Strategy.
- 1.4.9 Overall the required framework is in place, it is now important to ensure the National Strategy is robustly delivered.
- 1.4.10 The first key steps in the implementation of the National Strategy described in section 2 below, should provide a strong basis for delivery of other elements of the Strategy, with a view to securing sustainable management of the coast.

2. EVIDENCE AS REQUESTED IN THE TERMS OF REFERENCE FOR THIS INQUIRY

Evidence reflecting the key themes identified in the terms of reference for this Inquiry is provided under the following main headings:

- CCW understanding of progress in implementing the objectives of the National Strategy for Flood and Coastal Erosion Risk Management in Wales, including Shoreline Management Plans and Local Flood Risk Management Strategies;
- CCW views on the National Strategy : it’s delivery and how these could be improved;
- CCW views on funding of coastal protection and how this could be improved;
- CCW’s views on barriers to the development of coastal protection in Wales and how these could be addressed;

Note: CCW is not providing specific evidence with respect to ‘communication of objectives and risks and plans for future communication’ as we are not identified as a stakeholder against communication measures under Objective 2 in the National Strategy. However we comment on the importance of communication under section 2.4 below.

²² Welsh Assembly Government (2009) Sustainable Development Scheme: One Wales One Planet

²³ CCW’s response to the ‘Sustaining a Living Wales’ Consultation, May 2012

2.1 CCW understanding of progress in implementing the objectives of the National Strategy for Flood and Coastal Erosion Risk Management in Wales, including Shoreline Management Plans and Local Flood Risk Management Strategies

- 2.1.1 The National Strategy was published in November 2011. It sets out four overarching objectives, with 11 sub-objectives and 53 measures, which describe the steps towards delivery of the strategy. CCW is identified as a stakeholder against 19 of the measures, and we have restricted our evidence to those where we have an identified role.
- 2.1.2 CCW considers that progress with respect to delivery of the National Strategy is consistent with the timetable set out and is appropriate given the timescales since publication.
- 2.1.3 Shoreline Management Plans (SMP2s)

CCW, along with other bodies, has put considerable effort into the Shoreline Management Planning process because we see the significant value in taking this long term strategic approach to enable Wales to adapt to climate change at the coast. We are pleased to see that implementation of the SMP2s is a requirement of the National Strategy.

As we understand the process, the next step with respect to SMP2s is to secure approval of the plans by WG. The approval process requires WG to ensure compliance with the Habitats Directive. CCW is aware that all of the plans have identified potential for adverse effects on European sites. They therefore require consideration of an 'Imperative Reasons of Over-riding Public Importance' (IROPI) case by WG. As required by the Directive, the plans can only proceed once IROPI is confirmed and if provision for compensatory habitat is secured. CCW understands that the National Habitat Creation Programme (NHCP) has been identified as the primary mechanism for delivery of the required compensatory habitat. Therefore, securing progress on the NHCP, and long term commitment to it, is also critically important to **enable** SMP2s to be implemented. CCW is working in principle and without prejudice with EAW on behalf of WG to take forward the NHCP (see section 2.1.5).

There are also significant challenges in relation to cross-border sites, in particular the Severn Estuary, where the predicted habitat losses are large. CCW welcomes the commitment from DEFRA and WG, EA and EAW, CCW and Natural England to work together to try to resolve these issues.

- 2.1.4 Links between National Strategy and the SMP2s and Flood Risk Management Strategies (FRMS)

The SMP2s and FRMS (EA- Dee, Clwyd, and Severn) had all been drafted and consulted upon before the National Strategy was published. Therefore it was difficult for these plans/strategies to reflect the National Strategy. However, the objectives in the National Strategy reflect the fundamental requirements of the SMP2s. For example, the SMP policies are intended to 'reduce the consequences' and the process of developing the SMP2s has helped to 'raise awareness'. Nevertheless it would seem appropriate for WG to check the SMP2s for compliance with the National Strategy, as part of its approval procedure.

For Local Flood risk Strategies, these are at too early a stage for CCW to comment.

2.1.5 The National Habitat Creation Programme (NHCP)

CCW understands that the National Habitat Creation Programme (NHCP) has been identified by WG as the primary delivery mechanism for compensatory habitat for SMP2s. Provision of compensatory habitat is required to **enable** the coastal management/protection requirements set out in the SMP2s to be delivered, whilst remaining compliant with the requirements of the Habitats Directive. This means that the NHCP is a critical element in the delivery of coastal protection in Wales, and will ensure that our natural coastal resources are maintained, protected and hopefully enhanced.

We recommend that the NHCP moves forward as an integral part of the Flood and Coastal Erosion Risk Management Programme. The NHCP should be viewed as part of the solution wherever possible. For example, this can be achieved by identifying habitat creation sites in estuaries that not only create compensatory habitat but also reduce water levels across the estuary (by increasing the estuary capacity). This would then reduce the pressure on defended sections. This approach has been attempted in several schemes e.g. Alkborough in the Humber Estuary²⁴. Alternatively, it may be possible to establish a set back defence line which enables habitat creation to seaward. The new saltmarsh can then contribute to improved defence function through increased wave energy dissipation.

To date the NHCP has focussed on creation of saltmarsh and intertidal mudflat and sandflat habitats only. However, CCW is concerned that this does not include the full range of habitats and species which may be affected by coastal squeeze. Other examples are likely to include cave, shingle and reef habitats.

CCW is currently engaged in research to develop our understanding of coastal habitats and species at risk due to climate change and implementation of SMP2s. The research also aims to explore what mitigation or compensation measures may be possible to address these risks/potential losses. We intend to continue to work closely with EAW and WG to feed this information into the NHCP as it becomes available.

We welcome the appointment of a full time officer within EAW to progress this work. This is a significant area of work where we consider adequate capacity will need to be retained.

2.1.6 Research into the Use of Softer Engineering Approaches

There are two measures related to this topic under Objective 4 (prioritising investment in the most at risk communities): ‘research into the costs and benefits of softer engineering approaches’ and ‘guidance on the comparative use of hard and soft engineering approaches’. The delivery deadline for these measures is 2013.

CCW is pleased to have secured early WG engagement in a recent project which we hope will contribute significantly to the delivery of these measures. The ‘Re-building Welsh Beaches to Deliver Multiple Benefits’²⁵ project received significant funding from the Aggregates Levy Fund for Wales. This project, commissioned by CCW, was

²⁴ http://www.abpmer.net/omreg/search_database.aspx

²⁵ <http://www.ccw.gov.uk/environmental-change/climate-change/safeguarding-welsh-beaches.aspx>

delivered in partnership with representatives from WG Flood and Coastal Erosion Risk Management Team, WG Planning, Visit Wales, Environment Agency Wales, The Crown Estate and the British Marine Aggregates Producers Association.

Further details on this project and the opportunity it provides to contribute towards delivery of the National Strategy is set out in Box 2 (section 2.2) below.

2.1.7 Evidence

CCW welcomes the WG commitment to fund the Wales Coastal Monitoring Centre (WCMC), as set out in paragraph 99 of the National Strategy.

The WCMC was launched in January 2010. CCW supports the aim of the WCMC to: *'establish a framework necessary to provide good quality information on coastal change that will help inform flood and coastal risk management decisions'*. More specifically, the WCMC intends to co-ordinate the collation, storage and analysis of coastal process data to fulfil this aim²⁶.

CCW is of the view that the WCMC will, when further developed, be an essential mechanism to help deliver a robust evidence base to inform management of the Welsh coastline. Such evidence would have a range of valuable outputs and could help to deliver monitoring requirements associated with Shoreline Management Plans, Flood Risk Management Strategies and the National Strategy. Currently the WCMC is developing a business case for its continuation beyond the initial three year commitment. It is hoped that the future of the Centre is secured with adequate resources to allow fulfilment of its aims. Other mechanisms to deliver coastal monitoring requirements on a national basis remain limited/ unknown at present.

CCW (and presumably the Single Body (SB)) embraces the UK and WG vision of "clean, safe, healthy, productive and biologically diverse oceans and seas". This vision comes with a high level objective to use sound science responsibly²⁷. In particular, it is recognised that our understanding of the marine and coastal environment continues to develop through new scientific research and data collection. Also sound evidence and monitoring underpins effective marine management and policy development.

CCW is taking part in SB implementation projects focused on the evidence required to underpin the work of the SB and is seeking the adoption of the science objective described above. We recognise that EAW benefited from considerable support and expertise provided by evidence specialists based in England working on areas such as flood and coastal risk management. Careful consideration is required to ensure that Wales has access to adequate technical expertise going forward, and CCW considers it critically important that this issue is resolved.

The creation of the SB provides an ideal opportunity to develop a shared research agenda with WG and others to support the delivery of s government policy objectives. We also consider it equally important to make sure that Wales engages with and benefits from the findings of larger scale research programmes, such as those funded by the Natural Environment Research Council, DEFRA and the European Commission.

²⁶ Wales Coastal Monitoring Centre, Wales Coastal Monitoring Centre First Annual Report 2010/11, May 2011.

²⁷ <http://archive.defra.gov.uk/environment/marine/documents/ourseas-2009update.pdf>

Given the potentially sensitive nature of technical advice on coastal protection, we also think that the SB and WG need to have clear rules on how they work together from the outset. We think the "Principles of Scientific Advice to Government"²⁸ should be adopted as the basis for operations and interactions.

The Wales Biodiversity Partnership is also undertaking an exercise to identify research priorities in Wales, including coastal environments. Although they have not reported yet we anticipate that the partnership will highlight research focused on ecosystem functioning and services, climate change, dune stabilisation and saltmarsh.

There is potential to make links with the WG's recently published "Science for Wales: A strategic agenda for science and innovation in Wales"²⁹. This document sets out three "Grand Challenge" priority areas. In particular, a challenge is developed around low carbon, energy and environment which includes climate change science and adaptation, environmental monitoring, water and ecology.

We recognise that Welsh academic community has some important skills and specialist knowledge required to make a significant contribution to the research required to support sustainable coastal protection in Wales. This knowledge and expertise will need to be supported and harnessed.

2.2 CCW views on the National Strategy: its delivery and how this could be improved

- 2.2.1 The move towards delivery of the National Strategy requires an **ongoing commitment to communication and close working**, both within Government (between relevant departments) and between Government and other key partners. The example at Borth, provided in Box 1 illustrates the challenges we face, as well as the importance of working towards an integrated approach and a sustainable solution.

Box 1 – Example - Borth

Significant investment has already been made in the improved sea defences at Borth, and further investment has been announced as part of the Wales Infrastructure Investment Plan. However, coastal defence works at Borth can only be seen as a partial 'sticking plaster'. The recent flood events (June 2012) in the Leri were contributed to by high tide conditions in the lower reaches, and had the potential to put Borth village at risk due to flooding from the rear. Therefore an integrated approach to investment and future management in the area is required. Any detailed strategy also needs to take account of the interests of the Internationally important Borth Bog, Ynyslas Dunes and the Dyfi Estuary, as well as the railway line that runs through this area. This is recognised in the SMP2, and in the work underway in EAW in terms of developing a Flood Risk Management Strategy. However, the decision to approve further funding for works on the coastal frontage at Borth comes with the usual pressures of timescale for delivery due to financial restrictions. It does not allow time for an integrated approach to be developed and agreed upon. There is therefore a risk that the current investment will not be consistent with delivery of the detailed longer term strategy for this area.

²⁸ <http://www.bis.gov.uk/go-science/principles-of-scientific-advice-to-government>

²⁹ <http://wales.gov.uk/topics/businessandconomy/csaw/publications/120312sfw/?lang=en>

- 2.2.2 We therefore emphasise the **need for continued strategic leadership from WG**, to bring together the relevant departments (FCERM, Planning, Visit Wales, Regeneration, and Transport for example) and other partners to deliver the high level aspirations, and ultimately, sustainable solutions at the coast that meet the objectives set out in the Strategy. The lack of strategic leadership was highlighted by the Wales Audit Office in 2009 in their report on Coastal Erosion and Tidal Flooding Risks in Wales³⁰ and CCW welcomes the commitment from WG to addressing this issue.
- 2.2.3 **Partnership working** is central to the delivery of the National Strategy, and successful delivery will therefore take time and commitment from all partners. We **perceive that there may be insufficient staff resource, rather than a lack of drive and enthusiasm** within WG FCERM which may make ongoing delivery of the Strategy a significant challenge. This issue was also noted in the Wales Audit Office report in 2009²¹. In addition there is considerable expertise in EA HQ and DEFRA that Wales has been able to draw on and learn from in the past. Careful consideration is required to **ensure that Wales has access to adequate technical expertise going forward**.
- 2.2.4 It is important to ensure that **delivery of the National Strategy complements other key Welsh Government initiatives** e.g. the Sustainable Development Scheme: One Wales One Planet agenda; Sustaining a Living Wales and delivery of the Ecosystem Approach, delivery of the Climate Change Strategy, Wales ICZM Strategy, development of Marine Planning, and also plans for transport, tourism and regeneration in the coastal zone. Furthermore, Glastir could also be a key opportunity for influencing the management of coastal land to deliver the objectives of the National Strategy. Such co-ordination and integration will help to secure coastal management which looks for win-win outcomes and is sustainable.
- 2.2.5 Securing successful and sustainable outcomes at the coast will also require an element of ‘grasping opportunities’ as they arise. To do this requires both sufficient staff resource within WG to provide the strategic leadership referenced in section 2.2.2. A key example of a potential opportunity is provided in Box 2.

³⁰ Wales Audit Office, 2009. Coastal Erosion and tidal Flooding Risks in Wales. A report to the National Assembly.

Box 2 – Example - Safeguarding Welsh Beaches- a key opportunity?

CCW, WG (FCERM, Planning and Visit Wales), EAW, The Crown Estate and the British Marine Aggregate producers Association were all members of the Steering Group for a recent Aggregate Levy Fund for Wales funded project called ‘Safeguarding Welsh Beaches’ which examined the feasibility of beach nourishment (adding sediment to beaches) in Wales.

The project improves our understanding of the technique and its possible application in Wales. It included stakeholder engagement through workshops; a review of SMP2s to see how beaches had been valued in terms of their importance for nature conservation, tourism and recreation, and flood and coastal erosion risk management function; and a resource and economic analysis.

Following completion of the project we are aware that The Crown Estate has approached WG to propose a potential large scale sustainable beach nourishment proposal for the North Wales coast. The scheme, as we understand it would involve significant investment from the Crown Estate, with a view to increasing the value of their asset. It would potentially provide a coastal defence role, a tourism amenity in terms of improved beach facility, and a source of sediment for the designated dune system at Gronant- Talacre, as well as possibly a much need solution to the erosion issues at Traeth Pensarn SSSI.

It is worth noting that beach nourishment is already identified as a mitigation measure within the SMP2 for this section of coast - to allow a Hold the Line policy to be maintained whilst avoiding sediment starvation, and therefore adverse effects, on the dune features (including a priority habitat) at the mouth of the Dee Estuary SAC and Ramsar site.

This is a possible exemplar project to develop a strategic level sustainable approach which is well aligned with the policy drivers. How can Wales take this forward, and who should drive it?

2.3 CCW views on funding of coastal protection and how this could be improved

- 2.3.1 CCW believes that the existing funding regime (defined in section 3 of the National Strategy) for coast protection works is a significant constraint on the delivery of outcomes which are sustainable and have the potential to deliver multiple benefits. We therefore welcome the measure under Object 4 of the National Strategy to develop a ‘National funding policy and prioritisation methodology.’
- 2.3.2 A recent study by CCW (2005)³¹ looked at four examples of coastal protection works in Wales in or adjacent to National Parks. The case study sites were the coastline south of Morfa Dyffryn (home to a number of private caravan parks), Pen yr Erydd Spit and Poppit Sands at the mouth of the Teifi Estuary, and Wiseman’s Bridge and Amroth in Carmarthen Bay.
- 2.3.3 The main conclusions were:
- ‘In principle, the **optimal sustainable solutions** for each of the sites would have been to **allow natural processes to resume** (with managed retreat), instead of the artificial hard defences that have been constructed.’*

³¹ Jacobs Babbie Ltd, 2005. Identification of Constraints on the delivery of sustainable flood and coastal defences. CCW Science Report Number 669.

*'It is high time that coastal defence decision-making processes **move away from focusing on single-issue solutions** to seek ways of generating win-win solutions. Nowhere is the need for integrated solutions greater than along the coast with so many different interests involved.*

*The most important issue is how to ensure an optimum sustainable solution is found that is agreed amongst the different interested parties. The **solution should** be an holistic and integrated one, which **balances economics, environment and social issues**.*

*The **most influential people in this process are the engineers and other design professionals** involved with considering the coastal defence project in all its detail, from initial concepts and designs, through to the details of works to be implemented in response to site characteristics and coastal processes.*

*The funding process for securing central government financing encourages capital schemes supported by cost:benefit analysis that focuses on readily quantifiable costs and benefits such as preventing or delaying the loss of houses and roads. **More attention needs to be paid to the economic value of less tangible assets** such as landscape and biodiversity, while costs and benefits also need to be considered over the longer term in order to identify real sustainable solutions.*

*A **partnership approach from different agencies is the most likely way to achieve the ideal solutions**. Recommending wholesale changes in funding mechanisms is likely to cause confusion and detract from the overall process. However there is currently no mechanism to make relocation of caravan sites an economically or politically desirable option. **Changes in policy and appropriate legislation need to be introduced to make relocation a feasible alternative to expensive sea-defences that are not sustainable in the longer term.**'*

- 2.3.4 The National Strategy embraces many of the conclusions and recommendations referred to in the CCW (2005) report. However, the recent and planned works at Borth (Box 1) show that in practice, many of the challenges and constraints remain.
- 2.3.5 We recommend that the proposed National Funding Policy and Prioritisation Methodology is sufficiently **flexible** to enable a wide range of solutions to be considered, for example the relocation of assets. CCW notes and welcomes the reference to this in paragraph 112 of the National Strategy. CCW also welcomes the work carried out under the DEFRA Coastal Change Pathfinder programme³². £11 million has been invested since 2009 to enable Pathfinder Authorities to work in partnership with their communities, to road-test new and innovative approaches to planning for and managing change. The key aims were to improve understanding of how coastal communities can adapt to coastal change and what the costs and benefits of different approaches are; and to provide practical lessons and examples to be shared with other practitioners. We recommend that WG reviews the lessons learnt from the Pathfinder Programme, and ensures that any revised funding methodology has the ability to **deliver innovative solutions**.
- 2.3.6 The National Funding Policy and Prioritisation Methodology should **facilitate partnership working and partnership funding** with the aim of securing **multiple benefits**. CCW notes and welcome the reference to this in paragraph 149 of the National Strategy, but we recommend that the emphasis on sustainability is strengthened.

³² <http://www.defra.gov.uk/environment/flooding/coastal-change-pathfinders/>

- 2.3.7 Paragraph 178 of the National Strategy refers to the need to prioritise ‘preservation of our landscape and our designated habitats’. Whilst this is welcomed, where possible, CCW advocates an approach which **embraces working with natural processes** and looks to use natural resources **as part of the solution**. See section 2.1.7 for examples.
- 2.3.8 CCW looks forward to working with WG on the development of the National Funding Policy and Prioritisation Methodology in due course.

2.4 CCW’s views on barriers to the development of coastal protection in Wales and how these could be addressed

- 2.4.1 Climate change presents serious challenges for the management of the coast and protection of coastal assets.
- 2.4.2 The publication of the National Strategy has demonstrated WG’s commitment to addressing the barriers to the delivery of **sustainable** coastal protection.
- 2.4.3 It also demonstrates WG’s recognition of the importance of **integrated** planning as referenced in the Wales ICZM Strategy³³ and the EU OURCOAST programme³⁴.
- 2.4.4 The OURCOAST programme provides a wealth of information and analysis of case studies which has been collated to provide guidance on six key ‘Approaches’ which as well as ‘integration’ include the **‘Ecosystem-based’** approach, the **‘Technical’** approach’, the **‘Knowledge-based’** approach, and the **‘Socio-Economic’** approach.
- 2.4.5 The references to the ‘Ecosystem-based’ approach link well with the recommendations within the ‘Sustaining a Living Wales’ consultation, and the findings of the UK National Ecosystem Assessment.
- 2.4.6 The ‘knowledge-based’ approach and the ‘Technical’ approach reflect the comments and recommendations made within this paper with respect to the importance of evidence in decision making (see section 2.1.7). CCW recommends that provision of **evidence** remains high on the agenda to ensure that robust decisions can be taken with respect to managing the coast sustainably.
- 2.4.7 The OURCOAST programme stresses the importance of **‘participation’** in the coastal planning process. ‘Raising awareness’ is a key objective of the National Strategy and is reflected in a number of measures which recognise the importance of communication. However, this objective is focussed on communicating risk rather than involving stakeholders in the solutions. We therefore recommend that further consideration is given to the role of ‘participation’ in delivery of the National Strategy.
- 2.4.8 CCW welcomes the intention within the National Strategy to develop a ‘National funding policy and prioritisation methodology.’ Any such policy and methodology **needs to be sufficiently flexible to enable** delivery of the National Strategy by building in the ability to work with others to find win-win solutions and to secure other sources of funding.

³³ Welsh Government, 2007. Making the Most of Wales’ Coast -The Integrated Coastal Zone Management Strategy for Wales

³⁴ <http://ec.europa.eu/ourcoast/index.cfm?menuID=18>

- 2.4.9 CCW also welcomes clarification of WG's expectations with respect to delivery of flood and coastal erosion risk management functions by Risk Management Authorities (as set out in paragraph 132 of the National Strategy). CCW particularly welcomes the references to: delivery based upon a holistic understanding of the risks and consequences; consideration of the full range of risk management responses; holistic management of our water, land and marine resources reflecting the ecosystem approach set out in the Natural Environment Framework; maximising opportunities to adapt to climate change; and taking account of relevant legislation such as the Habitats Directive.
- 2.4.10 Overall, the delivery of the Strategy is still in its infancy. An ongoing commitment to: integration, leadership from WG, and provision of the required staff resource should ensure that good progress will continue to be made against the measures and timetable set out.

Cyngor Cefn Gwlad Cymru
Countryside Council for Wales
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