

# **The Second State of Natural Resources Report (SoNaRR2020)**

## **SoNaRR2020 Register coastal margins assessment of SMNR**

Natural Resources Wales

Final Report

Mae'r ddogfen hon hefyd ar gael yn Gymraeg

# About Natural Resources Wales

Natural Resources Wales's purpose is to pursue sustainable management of natural resources. This means looking after air, land, water, wildlife, plants and soil to improve Wales's well-being, and provide a better future for everyone.

## Evidence at Natural Resources Wales

Natural Resources Wales is an evidence-informed organisation. We seek to ensure that our strategy, decisions, operations and advice to Welsh Government and others are underpinned by sound and quality-assured evidence. We recognise that it is critically important to have a good understanding of our changing environment.

We will realise this vision by:

- Maintaining and developing the technical specialist skills of our staff;
- Securing our data and information;
- Having a well resourced proactive programme of evidence work;
- Continuing to review and add to our evidence to ensure it is fit for the challenges facing us; and
- Communicating our evidence in an open and transparent way.

Title: **SoNaRR2020 Register coastal margins assessment of SMNR**

Peer Reviews: Internal and external peer review

Restrictions: None

# The Second State of Natural Resources Report (SoNaRR2020) contents

This document is one of a group of products that make up the second State of Natural Resources Report (SoNaRR2020). The full suite of products are:

**Executive Summary.** Foreword, Introduction, Summary and Conclusions. Published as a series of webpages in December 2020

**The Natural Resource Registers.** Drivers, Pressures, Impacts and Opportunities for Action for eight Broad Ecosystems. Published as a series of PDF documents and as an interactive infographic in December 2020

**Assessments against the four Aims of SMNR.** Published as a series of PDF documents in December 2020:

SoNaRR2020 Aim 1. Stocks of Natural Resources are Safeguarded and Enhanced

SoNaRR2020 Aim 2. Ecosystems are Resilient to Expected and Unforeseen Change

SoNaRR2020 Aim 3. Wales has Healthy Places for People, Protected from Environmental Risks

SoNaRR2020 Aim 4. Contributing to a Regenerative Economy, Achieving Sustainable Levels of Production and Consumption

**The SoNaRR2020 Assessment of Biodiversity.** Published in March 2021

**Assessments by Broad Ecosystem.** Published as a series of PDF documents in March 2021:

Assessment of the Achievement of SMNR: Coastal Margins

Assessment of the Achievement of SMNR: Enclosed Farmland

Assessment of the Achievement of SMNR: Freshwater

Assessment of the Achievement of SMNR: Marine

Assessment of the Achievement of SMNR: Mountains, Moorlands and Heaths

Assessment of the Achievement of SMNR: Woodlands

Assessment of the Achievement of SMNR: Urban

Assessment of the Achievement of SMNR: Semi-Natural Grassland

**Assessments by Cross-cutting theme.** Published as a series of PDF documents in March 2021:

Assessment of the Achievement of SMNR: Air Quality

Assessment of the Achievement of SMNR: Climate Change

Assessment of the Achievement of SMNR: Energy Efficiency

Assessment of the Achievement of SMNR: Invasive Non-native Species

Assessment of the Achievement of SMNR: Land use and Soils

Assessment of the Achievement of SMNR: Waste

Assessment of the Achievement of SMNR: Water Efficiency

**Updated SoNaRR evidence needs.** Published in March 2021

**Acronyms and Glossary of terms.** Published in December 2020 and updated in March 2021

### **Recommended citation for this section of the report:**

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# Coastal Margins Natural Resource Register Assessment of SMNR

SoNaRR2020

## Aim 1: Stocks of Natural Resources are safeguarded and enhanced

### Aim 1: Progress towards meeting the aim

- 1.1. A high proportion of the coastal habitats are within the protected sites series (>85% excluding lagoons) and this statutory protection has been a key factor in reducing habitat loss within the coastal margin habitats.  
Confidence Assessment: High
- 1.2. 12% of the combined extent of salt marsh, sand dune and sea cliffs are in positive management agreements and >20% of coastal margins habitats are within the Glastir Advanced Agri Environment Scheme. Site level conservation management is leading to significant but localised improvements in the condition; this is often achieved through SSSI management agreements. A significant proportion of coastal margin habitat is managed by conservation Non-Governmental Organisations such as the National Trust, RSPB and Wildlife Trusts with the aim of conservation management.  
Confidence Assessment: High
- 1.3. Several larger landscape scale initiatives have been implemented e.g. Sands of LIFE, Dynamic Dunescapes, Farming for the Future  
Confidence Assessment: High
- 1.4. The National Habitat Creation Programme (NHCP) and the National Trust have created One scheme, at Cwm Ivy on North Gower (c. 39ha) and further larger projects are at the planning stage.  
Confidence Assessment: High
- 1.5. There has been limited felling at several sand dune sites in order to restore functionality of dune processes and dune vegetation, which has been locally successful (Wallace & Jones, 2020).  
Confidence Assessment: High
- 1.6. Water Framework Directive: A significant number of the measures taken in the targeted water bodies in freshwater catchments have contributed to improvements in estuarine and coastal water bodies although further measures are needed to achieve a change to good status.
- 1.7. Dune grasslands in Wales displayed a significant reduction in the percentage area exceeded for nutrient Nitrogen; 31.1% (1998-2003) to 16.5% (2016-2018).

## **Aim 1: Obstacles remaining to meeting the aim**

- 1.8. Loss in extent is likely to be continuing primarily outside of statutory sites where gradual change is difficult to assess or guard against.  
Confidence Assessment: Low
- 1.9. Many of the coastal features on protected sites are in poor condition (Article 17).  
Confidence Assessment: High
- 1.10. Less than a quarter of saltmarsh, sea cliff and sand dunes fall within the Glastir agri-environment scheme.
- 1.11. The effects of climate change are beginning to impact coastal habitats and (MCCIP 2020). These effects are likely to exacerbate existing pressures (Burden et al., 2020) Confidence Assessment: Medium
- 1.12. There are financial, social and often legal and practical barriers to coastal adaptation as a response to climate change.  
Confidence Assessment: High
- 1.13. Dune grassland is still being impacted by nutrient Nitrogen leading to accelerated stabilisation and succession. Clifftop heathland and grassland are also likely to still be impacted  
Confidence Assessment: Medium

## **Aim 2: Resilient Ecosystems**

### **Aim 2: Progress towards meeting the aim**

- 2.1. Welsh Government have adopted the shoreline Management Plans (SMP) set the preferred policy for sustainable management of the coastline of Wales over the next 100 years and take sea-level rise into account.  
Confidence Assessment: High
- 2.2. The use of nature-based solutions is encouraged in the new National Strategy for Flood and Coastal Erosion Risk Management (FCERM) in Wales 2020 (in prep).  
Confidence Assessment: High
- 2.3. The National Trust has begun to implement its Shifting Shores coastal adaptation policy at Welsh coastal properties.  
Confidence Assessment: High
- 2.4. The Site of Special Scientific Interest (SSSI) Guidelines for Coastlands (Rees *et al.*, 2019) have been updated to enable the boundaries of any new SSSIs to be drawn to account for 'likely future change' to make the sites series more resilient to climate change (Rees *et al.*, 2019).  
Confidence Assessment: High

### **Aim 2: Obstacles remaining to meeting the aim**

- 2.5. Provided coastal margins habitats have adequate sediment supply and room to adjust to environmental change then natural adaptation can occur however, challenges will arise where sea defences (which interrupt sediment supply and

transport) are necessary for protection of property and infrastructure.

Confidence Assessment: High

2.6. Implementation of individual shoreline management plan (SMP) policies is a challenge given the substantial additional evidence, engagement and resources required to deliver them.

Confidence Assessment: High

2.7. Risk management authorities will require incentives, information, guidance and increased awareness, to make the shift from static concrete and rock defences to nature-based solutions.

Confidence Assessment: High

## **Aim 3: Healthy Places for People**

### **Aim 3: Progress towards meeting the aim**

3.1. Natural flood defences are provided by coastal habitats.

Confidence Assessment: High

3.2. Carbon sequestration and storage, particularly in saltmarsh, helps to regulate the increased CO<sub>2</sub> contributing to climate change. Predicted future losses of saltmarsh will reduce overall carbon storage.

Confidence Assessment: Medium

3.3. Coastal margin habitats are an essential component for providing cultural services relating to health and wellbeing, economy and culture of the coastal zone as a whole.

Confidence Assessment: Medium

3.4. At least 50% of the Public Service Boards recognise the importance of community engagement with nature.

Confidence Assessment: High

3.5. LANDMAP (NRW 2020) indicates a pattern of high and outstanding landscape evaluations in the coastal zone.

Confidence Assessment: High

3.6. Over 75% of the coastline being designated or registered in recognition of landscape and heritage.

Confidence Assessment: High

3.7. In response to an increasing understanding of the benefits of linking community projects such as Discover the Severn and Dee Coastliners project have been undertaken.

Confidence Assessment: High

### **Aim 3: Obstacles remaining to meeting the aim**

3.8. Challenges will arise where sea defences which interrupt sediment supply and transport are necessary for protection of property and infrastructure. Social,

economic and biodiversity needs on the coast will need to be evaluated and balanced.

3.9. Saltmarsh extent is threatened by sea level rise and which will impact carbon sequestration. It will be a challenge to create enough saltmarsh to offset that predicted to be lost to coastal squeeze.

Confidence Assessment: High

3.10. There has been limited inclusion of adherence to the SMPs, coastal adaptation or implementing nature-based solutions into the PSB coastal and flood protection measures.

Confidence Assessment: High

3.11. The carbon storage services provided by coastal habitats generally not yet recognised, or considered, in terms of management, or evaluating, the impacts of management or development.

Confidence Assessment: Low

## Aim 4: A Regenerative Economy

### Aim 4: Progress towards meeting the aim

4.1. Livestock grazing for agriculture is carried out, primarily on saltmarsh, cliff tops habitat and sand dune. Many of the coastal vegetation communities are reliant on appropriate levels of livestock grazing for maintenance of condition and extent.

Confidence Assessment: High

4.2. Saltmarshes play an important nursery role for some species of fish, including several commercially important species (Laffaille, 2000). The Welsh saltmarsh contributes to this service has not been evaluated.

Confidence Assessment: Low

4.3. Natural flood defences are provided by coastal habitats: sand dunes and shingle banks provide barriers to flooding and saltmarsh fronting sea defences reduces the erosive forces of the sea by absorbing some of the wave energy (Möller, 2014). This can help reduce the need for hard engineered sea defences and flood defence maintenance.

Confidence Assessment: High

4.4. The use of nature-based solutions (green infrastructure) to manage coastal erosion and flood risk can have multiple benefits in terms of cost effectiveness. There are a limited but growing number of projects in Wales.

Confidence Assessment: Medium

### Aim 4: Obstacles remaining to meeting the aim

4.5. Optimal management for biodiversity may decrease economic returns and may not be economically viable without subsidies.

Confidence Assessment: Medium

4.6. Welsh waters are recognised for their potential contribution to **renewable energy** through tidal range, tidal stream and wave energy devices (ABPmer, 2008). These



developments will support efforts to **reduce carbon emissions** and mitigate the effects of **climate change** but could also impact coastal habitats through changes to hydrodynamic and sediment transport processes.  
Confidence Assessment: Medium