

The Second State of Natural Resources Report (SoNaRR2020)

SoNaRR2020 Register marine key pressures and opportunities

Natural Resources Wales

Final Report

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 marine key pressures and opportunities**

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

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Marine Natural Resource Register

SoNaRR2020

The Natural Resource Registers are an important output of SoNaRR2020. Their purpose is to distil the key pressures and opportunities identified within the chapters and to provide an accessible assessment of SMNR.

The marine natural resource register is made up of two additional documents:

1. SoNaRR2020 Register marine assessment of SMNR
2. SoNaRR2020 Register marine evidence

Table 1 Key Drivers, Pressures and Impacts on the Marine Ecosystem

Driver	Pressure	Impact
Climate Change	1. Increased Water Temperature	1.1. Directly lead to a decrease in dissolved oxygen and increases in stratification. Confidence Assessment: HIGH. SMNR Aim2
		1.2. Impacting on food webs, with effects seen in seabed-dwelling species, as well as plankton, fish, birds and mammals. Confidence Assessment: HIGH SMNR Aim 1 and 2
		1.3. Increasing the threat of INNS Confidence Assessment: HIGH SMNR: Aim2
		1.4. Impacting on food webs, with effects seen in seabed-dwelling species, as well as plankton, fish, birds and mammals. Confidence Assessment: LOW SMNR Aim1 and 2
Climate Change	2. Ocean Acidification	2.1. Impacting on food webs, with effects seen in seabed-dwelling species, as well as plankton, fish, birds and mammals. Confidence Assessment: MEDIUM SMNR Aim1 and 2

Driver	Pressure	Impact
Climate Change	3. Sea Level Rise	3.1. Increasing the risk of coastal flooding. Confidence Assessment: HIGH SMNR Aim 3
Pollution	4. Water Pollution	4.1. Elevated nutrient levels and chemical contaminants are detrimental to the functioning of the system as a whole, and to the condition of specific habitats and species. Confidence Assessment: HIGH SMNR Aim 2 4.2. Increase and distribution of marine litter is affecting aesthetic value of marine environment, and also threatens marine habitats and species. Confidence Assessment: HIGH SMNR Aim1, 2 and 3
Land Use Change	5. Unmanaged Access, Sport and Recreational Activity	5.1. Potential impacts on marine habitats and species from recreational sea angling, recreational boating (anchoring, mooring and launching), bait digging and collection of living resources and foot access. Confidence Assessment: LOW SMNR Aim 1 and 2
INNS, Pests and Diseases	6. INNS	6.1. Outcompete or smother native species; significantly damage or modify marine habitats. Confidence Assessment: HIGH SMNR Aim2
Over-exploitation	7. Unsustainable Fisheries	7.1. Potential impacts on target and non-target species and associated habitats. Confidence Assessment: MEDIUM SMNR Aim 1, 2 and 4

Opportunities for Action

Aim 1: Stocks of Natural Resources are safeguarded and enhanced

Understand and improve feature condition and management. We need to improve our ability to assess MPA feature condition and deliver in order to restore and improve the condition of marine ecosystems in Wales over the long term.

Marine renewable energy - developing low-carbon energy potential. This represents a significant opportunity in decarbonising Wales and contributing towards a circular economy by making more efficient use of natural resources while optimising benefits of provisioning ecosystem services. However, increasing the deployment of renewable devices and sites will need to take place sustainably to avoid potential consequences for the extent, condition and connectivity of marine habitats, species and natural resources.

[Synergy] There are significant opportunities through low-carbon marine renewable energy development to contribute to well-being, meet emissions reduction targets, address the global climate emergency and help to ensure ongoing marine climate regulation benefits

[Synergy] The Welsh National Marine Plan offers a unique opportunity to establish a synergistic relationship between building ecosystem resilience and sustainable strategic and project level development planning

[Synergy] Improving our knowledge of the marine environment should drive more effective and efficient planning and decision-making and more refined understanding of conflicts between activities to support better use of marine space

Aim 2: Resilient Ecosystems

Build the resilience of the marine ecosystem through restoration of habitats, maximising carbon sequestration potential, completing ecologically coherent network of well-managed MPAs, developing low-carbon energy potential.

Work collaboratively to restore habitats through various initiatives to identify and capitalise on opportunities to restore or enhance marine habitats.

Complete ecologically coherent network of well-managed MPAs. Welsh Government taking forward work to complete the network of MPAs by designating a number of Marine Conservation Zones.

Deliver effective and consistent MPA management through the Network Management Framework and Action Plan; collaboration across Area Statements.

[Synergy] Improving the overall management and condition of MPAs will help to meet national and international network obligations and increase the appeal of the marine environment, leading to increased cultural services and benefits for well-being e.g. health, tourism, recreation etc and associated economic benefits

[Synergy] Restoring and enhancing coastal and marine habitats could secure regulating services and benefits of hazard protection such as flooding and erosion

[Synergy] Restoring and enhancing seagrass, saltmarsh and macroalgae habitats would increase ability of Welsh marine ecosystem to sequester carbon and provide natural defence against hazards such as coastal flooding.

Aim 3: Healthy Places for People

Improve management of activities and pressures that impact water quality in marine and coastal ecosystems, through River Basin Management Plans measures; agricultural land management; Opportunity Catchments; MPA Network.

[Trade-off] Addressing impacts from elevated DIN levels could have implications for the agricultural sector

Improve our understanding of carbon sequestration, the role of different habitats and the importance of their condition.

[Trade-off] Increasing tourism and recreational activities could result in increased impacts (e.g. marine litter, marine traffic, disturbance to marine species, damage to sensitive habitats etc) on the marine environment unless managed sustainably, particularly as many activities are non-licensable there are therefore limited tools to guide their management.

[Trade-off] Addressing pathways of marine litter will potentially have financial implications for the water and waste industries, local authorities and businesses

[Synergy] Improved water quality, reduction of litter and additional designations of beaches as Blue Flag, leading to increased cultural services and benefits for well-being e.g. health, tourism, recreation etc and associated economic benefits.

Aim 4: A Regenerative Economy

Marine renewable energy - developing low-carbon energy potential. This represents a significant opportunity in decarbonising Wales and contributing towards a circular economy by making more efficient use of natural resources while optimising benefits of provisioning ecosystem services. However, increasing the deployment of renewable devices and sites will need to take place sustainably to avoid potential consequences for the extent, condition and connectivity of marine habitats, species and natural resources.

Fisheries - The existing and planned initiatives aimed at improving our understanding of the condition of stocks of commercially targeted fish and shellfish will contribute valuable information on the sustainability of marine fisheries activities and their locations in Welsh waters. Developing a spatial approach through the WNMP (such as, through exploring resource areas for various sectors such as aggregates, ports and shipping, renewables, aquaculture) offers the opportunity to guide sustainable economic growth, with appropriate development that ensures the maintenance and enhancement of marine ecosystems.