

2024 National Marine Plan Review

3 Year Report on the Effectiveness of Scotland's National Marine Plan

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2024 NMP REVIEW SUMMARY

Background

Scotland's first statutory [National Marine Plan](#) (NMP) was adopted and published in March 2015. The policies and objectives of the NMP set out how Scottish Ministers intend marine resources to be used and managed out to 200 nautical miles. It supports development and activity in Scotland's seas while incorporating environmental protection into marine decision-making to achieve sustainable management. Public authorities must take authorisation or enforcement decisions in accordance with the NMP, unless relevant considerations indicate otherwise.

Legal Requirement for the Review

Marine planning in Scotland's inshore waters (out to 12 nautical miles) and offshore waters (12 to 200 nautical miles) is governed by the Marine and Coastal Access Act 2009¹ and by the Marine (Scotland) Act 2010². The two Acts establish a legislative framework for marine planning to enable demands on marine resources to be managed in a sustainable way across all of Scotland's seas.

Section 54 of the Marine and Coastal Access Act 2009 and Section 11 of the Marine (Scotland) Act 2010 require the Scottish Ministers to keep under review the matters which may be expected to affect the exercise of their functions relating to the preparation, adoption, review, amendment or withdrawal of the NMP³. Section 61(1), (2) and (3) of the Marine and Coastal Access Act 2009 and section 16(1) and (2) of the Marine (Scotland) Act 2010 set out separate duties on the Scottish Ministers to keep under review the implementation of the NMP⁴.

Pursuant to Section 61 The Marine and Coastal Access Act 2009, a report on the implementation of the NMP must be published at intervals of no more than 3 years from the date of the adoption of the NMP⁵. Pursuant to Section 16 of the Marine (Scotland) Act 2010, a report on the implementation of the NMP must be published at intervals of 5 years beginning with the date on which the NMP was adopted⁶.

In addition, Section 61 of The Marine and Coastal Access Act 2009 imposes on the Scottish Ministers a reporting requirement to lay a report relating to the NMP before the Scottish Parliament at intervals of six years, ending on the 1st January 2030⁷. Such report must set out any marine plans the Scottish Ministers have prepared and adopted, any intentions for their amendment, and any intentions for the preparation and adoption of any further marine plans.

This report meets the requirements of the legislation for review and reporting.

¹ [Marine and Coastal Access Act 2009](#)

² [Marine \(Scotland\) Act 2010](#)

³ Section 54(1), (2) and (3) of the MCAA and Section 11(1), (2) and (3) of the MSA

⁴ Section 61(1), (2) and (3) of the MCAA and Section 16(1) and (2) of the MSA

⁵ Section 61(4), (7) and (8) of the MCAA

⁶ Section 16(3), (5) and (6) of the MSA

⁷ Section 61(10), (11), (12) and (13) of the MCAA

The Content of the Review

This report meets the monitoring and reporting requirements relating to the NMP under the Marine and Coastal Access Act 2009 and Marine (Scotland) Act. Section 1 provides an overview of Scottish Marine Planning and the NMP; Section 2 sets out the review of all relevant matters; Section 3 reports on the implementation of the NMP; and Section 4 considers next steps. This report also sets out the intentions of the Scottish Ministers for the preparation and adoption of the new National Marine Plan, which will replace the NMP, and includes recommendations for the ongoing development of the National Marine Plan 2 (NMP2).

Review Conclusions

The effectiveness of the NMP, and the progress made towards the objectives set out within it, have been assessed through a review of data and relevant matters set out in this NMP Review Report. The data used in this report includes the Scottish Marine Assessment 2020 (SMA2020)⁸, the OSPAR Quality Status Report (QSR) 2023⁹, and Scotland's marine economic statistics¹⁰. Evidence of how the NMP is utilised in licensing and consenting decision-making processes for marine activities is established through a user survey and case study of the Scottish Government's Licensing and Operations Team (MD-LOT).

Section 4 of this Report sets out the NMP Review conclusions in detail. In summary these fall under the following:

- A. The adopted NMP remains fit for purpose as an effective policy framework against which decisions in the marine environment can be based, and this review identifies potential opportunities for the emerging NMP2 to improve on the existing policy and implementation.
- B. There are "relevant matters" that impact the delivery of the NMP which should be given appropriate consideration with respect to the development of NMP2.

Relevant Matters

The previous statutory review (2021) recommended that the adopted NMP should be updated to ensure that it is fully orientated to meet significant emerging challenges on nature and climate crisis and to support our transition to net zero. Ministers announced the intention to develop NMP2 in September 2022¹¹. The relevant matters identified, for the purposes of this Review, are compiled in Section 2 and discussed in Section 4. Some of the key relevant matters are presented below. These matters should also be considered in the development of the NMP2. These include, but are not limited to:

- I. Major new programmes of offshore wind resulting from the ScotWind and Innovation and Targeted Oil and Gas (INTOG) leasing rounds, and due

⁸ [Scotland's Marine Assessment 2020 | Scotland's Marine Assessment 2020](#)

⁹ [Quality Status Report 2023 - OSPAR-OAP \(Prod\)](#)

¹⁰ [Marine economic statistics - gov.scot](#)

¹¹ [Programme for Government 2022 to 2023 - gov.scot](#)

consideration of UK energy planning contained within programmes of work covering Clean Power 2030 and the currently under development Strategic Spatial Energy Plan.

- II. The Blue Economy Vision and the Scottish Government's just transition principles.
- III. The opportunity to incorporate measures for the implementation of the NMP2 alongside the plan's development, including guidance for decision makers on how to use the plan and a monitoring and evaluation framework that can enhance the statutory review process in the future.

Next steps

The conclusions of this 2024 Review are focused on providing guidance to inform the development of the NMP2. The published Planning Position Statement for NMP2 sets out our intentions for the updated plan and how the relevant matters listed above will be addressed¹². The Planning Position Statement was available for public consultation and feedback from this will be used to inform the development of the NMP2. Consultation on the draft plan is scheduled for Winter 2025.

Until the NMP2 is adopted, the current NMP will remain in place as the statutory plan for Scotland's seas and provides the planning policy framework to support our vision for "clean, healthy, safe, productive and diverse seas, managed to meet the long terms needs of nature and people".

¹² [National Marine Plan 2: planning position statement - gov.scot \(www.gov.scot\)](http://www.gov.scot)

1. OVERVIEW OF SCOTTISH MARINE PLANNING AND THE NATIONAL MARINE PLAN

1.1 National Marine Plan Review 2024

Scotland's waters are governed under a series of legislative frameworks. Marine Planning in Scotland's waters is governed by two Acts – the UK Marine and Coastal Access Act 2009 (“MCAA”)¹³ and the Marine (Scotland) Act 2010 (“MSA”)¹⁴, often referred to as the “Marine Acts”. The Marine Acts set out the requirement for the development and monitoring of marine plans.

The MCAA requires that marine plans are prepared for the UK marine area, covering both inshore and offshore waters (0 to 200 nautical miles)¹⁵. The devolved administrations (the Scottish Government, the Welsh Assembly Government, and the Northern Ireland Executive) have jurisdiction over marine planning matters in their respective waters from 0 to 12 nautical miles (inshore waters).

The MSA also requires Scottish Ministers to prepare and adopt a National Marine Plan (NMP) for the Scottish marine area, covering Scotland's inshore waters (0 - 12 nautical miles). Under the MCAA, marine planning for offshore waters from 12 to 200 nautical miles is executively devolved to marine planning authorities in the Devolved Administrations, which for Scotland is the Scottish Ministers¹⁶. The Scottish NMP for the sustainable development of Scotland's marine resources therefore extends from 0 to 200 nautical miles and was adopted in 2015.

The MCAA requires that the NMP is reviewed every three years¹⁷, and the MSA that this review occurs every five years¹⁸. In addition, Section 61 of the MCAA imposes on the Scottish Ministers a reporting requirement to lay a report relating to the NMP before the Scottish Parliament at intervals of six years, ending on the 1st of January 2030¹⁹. Such report must set out any marine plans it has prepared and adopted, any intentions for their amendment, and any intentions for the preparation and adoption of any further marine plans.

1.2 6-year report on marine planning in Scotland.

The Marine Acts set out a tiered approach to developing marine planning in the UK and Scotland. The framework includes the elements listed below. A description of the intention to amend prepare or adopt marine plans is also set out to fulfil the 6-year reporting requirements.

¹³ [Marine and Coastal Access Act 2009 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/2009/23/section/1)

¹⁴ [Marine \(Scotland\) Act 2010 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/2010/23/section/1)

¹⁵ Section 51 of the MCAA

¹⁶ Section 50 of the MCAA

¹⁷ Section 61(4), (7) and (8) of the MCAA

¹⁸ Section 16(3), (5) and (6) of the MSA

¹⁹ Section 61(10), (11), (12) and (13) of the MCAA

UK Marine Policy Statement (UK MPS)²⁰: The UK MPS is the framework for preparing marine plans and taking decisions affecting the marine environment. Joint adoption of a UK-wide MPS provides a consistent high-level policy context for the development of marine plans across the UK to achieve the vision. The UK MPS supports the formulation of marine plans, ensuring that marine resources are used in a sustainable way to promote sustainable economic development, enable the UK's move towards a low-carbon economy, healthy and functioning marine ecosystems and contribute to the societal benefits.

Scottish National Marine Plan (NMP): The NMP (2015) sets out strategic policies for the sustainable development of Scotland's marine resources out to 200 nautical miles. It is required to conform with the UK MPS and ensure compatibility with marine plans or development plans for areas related to the marine plan area, including English plans.

The NMP is published under the Marine Acts, and these provide that a public authority must take any authorisation and enforcement decision in accordance with the appropriate marine plan, unless relevant considerations indicate otherwise²¹. Moreover, a public authority must have regard to the appropriate marine plan documents in taking any decision which relates to the exercise of any function capable of affecting the whole or any part of the UK marine area, but which is not an authorisation or enforcement decision²².

The NMP sets out the vision for clean, healthy, safe, productive and diverse seas, managed to meet the long terms needs of nature and people. High-Level Marine Objectives (HLMOs) are adopted by all UK Administrations and published within the Marine Policy Statement (MPS). The NMP adopts the HLMOs as the strategic objectives for the Plan and reflects the commitment to the five guiding principles of sustainability, around which the HLMOs and policies of the adopted NMP are organised.

The NMP specifies a core set of General Policies which apply to all plan making and decision making in the marine environment. These apply to all existing and future developments and uses of the marine environment and are supplemented by sector policies that address specific issues beyond those set out in the General Policies.

Following the 2021 review of the NMP, Ministers announced the intention to update the NMP and development of the NMP2 is underway. The statement of public participation²³ for the NMP2 has been published and consultation on the draft NMP2 is anticipated in Winter 2025 and plan adoption in 2027.

²⁰ [UK Marine Policy Statement 2010](#)

²¹ Section 58(1) of the MCAA and Section 15(1) of the MSA

²² Section 58(3) of the MCAA and Section 15(3) of the MSA

²³ [National Marine Plan 2: stakeholder engagement strategy and statement of public participation - gov.scot](#)

Regional Marine Plans (RMP): The MSA provides²⁴ that the Scottish Ministers may prepare and adopt regional marine plans for Scottish marine regions defined in the Scottish Marine Order 2015 in the Scottish inshore region²⁵. Certain Regional Marine Planning functions may be delegated by a direction issued by the Scottish Ministers. No statutory Regional Marine Plan for any given region has yet been adopted but three are currently under development in Shetland, Orkney and the Clyde.

RMPs are developed by regional Marine Planning Partnerships (MPPs), taking into account of local circumstances and issues.

Following the recommendations of the inquiry into Regional Marine Planning²⁶, undertaken by the Environment, Climate Change and Land Reform Committee of the Scottish Parliament, the Scottish Government published its response in July 2023²⁷. In this it was confirmed that there will be no additional Marine Planning Partnerships established until the NMP2 is adopted. Several commitments were included in the response, including:

- collaborative working with MPPs and clear communication on expectations for transparent operations.
- work with Local Authorities to promote the building of marine planning expertise.
- to evaluate the current approach to marine regions.
- work to identify opportunities for wider, complementary and appropriate funding sources for regional marine planning.
- to form a Regional Marine Planning Forum which will deliver:
 - Lessons learned guidance.
 - Best practice guidance for developing Regional Marine Plans, governance of MPPs, and best practice for stakeholder engagement.
 - Workshops and training opportunities.
 - Raise awareness of regional marine planning.

Sectoral Marine Plans: The NMP sets out that proposals for commercial scale offshore wind and marine renewable energy development should be sited in Plan Option areas. The Sectoral Marine Plan for Offshore Wind Energy (SMP-OWE) was published in 2020 and identified the most sustainable plan options for the future development of commercial-scale offshore wind energy in Scotland.

Scottish Ministers concluded that the SMP-OWE needed to be updated and re-assessed as part of the Iterative Plan Review (IPR) following the ScotWind leasing award by Crown Estate Scotland (CES) of 27.6 GW of generation capacity. In addition to the ScotWind outputs, the IPR will also consider the further 5.5GW of potential offshore wind capacity from the INTOG leasing round. The IPR will consider the outputs of both the ScotWind and INTOG leasing rounds, as well as the mitigation and management that will be required to support the ambitious scale of development. The updated SMP-OWE is scheduled for public consultation in Spring 2025 and adoption later in 2025.

²⁴ Section 5(2) and (5) of the MSA

²⁵ [The Scottish Marine Regions Order 2015 \(legislation.gov.uk\)](https://www.legislation.gov.uk)

²⁶ [Development and implementation of Regional Marine Plans in Scotland: final report \(December 2020\) | Scottish Parliament](#)

²⁷ [regional-marine-plans-in-scotland-31-july-2023.pdf \(parliament.scot\)](#)

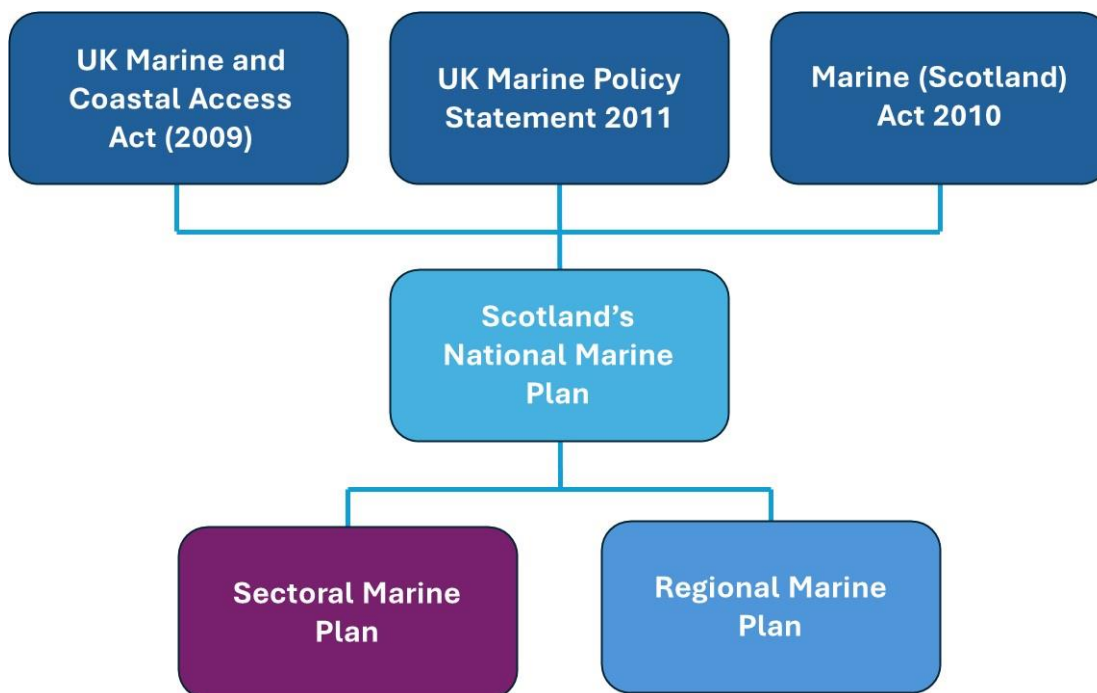


Figure 1.1 Hierarchy of Scottish Marine Planning

Marine planning has a close relationship with terrestrial planning as relevant matters straddle the marine and terrestrial environments. The **Fourth National Planning Framework (NPF4)** was adopted in February 2023²⁸. NPF4 sets out our vision for working towards a net zero Scotland by 2045 through planning. NPF4 signals the key priorities for ‘where’ and ‘what’ development should take place at a national level and is combined with national planning policy on ‘how’ development planning should manage change. There is overlap in the geographic scope of marine and terrestrial plans at our coasts. The Planning circular 1/2015 sets out the relationship between the statutory land use planning system and marine planning and licensing²⁹.

1.3 Monitoring and review of marine plans

Requirement for monitoring and review of marine plans

Scottish Ministers are required to keep under review the matters which may be expected to affect the exercise of their functions relating to, among other matters, the preparation, adoption, amendment or withdrawal of any marine plan³⁰. Scottish Ministers must also monitor, and periodically report on, the implementation of any marine plan³¹.

²⁸ [National Planning Framework 4 - gov.scot](https://www.gov.scot/publications/national-planning-framework-4/pages/1-introduction-to-npf4.aspx)

²⁹ [Planning Circular 1/2015: relationship between the statutory land use planning system and marine planning and licencing - gov.scot](https://www.gov.scot/publications/planning-circular-1-2015/pages/1-introduction.aspx)

³⁰ Section 54(1), (2) and (3) of the MCAA and Section 11(1), (2) and (3) of the MSA

³¹ Section 61(1), (2) and (3) of the MCAA and Section 16(1) and (2) of the MSA

Section 16(2)d of the MSA states that Scottish Ministers must keep under review “*the progress being made towards securing that the objectives in the regional marine plan secure the objectives in the national marine plan*”; at this time no regional marine plan has been adopted, therefore this review will not consider this requirement.

A checklist for compliance with the relevant legislation is provided at the end of this report.

Plan Delivery

The Marine Acts require that public authorities must take authorisation or enforcement decisions in accordance with the appropriate marine plans unless relevant considerations indicate otherwise³². Public authorities must also have regard to the appropriate marine plans in taking any decisions which relates to the exercise by them of any function capable of affecting the whole or any part of the marine area, but which is not an authorisation or enforcement decision³³. This applies to decision makers such as the Marine Directorate and wider Scottish Government, Local Authorities or other public authorities including statutory advisors, regulators, and agencies.

NMP Reviews 2018 and 2021

The NMP review in 2018³⁴ found that several policies and general aspects of the Plan were particularly effective or useful to decision making. New policies given statutory status by the NMP, such as those in relation to cables and Priority Marine Features (PMF), had influenced and underpinned decision making. Various challenges were also highlighted, including that the uncertainties around the UK leaving the European Union (EU) meant that it was not the right time to amend or replace the plan.

The NMP review in 2021³⁵ found that there was a clear need to update the NMP in order to ensure it is fully oriented to meet some significant emerging challenges. These included the exit of the UK from the EU and the Global Climate Emergency. The review outlined that the NMP would need to evolve to optimise the framework that is in place to enable governance and management of the significant challenges.

Approach to the NMP Review 2024

This review comprises a review of relevant matters (Section 2) including the wider UK, European and international policy context and a report on the implementation of the NMP (Section 3), including the effects of the plan’s policies, the effectiveness of those policies in securing that the plan’s objectives are met; and the progress made towards securing the plan’s objectives (Section 3). This review also provides guidance for the development of the NMP2.

³² Section 58(1) of the MCAA and Section 15(1) of the MSA

³³ Section 58(3) of the MCAA and Section 15(3) of the MSA

³⁴ [National Marine Plan Review 2018: three-year report - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/nmp-review-2018-2021/pages/3-3-year-report.aspx)

³⁵ [National Marine Plan Review 2021 | Marine Scotland Information](https://www.gov.scot/publications/nmp-review-2021/pages/1-marine-scotland-information.aspx)

2. REVIEW OF RELEVANT MATTERS

2.1 Introduction

The following sections set out information relating to the duty to keep relevant matters under review (as required by Section 54 of the MCAA and Section 11 of MSA). This includes but is not limited to information on the physical, biological, environmental (including marine protection status), social, cultural (including historic and archaeological) and economic characteristics of Scotland's seas, and information on communications, energy, transport and any other uses of the marine area.

This section also includes a summary of the wider policy context, focusing on the changes from the 2021 Statutory Review of the plan and consideration of how these changes may impact on the sustainable development of the region. This also underlines the need for continued work towards the production of an updated National Marine Plan (NMP2).

2.2 Policy Context

In accordance the MCAA³⁶ and the MSA³⁷, a summary of the wider policy context is required to assist in identifying relevant matters that may have an impact on the sustainable development of the region, its natural resources, or the living resources dependent on the region. This focuses on the changes from the 2021 Statutory Review of the plan and consideration of how these changes may have an impact. This changing policy context is reviewed in term of identifying any relevant matters under the Marine Acts.

The NMP 2021 review identified that whilst the plan remained effective, the changing global context pointed to the need to update NMP to combat emerging challenges. The NMP2 is being prepared in the context of international, European, United Kingdom (UK) and Scottish marine legislation, policy, and guidance and early work on the NMP2 has identified a changing policy context.

Figure 2.1 below sets out the broad context in which NMP2 is developed with a mixture of international, UK and Scottish legislation, policy, and guidance. Much of this has been updated since 2021. Those updates that form key relevant matters for consideration for the national plan are discussed in **Appendix 3**.

³⁶ Section 54 of the MCAA

³⁷ Section 11 of the MSA

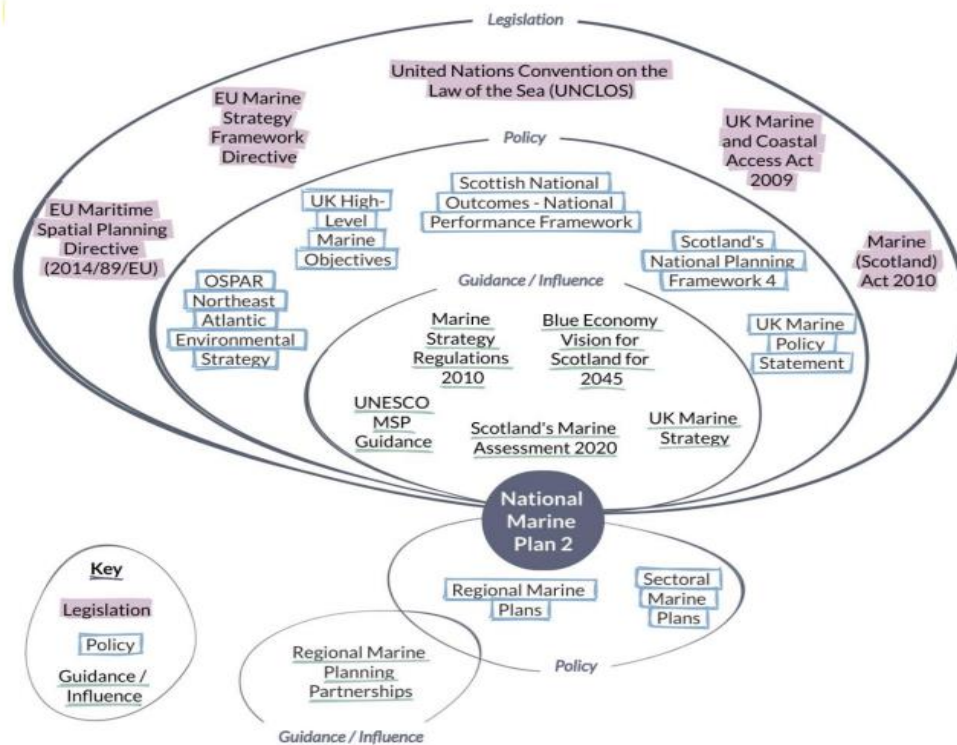


Figure 2.1: Relevant legislative and policy context for the new NMP2.

This review has identified a number of relevant matters contained within a suite of policy programmes, plans and actions adopted since 2021 that, amongst others, includes the following key policies, plans and strategies:

- Scotland's Blue Economy Vision and Outcomes
- Just Transition Planning
- National Planning Framework 4
- Climate Change Policy and Blue Carbon Planning
- Scottish Biodiversity Strategy
- Joint Fisheries Statement
- Aquaculture Vision
- Marine Litter
- Draft Energy Strategy and Just Transition Plan
- Offshore Wind leasing and Planning
- Scotland's Hydrogen Action Plan
- UK Energy Policy and Planning

Summary of relevant policy matters

Since 2021 there has been a number of key policy developments and publications of plans, programmes and strategies that further amend the context in which the NMP is implemented. The Blue Economy Vision for Scotland, published in 2022³⁸, sets out outcomes that provide an overarching direction for the marine environment underpinned by healthy and functioning ecosystems managed using an ecosystem-based approach; resilient to climate change; and supporting Scotland's Net Zero and Nature Positive commitments. The vision sets out an aim that the marine environment will support thriving and healthy communities, and marine sectors will be innovative, entrepreneurial, productive and internationally competitive, supporting sustainably harvested and farmed Blue Foods. The Continuity Act 2021 enables the Scottish Government to maintain alignment with EU environmental law in the marine environment, in turn supporting the Blue Economy outcomes.

The NMP Review 2021 established that an updated NMP would support and contribute towards a just transition, and the 2021 Scottish Government response to the Just Transition Commission's recommendations³⁹ confirmed that policy frameworks, such as that provided by the NMP, can be produced alongside the principles of a just transition.

Climate change remains the most critical factor affecting Scotland's marine environment, and the marine environment provides opportunities for mitigation and requirements for adaptation. There is growing interest in carbon captured by the world's ocean and coastal ecosystems, or "blue carbon". As required by Section 5 of MSA Scottish Ministers must set objectives relating to the mitigation of, and adaptation to, climate change for the purposes of preparing NMP2.

Energy generated from offshore wind, steered by sectoral marine planning, and the potential for renewable hydrogen, promoted by the Hydrogen Action Plan, demonstrate the opportunity for the marine environment to generate energy as part of the journey to net zero emissions. The UK Government's Energy Act 2023, and the Clean Power 2030 action plan and forthcoming Strategic Spatial Energy Plan (SSEP), will continue to demonstrate the importance of the energy sector within Scottish waters to UK wide decarbonisation.

The Scottish Biodiversity Strategy to 2045, first published in 2022 and updated in 2024⁴⁰ with its first delivery plan, sets out a nature positive vision for Scotland and includes many outcomes of relevance to the marine environment. It underlines the essential role healthy ecosystems provide to society and for climate resilience. These are key and relevant matters for the update to the NMP and the Delivery Plan includes a specific action to develop and adopt a NMP2 that sets out planning policies on climate mitigation and adaptation, nature protection and enhancement.

There has also been relevant policy development in the food production sector following the Joint Fisheries Statement (JFS) in 2022 and the Vision for Sustainable Aquaculture in 2023. These recognise that alongside the social and economic benefits

³⁸ [A Blue Economy Vision for Scotland - gov.scot](#)

³⁹ [Just Transition - A Fairer, Greener Scotland: Scottish Government response - gov.scot](#)

⁴⁰ [Scottish Biodiversity Strategy to 2045 - gov.scot](#)

of food production, supporting marine biodiversity and operating within environmental limits is vitally important, and the wider ecosystem should be considered when developing and delivering policies.

Other important policy and legislative developments include the Marine Litter Strategy for Scotland, refreshed in 2022, The Circular Economy (Scotland) Act 2024, and Scotland's National Strategy for Economic Transformation (NSET). These promote a mixture of economic growth, environmental sustainability, quality of life and equality of opportunity that, alongside the other policy and legislative changes included in this review, are relevant matters for marine planning to consider and will form part of the evidence base for the development of NMP2.

2.3 Review of relevant matters

2.3.1 Matters under review

The review the relevant matters has been drawn from sources established that are utilised to provide this information to guide decisions on how the marine environment is used.

The OSPAR Quality Status Report (QSR) 2023⁴¹ assesses the environmental status of the marine environment of the North East Atlantic, providing the baseline environmental and physical status of the seas surrounding Scotland.

The Scottish Marine Assessment (SMA) 2020⁴² is the most up-to-date assessment focused specifically on Scottish waters. The SMA 2020 provides an assessment of both the state of Scotland's seas and the main activities and pressures within these seas. It provides a robust evidence base that we can use to help us protect and enhance our marine environment while we support building a sustainable blue economy. The SMA 2020, and the work undertaken within the Marine Directorate comparing SMA 2020 and QSR 2023, have informed this review of the NMP.

2.3.2 Physical, environmental and biological characteristics of the region

A detailed analysis of the information collected is provided in **Appendix 1** and summarised below:

- **Benthic Habitats:** Predicted that seafloor habitats were in poor condition across more than half of their area in nine out of 21 regions with some level of damage likely in all regions. Only three of the marine regions (situated in deeper waters off the continental shelf) met the target of less than 15% of the seafloor being subject to high levels of fishing-related disturbance. The overall SMA 2020 status assessment was "many concerns".
- **Climate Change and Ocean Acidification:** Climate change is highlighted as major driver of decline in many biodiversity assessments. However, due to knowledge gaps, the direct impact of climate change cannot be fully assessed. Findings indicate compounding negative effects, such as from contaminant

⁴¹ [Quality Status Report 2023 | OSPAR Commission](#)

⁴² [Scotland's Marine Assessment 2020](#)

pollution, eutrophication, and ocean warming, collectively contribute to declines in productivity and increase the spread of disease.

- **Eutrophication:** In general, assessments have described a gradual improvement in the eutrophication status of the Greater North Sea and Celtic Seas. SMA 2020 did identify some localised issues.
- **Fish:** SMA 2020 concluded the status of all commercial fish stocks within Scotland as “few or no concerns, but some local concerns”.
- **Hazardous substances:** There were few or no concerns in the combined contaminants in sediment and biota, and biological effects of contaminants assessment, although there were local concerns. The OSPAR assessment, based on the Environmental Quality Standard, categorised mercury levels as too high.
- **Marine birds:** Threats and pressures include: climate change; prey availability with climate-mediated ocean warming affecting abundance; quality and distribution of many fish species; competition between seabirds and commercial fisheries for key prey; invasive non-native predators; habitat loss and degradation; disturbance at breeding colonies; fisheries by-catch mortality. Highly Pathogenic Avian Influenza is a novel threat which has had catastrophic effects on many species, although the long-term prevalence of this disease and future impacts is unknown. Offshore renewable energy is an additional, yet poorly understood issue. The latest complete census in 2023 identified dramatic declines in many seabird species assessed. Crucially, this census was undertaken before the emergence of Avian Influenza.
- **Marine food webs:** Indicators for demersal fish communities have not achieved good status, highlighting that this component of the food web is under pressure and experiencing a long-term decline. Plankton community indicators show a decreasing trend for primary production.
- **Marine litter:** Marine litter levels are still high. There is a predominance of plastics among the marine litter, and microplastics have been reported in sediments, surface waters, the water column and in biota. Seafloor indicator assessments show increasing litter on the seabed, with fisheries-related and plastic materials predominating.
- **Marine mammals:** Trends and conditions vary between cetacean species, with some considered to be in a not good environmental status, climate change, noise pollution, loss of habitat and prey, and by-catch were identified as the major threats to marine mammals. These main threats persist and in many cases are increasing.
- **Non-indigenous species:** SMA 2020 concluded that since 2011 the number of waterbodies where these species were reported had increased. However, as data used for the assessment was derived from ad-hoc monitoring, it is unclear if this increasing trend is genuine. To address some of these shortcomings the Scottish Government and NatureScot have been working on improving access and availability of marine NIS data.
- **Pelagic habitats:** Indicators using phytoplankton biomass and zooplankton abundance in the OSPAR QSR highlight a general pattern of decrease, and it assessed the Pelagic Habitat as being ‘not good’. Within the SMA 2020 most regions were assessed to have ‘many concerns’, except for two regions (Clyde, and Forth & Tay) which showed ‘some concerns’.

- **Underwater noise:** For both impulsive and continuous noise, it is not yet possible to establish any definitive long-term trends in noise levels. OSPAR has committed to producing a Regional Action Plan of measures to reduce noise and to improve the monitoring of noise levels.
- **Marine Protected Areas and Priority Marine Features:** Approximately 37% of our seas are within MPA sites. Sites in the MPA network are managed to achieve the conservation objectives for their protected features, whilst still allowing sustainable use. Fisheries management measures for the most vulnerable sites were implemented in 2016 and management measures for the next phase of sites are being developed with the aim of implementing these in 2025.

The relevant physical, environmental and biological characteristics of the region matters provides a mixed picture of trends, though many features demonstrate improvements, overall trends demonstrate that further environmental improvements are required. Several environmental receptors continue to demonstrate a level of decline or lack of improvement.

Whilst not all remedial action will be within the gift of the NMP policy framework, in order to further the achievement of sustainable development, appropriate consideration should be given to ensuring that the NMP2 can provide a robust policy framework that can help guide decisions to support sustainable development in the marine environment.

2.3.3 Social, cultural and economic characteristics of the region

The relevant social, cultural and economic characteristics of the region baseline information and trends have been drawn from a variety of sources including Scotland's Marine Economic Statistics, which outline the economic contribution of Scotland's marine sectors⁴³, and the work undertaken to provide the baseline for the Sustainability Appraisal of the NMP2, including the SEA Scoping Report⁴⁴.

A detailed analysis of the information collected is provided in **Appendix 2** and summarised below:

- **Marine economy:** In 2022, Scotland's marine economy directly generated £4.9 billion (excluding offshore renewables and oil and gas) in approximate gross value added ("aGVA") and employed 71,000 people. It accounted for 3% of total Scottish aGVA and 2.7% of total employment. The largest marine economic sector in terms of GVA is "support for oil and gas" (42% of total marine economic GVA). Comparable figures for the offshore wind sector are not available currently. However, sector growth can be illustrated by the growth in energy generation, with 6,400 gigawatt hours ("GWh") of electricity generated in 2023, compared to 600 GWh 2011. Marine tourism is the largest marine economic sector determined by headcount, employing 44% of those employed in the marine economy.

⁴³ [Marine economic statistics - gov.scot \(www.gov.scot\)](http://www.gov.scot)

⁴⁴ [National Marine Plan 2 - strategic environmental assessment: scoping report - gov.scot \(www.gov.scot\)](http://www.gov.scot)

- **Social:** The marine environment is identified as being important or very important personally to respondents in the Ocean Literacy in Scotland Survey (2022)⁴⁵, and protecting the marine environment is therefore viewed as important, particularly as half of respondents felt their lifestyle had an impact on this. Marine recreation is an important sector providing multiple benefits for Scotland and its people, with frequent visits to the outdoors supporting improvement in health and wellbeing, particularly physical and mental health. The percentage of people in relative poverty in rural areas, though lower than urban areas, stood at 15% in 2023.
- **Cultural Heritage:** Scotland has a rich cultural heritage related to the marine sector from designated Historical Marine Protected Areas (MPAs) to archaeology and a rich social history. Threats to designations arise from marine activities that can disturb sediments that preserve underwater archaeology, climate change, ocean acidification, and coastal erosion.

The evidence demonstrates the value to the Scottish economy of marine activities and industries, and the significant contribution to employment some marine activities make. Marine employment and recreation are also a significant contributor to Scotland's social and cultural life.

With a view to supporting the achievement of sustainable development, appropriate consideration should be given to ensuring that the NMP2 will continue to seek to facilitate activity that contributes to the economy within marine industries and sectors. Policies can guide the development of the growing marine renewables sector, balancing economic development with environmental impact and impacts on existing marine use.

2.3 Summary Proposals for NMP2

The programme of work to develop the NMP2 has commenced, with stakeholder engagement underway to inform and build the direction of travel for the emerging plan's policy framework, identifying the key issues for consideration. This is documented in the Planning Position Statement⁴⁶ which compiles stakeholder views and indicates a direction of travel for the NMP2 and includes a summary of the UK and Scottish Government commitments, which can be supported through marine planning.

The information gathered as part of this 2024 NMP Review can also be utilised to provide a summary of proposals to feed into the development of the NMP2. Based on the identification of relevant matters within this review the following proposals are made for consideration. A detailed analysis of the information gathered is provided in **Appendix 3** and summarised below.

⁴⁵ [Ocean literacy survey: headline findings - gov.scot](https://www.gov.scot/publications/ocean-literacy-survey/headline-findings/pages/12.aspx)

⁴⁶ [National Marine Plan 2: Planning Position Statement \(www.gov.scot\)](https://www.gov.scot/publications/national-marine-plan-2/planning-position-statement/pages/1.aspx)

Marine Environmental Quality, Ecosystem Health, Protection and Restoration

The review presents a mixed picture of trends across the range of environmental criteria and receptors discussed, indicating some areas of improvement and others demonstrating deterioration in the quality of the marine environment. However, the overall picture demonstrates that across all the environmental receptors there is a need for significant improvements in ecosystem health and environmental quality.

The Scottish Biodiversity Strategy seeks to support this enhancement and achieve a nature positive vision that extends into the Marine Environment. It reinforces the essential role healthy ecosystems provide to society and for climate resilience.

Whilst specific policy and programmes of work to arrest deterioration and encourage remediation and enhancement of the marine environment may fall outside of the scope of the NMP policy framework, appropriate consideration should be given to how the NMP2 could include environmental improvement as a key consideration in decision making. An updated NMP2 could include requirements in the policy framework to support environmental improvements, including policies to reduce the impact of new developments and to promote marine enhancement.

Furthermore, the Scottish Ministers must have due regard to the five guiding principles on the environment set out in the UK Withdrawal from the European Union (Scotland) (Continuity) Act 2021 during the policy development work for NMP2 and in the accompanying statutory assessments.

When considering Environmental Quality, Ecosystem Health, Protection and Restoration, there is potential for the relevant NMP general policies (policies 9 to 14⁴⁷) to be reviewed, updated and to consider whether the relevant matters identified in this review require amendments to the policy framework. This is addressed within our [NMP2 Planning Position Statement \(PPS\)](#), published in November 2024, which contains specific proposals on updating policies which relate to management of pressures (section 5.5) and cultural heritage (section 5.6).

Climate change mitigation and adaptation

Climate change remains the most critical factor affecting Scotland's marine environment and action for climate change is a key consideration for the developing NMP2. Appropriate consideration should therefore be given to reflecting the relevant policy work in the NMP2. This includes the Blue Economy Vision for Scotland, which links improving ecosystem resilience to climate change and recognises that underpinning healthy and functioning ecosystems also support the marine economy, as well as Scotland's Net Zero and Nature Positive commitments. Appropriate consideration should be given to whether NMP2 policies could support routes for the mitigation of the impacts of climate change and the opportunities for adaptation; this could include consideration of blue carbon related activities, and net zero energy generation.

⁴⁷ GEN 9 Natural Heritage; GEN 10 Invasive non-native species; GEN 11 Marine litter; GEN 12 Water quality and resource; GEN 13 Noise; GEN 14 Air quality

Appropriate consideration should also be given to reviewing and updating NMP policies 'GEN 5 Climate change' and 'GEN 8 Coastal process and flooding' to ensure that decisions reflect the emerging and updated relevant policy framework.

Sustainable Marine Economies

The evidence contained in this review demonstrates the value to the Scottish economy, and contribution to employment, of existing marine activities and industries. The Blue Economy Vision supports the benefits of marine food production, and the Joint Fisheries Statement and Aquaculture Vision seek to support the sustainable development of these sectors. With a view to furthering the achievement of sustainable development, appropriate consideration should be given to ensuring that the NMP2 policy framework continues to support marine activities and industries, balancing this with limiting environmental impacts, prioritisation of outcomes, and considering colocation and competition for space.

Since 2021 there has been significant development of plans and policies seeking to take advantage of the opportunities the marine environment may provide. ScotWind and INTOG leasing rounds, the potential for renewable hydrogen promoted by the Hydrogen Action Plan, and potential for Carbon Capture, Usage and Storage (CCUS) are all supported through a mix of UK and Scottish policy and legislation. This means that appropriate consideration should be given to ensuring that the NMP2 policy framework is robust enough to support licensing and consenting decisions, in order to maximise the benefits and minimise adverse impacts utilising the appropriate NMP2 statutory assessments.

Appropriate consideration should be given to reviewing and updating the NMP general policies relating to sustainable marine economies (1 to 4⁴⁸) where necessary to consider how the plan views and defines sustainable development, and how this might support existing and emerging sectors with economic and social benefits.

Communities and Just Transition

As the Blue Economy Vision sets out, the marine environment supports thriving and healthy communities, linked to employment in and use of the marine environment. Appropriate consideration should be given to ensuring that the NMP2 and its assessments consider the links between island and coastal communities, existing marine economies and the opportunities provided by the growth of newer sectors.

Additionally, appropriate consideration should be given to supporting just transition by embedding the Scottish Government's just transition principles into the development of the NMP2. The Just Transition Commission defines a just transition as both the outcome – a fairer, greener future for all – and the process that must be undertaken in partnership with those impacted by the transition to net zero. It supports moving to a net zero and climate resilient economy in a way that delivers fairness and tackles inequality and injustice.

⁴⁸ GEN 1 General Planning Principle; GEN 2 Economic Benefit; GEN 3 Social Benefit; GEN 4 Co-Existence

Implementation

The review of relevant matters has identified a number of priority areas for NMP2 to consider, including enhancement of the marine environment, climate change adaptation and mitigation, harnessing the benefits of new and emerging net zero energy industries, supporting existing marine use, and the just transition of communities linked to the marine environment. The competition for marine space is growing as the necessity for new development, and definitive action on these matters, increases. Section 3 of this review, alongside the 2018 and 2021 reviews, also highlights some of the challenges with implementation, including the lack of primacy in the policies.

It is therefore important that appropriate consideration be given to ensuring that the NMP2 provides a clear, spatial and locally relevant expression of policy, implementation and delivery, in line with the UK Marine Policy Statement. This could recognise the potential for different and potentially competing activities and provide a policy framework to manage these in such a way that they contribute to the achievement of sustainable development. The implementation of NMP2 could be designed in parallel to the plan and include a policy framework and guidance for decision makers that seeks to address these tensions.

Furthermore, to provide assurance that the NMP2 is meeting its objectives and to better inform future statutory reviews of the NMP2, it is recommended that appropriate consideration be given to producing a robust monitoring and evaluation framework alongside the development of NMP2 policies. This could include indicators to monitor the effectiveness of NMP2 objectives and policies, proposals to enhance data collection, and clarity on how to use NMP2 in decisions. Building on existing indicators that have been used to inform this, and previous NMP reviews, an updated monitoring framework could allow for greater standardisation for, and ease of, undertaking the statutory review processes under the Marine (Scotland) Act 2010, and the Marine and Coastal Access Act 2009.

Appropriate consideration should also be given to Ministers' response to the Environment, Climate Change and Land Reform (ECCLR) Committee Inquiry into regional marine planning⁴⁹. This includes a recommendation for a new plan to help provide an updated context for future regional marine planning. There is potential for NMP2 to help provide some renewed focus for emerging regional issues and priorities, influencing the content of future regional plans. The scope of potential support to the regional sector will be developed in 2025.

Appropriate consideration should be given to reviewing and amending the relevant NMP policies (GEN 15 to GEN21⁵⁰) as necessary to provide guidance for the efficient and effective implementation of NMP2.

⁴⁹ [Regional marine plans in Scotland | Scottish Parliament Website](#)

⁵⁰ GEN 15 Planning Alignment; GEN 16 Planning Alignment; GEN 17 Fairness; GEN 18 Engagement; GEN 19 Sound Evidence; GEN 20 Adaptive Management; GEN 21 Cumulative Impacts

3. MONITORING IMPLEMENTATION OF THE PLAN

3.1 Introduction

As required by Section 61 of the Marine and Coastal Access Act 2009 and Section 16 of the Marine (Scotland) Act 2010, this section includes a review of the effects of the policies within the plan, the effectiveness of those policies in securing that the plan's objectives are met, and the progress being made towards meeting those objectives. It also provides a commentary on considerations for the emerging NMP2.

The NMP's objectives are originated from the high-level marine objectives included within the UK Marine Policy Statement⁵¹ and the Good Environmental Status Descriptors included in the Marine Strategy Framework Directive⁵².

3.2: Effects of policies within the Plan and effectiveness of the policies in achieving the plan objectives

Section 61 of the MCAA and Section 16 of the MSA require that the following matters be kept under review:

- a. *the effects of the policies in the marine plan;*
- b. *the effectiveness of those policies in securing that the objectives for which the marine plan was prepared and adopted are met;*
- c. *the progress being made towards securing those objectives;*

To assess the effect of the policies in the plan, and the progress being made towards securing the objectives, a number of indicators and data sources have been used. A full analysis of this can be found in Annexes 1 to 7.

The assessment of progress towards the NMP's objectives comes with a number of limitations. Firstly, the objectives are influenced by a wide range of other factors out of the scope of the NMP and therefore this assessment aims to show the contribution towards the objectives from the NMP policies. Secondly, the objectives are reviewed every three years which is a relatively short period of time for any significant changes to have occur. However, where data availability permits, the assessment has covered the period since 2015 when the NMP was published. Thirdly, the availability and suitability of the data is limited, therefore the assessment is limited in its conclusions. Efforts to address data gaps have been made and a survey was developed and carried out with the relevant public authorities and the results added to the assessment.

Table 3.1 provides a summary of progress towards the plan's objectives. It provides a summary of the relevant indicators and is grouped under the principles of sustainable development that the Plan is built around.

⁵¹ [Marine Policy Statement](#)

⁵² [Marine environment - European Commission](#)

The 5 Guiding Principles of Sustainable Development
Achieving a sustainable marine economy
Ensuring a strong, healthy and just society
Living within environmental limits
Promoting good governance
Using sound evidence responsibly

Table 3.1 Progress towards the plans' objectives

Guiding Principle	Objective	Indicators	Assessment
Achieving a Sustainable Marine Economy	Infrastructure is in place to support and promote safe, profitable and efficient marine businesses	<ul style="list-style-type: none"> • GVA marine economy • Turnover marine economy • Employment marine economy • GVA per head marine economy • Marine Economy Exports 	<p>There has been a steady decrease in the overall GVA, Turnover and Employment of the Marine economy over the last 10 years (2013-2023). This is mainly due to the decrease in economic activity and employment in the Oil and Gas sector. However, the renewable energy sector has experienced large increase in turnover and employment over the same period.</p>
	The marine environment and its resources are used to maximise sustainable activity, prosperity and opportunities for all now and in the future		
	Marine businesses are taking long term strategic decisions and managing risks effectively. They are competitive and operating efficiently		
	Marine businesses are acting in a way which represents environmental limits and is socially responsible		
Ensuring a strong, healthy and just society	People appreciate the diversity of the marine environment, its seascapes, its natural and cultural heritage and its resources, and act responsibly	<ul style="list-style-type: none"> • Research Study – Value characteristics of marine and coastal areas (one off, could refresh) • GVA – Marine and coastal Tourism • Scotland's Visitor Survey • Ocean Literacy (data limitations) 	<p>Research looking into people's appreciation for marine wildlife, habitats, land and seascapes found that people both in Scotland and visitors place a high value in the marine and coastal environment and the benefits they provide to people.</p> <p>There has been an increase in the</p>
	The use of marine environment is benefiting society as a whole, contributing to resilient and cohesive communities that can adapt to coastal erosion and flood risks, as well as contributing to physical and mental wellbeing		

Guiding Principle	Objective	Indicators	Assessment
	The coast, seas, oceans and their resources are safe to use	<ul style="list-style-type: none"> Population Growth in coastal areas 	<p>number of people visiting the outdoors since 2015, particularly people living in rural areas. Further research looking into inequality of access to blue coastal space found very high percentage of people visiting beaches, the sea and coastlines and that this improved the mental health.</p>
	The marine environment plays an important role in mitigating climate change	<ul style="list-style-type: none"> Marine Economic GVA The SHS 	
	There is equitable access for those who want to use and enjoy the coast, seas and their wide range of resources and assets, and recognition that for some islands and peripheral communities the sea plays a significant role in their community	<ul style="list-style-type: none"> Visit to the outdoors (wellbeing, rural classification, does not specify visit to the coast) Relative and absolute poverty comparison analysis with rural areas 	
	Use of the marine environment will recognise, and integrate with, defence priorities, including the strengthening of international peace and stability and the defence of the United Kingdom and its interest	<ul style="list-style-type: none"> Visit to the outdoors (wellbeing, rural classification, does not specify visit to the coast) Inequalities in Access to Blue Coastal Space in Scotland: Research Report (2023)⁵³ 	
Living within environmental limits	Biodiversity is protected, conserved and, where appropriate, recovered, and loss has been halted	<ul style="list-style-type: none"> Benthic habitats Climate change and ocean acidification 	<p>There is limited available data to assess whether the state of benthic habitats have worsened over time, but the overall assessment is that their status is concerning. Pelagic habitats have also worsened over time.</p> <p>The status of marine birds and fish overall assessment is “not good” with a deterioration in the trend for marine birds while the</p>
	Healthy marine and coastal habitats occur across their natural range and are able to support strong, biodiverse biological communities and the functioning of healthy resilient and adaptable marine ecosystems	<ul style="list-style-type: none"> Pelagic habitats Eutrophication Hazardous substances Marine Food Webs Marine litter Non-indigenous species 	
	Our oceans support viable populations of representative, rare, vulnerable and valued species	<ul style="list-style-type: none"> Underwater noise MPAs and PMF Fish Marine Birds Marine Mammals 	

⁵³ [Inequalities in access to blue coastal space: research report - gov.scot](https://www.gov.scot/resources/publications/2023/04/inequalities-in-access-to-blue-coastal-space-research-report/)

Guiding Principle	Objective	Indicators	Assessment
			<p>sustainability of fish stocks has remained good. The status of marine mammals is overall good with large variability between different types.</p> <p>There is limited data on non-native species and underwater noise and conflicting assessments on marine litter.</p> <p>Hazardous substances and eutrophication conditions seem to have improved over time.</p>
Promoting good governance	All those who have a stake in the marine environment have an input into associated decision-making	<ul style="list-style-type: none"> • Marine Directorate Licensing and Operations (MD - LOT) Team Case Study • NMP Survey of Decision makers 	<p>The MD-LOT study shows that there is a consistency in the number of licences issued for particular marine sectors such as aquaculture. As well as a consistency in the most considered policies within the plan both in general and sector specific.</p> <p>A survey of external public bodies found that all public bodies surveyed had used the policies within the NMP in decision making for local or regional planning, guidance and policy development and/or for planning guidance and decisions.</p>
	Marine, land and water management mechanisms are responsive and work effectively together, for example through integrated coastal zone management and river basin management plans.		
	Marine management in the UK takes account of different management systems that are in place because of administrative, political or international boundaries		
	Marine businesses are subject to clear, timely, proportionate and, where appropriate, planned regulation		
	The use of the marine environment is spatially planned, where appropriate, and based on		

Guiding Principle	Objective	Indicators	Assessment
	an ecosystems approach which takes account of climate change and recognises the protection and management needs of marine cultural heritage according to its significance		Of those surveyed the majority monitored the use of the NMP and thought that the NMP had not created difficulties in decision making.
Using sound science responsibly	Our understanding of the marine environment continues to develop through new scientific and socio-economic research and data collection	<ul style="list-style-type: none"> • Scotland's Marine Assessment 2020 (SMA2020) • Marine Scotland Information • Marine Scotland Maps – NMPi • UKMS • OSPAR • Scotland ("GeMS") • JNCC • MEDIN 	The precautionary principle is applied throughout decision making; this includes the publication and use of confidence approaches to assessments that are considered data poor.
	Sound evidence and monitoring underpins effective marine management and policy development.		
	The precautionary principle ⁵⁴ is applied consistently in accordance with the UK Government and Devolved Administrations' sustainable development policy.		

The NMP is relevant to the decisions and policies made by Scottish Ministers (and officials, on their behalf), regarding marine activities and uses. Within the Scottish Government Marine Directorate decisions are made, for example, by Marine Directorate Licensing and Operations Team (MD-LOT), and within sea fisheries licensing and compliance.

MD-LOT make authorisation decisions, making upwards of 500 each year. The approach taken is set out in the following case study, demonstrating how NMP policies are considered when reviewing applications for proposed works.

Marine compliance makes enforcement decisions, approximately 60 – 70 decisions per year, generally enforcing legislation or licence conditions.

To assess the effectiveness of the NMP policies in securing the objectives for which the marine plan was prepared and adopted, a study of the licensing and consenting decision making with the Marine Directorate Licensing and consenting team MD-LOT was conducted. In addition, a survey of relevant public bodies was carried out to assess the effectiveness of the policies within the NMP in its implementation and facilitating decision making.

⁵⁴ [Environmental Principles Policy Statement 2023](#)

As mentioned above, the Marine Acts require that public authorities must take authorisation or enforcement decisions in accordance with the appropriate marine plans unless relevant considerations indicate otherwise (MSA, section 15(1); MCAA, section 58(1)). Public authorities must also have regard to the appropriate marine plans in taking any decisions which relate to the exercise by them of any function capable of affecting the marine area and which are not authorisation or enforcement decisions (section 15(3) of MSA and section 58(3) of MCAA). The duties placed on public authorities, including Scottish Ministers, under section 15 of the Marine (Scotland) Act 2010 were examined in the case of the Open Seas Trust v Scottish Ministers by the Outer House of the Court Session in 2023 and then on appeal by the Inner House in 2024. In this judicial review as to whether two decisions to vary sea fishing licence conditions were made in compliance with Ministers' duties under section 15, the Inner House held that section 15 requires relevant decisions to be taken with explicit consideration of the NMP. We have responded to this helpful clarification by ensuring that the appropriate operational practices are followed in everyday decision-making.

Licensing and consent decisions case study

The Marine Directorate Licensing Operations Team (MD-LOT) issues licences and consents for activities in Scottish inshore and offshore waters on behalf of Scottish Ministers. Licences are required under The Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009. Consents for the generation of electricity are required under Section 36 of the Electricity Act 1989 for projects generating above 1 Megawatts (MW) in inshore waters and above 50 MW beyond 12 nautical miles (NM).

MD-LOT make decisions supported by NMP policy and the plan has been adopted into the MD-LOT licence and consent determination process. As a binding document on public bodies, consenting and licence decisions must be taken in accordance with the NMP. Accordingly, both references to the NMP provided in applications and consideration of the NMP policies internally, are recorded for each application and licence determination. Monitoring of policy use is recorded at the individual application level. A detailed overview of activities and how the NMP is utilised in decisions is provided in **Appendix 4**.

Under the NMP 2018 review covering the period from the NMP launch in 2015 to end 2017, LOT had issued 1428 licences (including 277 variations). Under the NMP 2021 review covering the period start 2018 to end 2020, LOT issued 1170 licences (including 314 variations). This assessment, covering the period from start 2021 to end 2023, shows that LOT issued 1209 licences (including 265 variations).

The case study illustrates wide coverage and utilisation of the NMP in the assessment of licences that MD-LOT issued in the sample; this included for aquaculture projects, renewables, and licences related to disturbance of species. The assessment illustrated wide use of many NMP policies to steer decisions. Of the 15 most utilised policies, 13 of these were general policies, with General Policies 2 and 3 the most utilised. These policies promote economic and social benefit and indicated that consideration of social benefits is routinely undertaken as part of consenting new economic activities, and that benefit is directed in part to Scottish communities. High use of General policies 1 and 4 covering the general planning principle and co-

existence indicates consideration of competition for space in the marine environment, which is a key consideration for the developing NMP2.

Review of use of NMP policies within external public bodies

To provide evidence to understand the impact of the current NMP on decisions made within external public bodies, an online survey was undertaken in 2024. Information on the use of the plan was gathered from relevant planning and licensing authorities, statutory advisors and regulators, regarding how they utilise and implement the Plan's policies and the High-Level Marine Objectives. Responses to the survey, were provided by the respondents listed below:

- Argyll and Bute Council
- Clyde Marine Planning Partnership
- NatureScot
- Orkney Islands Council
- Scottish Environment Protection Agency ("SEPA")
- Shetland Islands Council
- South Ayrshire Council

The survey questionnaire is presented in **Annex 5** and the analysis of results included in **Annex 6**. Public authorities stated they used the Plan and its policies in the discharge of their statutory functions. In addition to issuing licence and planning consents, respondents indicated that the NMP was utilised in local development planning, and for the development of Regional Marine Plans. The outcomes of the survey are:

- **Utilisation of the NMP:** All of the public authorities who responded have used the NMP in developing policy, to guide decision making and/or consenting.
- **Wide sector application:** Participants indicated that the NMP was utilised in decisions covering several sectors including aquaculture, fisheries, marine transport, oil and gas, recreation, and renewable energy. Respondents gave examples of how the policies of the NMP steer and influence the decisions and policy making in their organisations. For example, in planning decisions, providing advice to decision makers, and developing of regional marine plans among others.
- **Monitoring decisions:** 64% of public authorities had monitored the use of the NMP. Those who are not monitoring the use of the NMP gave a variety of reasons such as not being in their remit, or there not being a specific request for it from Marine Directorate.
- **Frequently used NMP policies:** The respondents indicated that policies across the full plan were utilised. However, the responses indicated that the most frequently applied policies relate to policy on aquaculture, the general planning policies, natural heritage, and planning alignment.
- **Clarity in decision making:** 25% of respondents reported that the NMP policy 9b has created difficulties in their decision making, while 12% have not encountered any difficulties applying the NMP policies in decision making. The remaining respondents expressed a desired for more clarity in the application of policies.

- **Use in policy making:** When asked how the NMP helps to generate or provide evidence for policies that have been produced by the organisation in the last three years, 62% of those who responded to the question provided examples, while the remaining did not consider this in their remit.
- **Guidance for implementation:** 100% of respondents gave examples of how additional information or guidance would be helpful in the implementation and operationalisation of the updated NMP in their organisation. This includes guidance on the application of the NMP, clarity regarding implementation and prioritisation, ensuring workable policies can be produced and providing guidance regarding the interaction between national marine plans and regional marine plans.
- **Data for marine planning** 100% of respondents were aware of key government sources of data^{55 56 57}. Respondents indicated data was most frequently used to help with providing advice about and determining marine development applications. Other responses included data aided consultation responses, safeguarding checks for marine pre-application enquiries, general decision making and planning, and developing a regional plan.

Summary of the effects of NMP Policy and effectiveness of the policies in achieving the NMP's objectives

This 2024 review has demonstrated that the NMP is utilised in licensing and consenting decisions across a variety of sectors, and by several differing public sector decision makers. The NMP's General Policies are the most frequently used policies by decision makers, specifically those supporting the delivery of sustainable development and requiring consideration of the social and economic benefits of a particular proposal. The utilisation of co-existence policy indicates there is a need for consideration of competition for space in the marine environment, and appropriate consideration should be given to this in the development of the NMP2.

NMP policies relating to aquaculture were also frequently utilised, specifically in local authority consenting, reflecting the established role of local authorities in fish farm consents. Furthermore, given Policy 32 on Aquaculture in the National Planning Framework (NPF4)⁵⁸ actively directs authorities to utilise the NMP, local authorities clearly appear to be employing a well-established approach.

The review has identified some user issues with applying NMP policies in decision making. These include a lack of clarity and guidance regarding how to implement the NMP, and on how to use NMP to consider prioritisation of use. Furthermore, users wished for workable policies to be produced and guidance regarding the interaction between national marine plans and regional marine plans.

⁵⁵ maps.marine.gov.scot/NMPi

⁵⁶ data.marine.gov.scot (formerly Marine Scotland Open Data)

⁵⁷ marine.gov.scot (formerly Marine Scotland Information)

⁵⁸ [National Planning Framework 4 \(www.gov.scot\)](https://www.gov.scot)

3.3: Progress towards the achievement of the marine objectives

The vision for the marine environment, as set out in the NMP, is underpinned by a series of high-level marine objectives (HLMOs) which apply to both inshore and offshore waters. The HLMOs are applied UK wide, including Scottish waters, and the decisions that the NMP informs form just part of the progress towards the achievement of the objectives.

The HLMOs seek to integrate the ecosystem approach with the guiding principles of sustainable development to deliver a robust approach to managing human impact on Scotland's seas. The appendices to this 2024 NMP Review Report provide relevant evidence of progress that supports the HLMOs and is summarised below.

Achieving a Sustainable Marine Economy

Appendix 2 sets out details relevant to the HLMOs 1 to 4, grouped under "Achieving a Sustainable Marine Economy". A summary of relevant economic matters is also provided earlier in Section 2.2.2. which indicates the importance to the Scottish economy of marine business in terms of both GVA (led by oil and gas) and the provision of employment (led by tourism). The current and forecast upturn in offshore wind development identifies this as a growing sector.

Ensuring a Strong, Healthy and Just Society

As above, **Appendix 2** also sets out details relevant to the HLMOs 5 to 10, grouped under "Ensuring a Strong, Healthy and Just Society". A summary of relevant matters relevant to society is also provided earlier in Section 2.2.2. Data indicates that a large proportion of people who took part in the Ocean Literacy in Scotland Survey (2022) consider the marine environment to be personally important or very important. Many people are aware of their connection to the marine environment in terms of both their impact on it, but also the impact of the marine environment as a positive contributor to physical and mental health.

Living Within Environmental Limits

Appendix 1 provides an extensive overview of matters relevant to the delivery of HLMOs 11 to 13, grouped under "Living Within Environmental Limits". Drawing on this, a summary of the physical, environmental and biological characteristics of the Scottish Marine Region are also provided in Section 2.2.2. Broadly, the data shows that collective trends in environmental status for our marine environments point to declining biodiversity and continued habitat degradation across many parts of our seas, even as measures to achieve clean, biodiverse and productive seas are taken. Within this position, environmental status has been found to vary by area and ecological component.

Scotland's Marine Assessment 2020, alongside the work to evaluate this in light of OSPAR QSR 2023 and prepared in part to help facilitate the development of the emerging NMP2, provides much of the detail on the relative health of many components of the marine environment. It also discusses the impacts on environment of certain external influences. For example, there are increasing pressures associated

with non-indigenous species, climate change and ocean acidification, with climate change identified as the most critical factor affecting Scotland's marine environment.

Ocean acidification has the potential to have an impact on the marine environment, particularly shellfish and other marine invertebrates, working alongside other stressors to place pressure on marine populations. As the environment becomes more unpredictable and unstable with increasing impacts from climate change, the resilience of ecosystems will change. Understanding cumulative impacts on the marine environment from climate change, and the implications associated with human activity, remains a significant challenge to delivering clean, healthy, biologically diverse and productive seas. This will only happen through implementing a variety of measures required to protect and enhance the marine environment. At the heart of this is close coordination and collaboration between all those with an interest in the marine environment.

The process to develop a new National Marine Plan, and the emerging proposals for monitoring and evaluation will help to draw together current stakeholder views and evidence. This will help shape planning policy to support the consideration of the marine environment within consenting and licensing decisions.

Promoting good governance

The survey approaches employed in this review to gather intelligence on HMLOs 14 to 18 under the "Promoting good governance" heading, are set out in **Appendices 4, 5 and 6**, with further summary detail provided in Section 3.2 above. This highlights the frequency of use of the NMP's General Policies, specifically those relating to the delivery of sustainable development, but also identifies some user issues with applying NMP policies in decision making. As recommended in Section 2.3, appropriate consideration should be given to providing better clarity and guidance in the NMP2 on how to implement the new plan.

Using Sound Science Responsibly

Appendix 7 sets out details relevant to the HMLOs 19 to 21, grouped under the "Using sound science responsibly" heading. This highlights how Scotland's Marine Assessment 2020, alongside other reporting portals relating to OSPAR and the UK Marine Strategy, is led by marine scientists within the Scottish Government, and is used to produce sound evidence to inform policy development (in this case the emerging NMP2) and will be vital to help derive the monitoring framework for use post implementation. Much of the data used is provided by our reporting partners including the Scottish Environment Protection Agency (SEPA), NatureScot, the Joint Nature Conservation Committee (JNCC) and the Marine Alliance for Science and Technology for Scotland (MASTS). The precautionary principle is applied throughout decision making; this includes the publication and use of confidence approaches to assessments that are considered data poor.

Marine Strategy Framework Directive: Good Environmental Status Descriptors

Alongside the HMLO's the NMP includes the Marine Strategy Framework Directive's Good Environmental Status Descriptors⁵⁹ as part of the plan's strategic objectives and planning policies, which aim to support progress towards Good Environmental Status (GES).

As stated in the UK Marine Strategy Part 3, Programme of Measures⁶⁰, the development of Marine Plans involves characterisation of the marine plan area and identification of trends in activities and environmental parameters, in a social and economic context, which in turn can inform decisions on the implementation of measures to contribute towards the achievement of GES. The specific contribution made by Marine Plans across the UK, will reflect the particular issues raised during development of the plan and where the evidence base changes or improves.

GES applies UK-wide and it is through this process that the effectiveness of policies/measures across the UK are reviewed and updated. Monitoring of GES is carried out in line with the UK Marine Strategy and reported on through the Marine Online Assessment Tool (MOAT)⁶¹.

The approach of Scottish Ministers is to recognise the UK mechanism that monitors GES and details the programme of measures to achieve GES, including Marine Plans. This mechanism relies on the effectiveness of all marine policies across the UK in securing the GES descriptors, including the contribution that NMP policies will make.

3.4: Objective setting for the NMP2

The evidence set out in this 2024 Review indicates that NMP policies are supporting the delivery of the plan's purpose, and there is reasonable evidence to suggest that the NMP is contributing towards delivery of the HLMOs.

To support the delivery of the HLMOs in Scottish Waters it is suggested that appropriate consideration be given to defining a new set of 'national objectives' in the NMP2, which can be delivered through specific policies and supported by regional and sectoral marine planning. Progress indicators for each objective should be selected to help inform the monitoring of plan implementation and future reviews of the new Plan.

⁵⁹ [Descriptors under the Marine Strategy Framework Directive - European Commission](#)

⁶⁰ [Marine strategy part three: UK programme of measures - GOV.UK](#)

⁶¹ [MOAT - Marine online assessment tool](#)

4. MOVING FORWARD

4.1 introduction

The NMP has been adopted and utilised since 2015 and has remained in place during a period of considerable change. It has served as an effective policy framework towards achieving our vision for clean, healthy, safe, productive and diverse seas, managed to meet the long terms needs of nature and people. It has also provided the policy framework in which sectoral planning of offshore wind energy and regional marine plans have begun to develop.

The 2021 Review concluded that whilst the NMP remained effective, the review of “relevant matters” impacting on the Plan pointed to the need to begin work to replace it. Following the review the Scottish Government committed to update the plan. Work has commenced on the plan, with a consultation on a draft NMP2 scheduled for late 2025.

This section of the report summarises the key findings of the 2024 NMP Review and sets out subsequent actions for responding to the findings, including the development of NMP2.

4.2: Key Findings

The following key conclusions have been drawn from the information presented in Sections 2 and 3 and Appendices 1 to 7 of this review. This includes the review of relevant matters, the effects of policies within the Plan, effectiveness of the policies in achieving the plan objectives, and the progress towards the achievement of the marine objectives required by the Marine Acts⁶².

- A. The adopted NMP remains fit for purpose as an effective policy framework against which decisions in the marine environment can be based, and this review identifies potential opportunities for the emerging NMP2 to improve on the existing policy and implementation.
 - a. This review demonstrates that decisions are being made under the NMP policy framework. The detailed case study of MD-LOT activity demonstrates that the NMP is utilised within the Marine Directorate’s licensing operations. Additionally, the survey of other public bodies demonstrates its wide application across several sectors. The most utilised policies cover those seeking to deliver sustainable development, and co-existence, which indicates the persisting issue of balancing space for new marine development alongside existing activities. The emerging NMP2 could consider further guidance for decision makers on balancing sustainability and competition for space, as a result of fast developing ambitions for offshore wind.
 - b. The survey of public bodies included feedback that some users consider the plan could be more efficiently implemented with the support of

⁶² MSA S16(2);MCCA S61(3)

additional guidance, including on how different planning documents interface. The type and extent of guidance that the NMP2 can deliver within the approach to monitoring, evaluating, and implementation will be a key consideration in its development.

- c. The information collected in Scotland's Marine Assessment 2020 (SMA2020) which sets out the condition of Scotland's seas alongside the OSPAR Quality Status Report (QSR) 2023, provide a sufficient evidence base of environmental trends for utilisation in the development of marine policy. As the NMP2 is developed and policy is refreshed, this should be undertaken with cognisance of the potential areas of concern within the marine environment that the data identifies.
 - d. There is reasonable evidence to suggest that the NMP is contributing towards delivery of the HLMOs.
- B. There are “relevant matters” that impact the delivery of the NMP and which should be given appropriate consideration, with respect to the development of NMP2.
- a. The information collected in SMA2020 contains relevant matters to which the future NMP2 could respond, such as supporting better protection and enhancement through guiding decisions. Whilst collective trends in environmental status point towards declining biodiversity and habitat loss, environmental status has been found to vary by area and ecological component.
 - b. The 2021 NMP review included an expectation for a rapid pace of change with new emerging industries and a greater recognition of the benefits that can come from our marine environment. Since that review the ScotWind and INTOG leasing rounds have indicated a significant upturn in planned offshore wind projects. The Clean Power 2030 programme and emerging Strategic Spatial Energy Plan, indicate wider energy development within Scotland's seas, and this has thrown into sharp focus the potential for rapid change in marine use.
 - c. The published Blue Economy Vision (2022) sets the intent for healthy and functioning ecosystems, resilient to climate change and supporting Scotland's Net Zero and Nature Positive commitments. This is supported by other key policies and strategies included in section 2.3 and Appendix 3. The Scottish Government's programme of work towards a just transition to net zero builds on the Vision by highlighting the transition must be fair and tackle inequality and injustice.
 - d. Building on the 2018 and 2021 NMP reviews, this 2024 review also highlights challenges with implementation, including the lack of primacy in the policies. This indicates that implementation of a new national marine plan will require careful consideration, that it should be designed in parallel to the plan and consider guidance for decision makers covering the use of the new policy framework. The NMP2 should also give due consideration to developing a robust monitoring and evaluation framework that might include: indicators to monitor the effectiveness of NMP2; objectives and policies; proposals to enhance

data collection; a structure that could allow for improving future statutory review processes.

3.2: Next Steps

Recommendations from this 2024 Review continue to provide Ministers with evidence and information on relevant matters associated with Scotland's marine environment.

Following the conclusion of the 2021 NMP Review Scottish Ministers instructed officials to commence the development of an updated plan, the NMP2. The conclusions of this 2024 Review are focused on providing guidance to inform the development of the NMP2. Consultation on the NMP2 Planning Position Statement⁶³ provided the opportunity for stakeholders to engage early in the development of the Plan. The subsequent and primary vehicle for engagement at the time of publication of this Report will be a consultation on a draft NMP2 which is scheduled for Winter 2025.

Until the NMP2 can replace the adopted plan, the NMP will remain in place. The NMP continues to demonstrate that its policy framework supports our marine vision for clean, healthy, safe, productive and diverse seas, managed to meet the long terms needs of nature and people, but a refined plan could improve how this is delivered.

⁶³ [National Marine Plan 2: planning position statement - gov.scot \(www.gov.scot\)](https://www.gov.scot/national-marine-plan-2-planning-position-statement)

APPENDIX 1: PHYSICAL, ENVIRONMENTAL AND BIOLOGICAL CHARACTERISTICS OF THE REGION

Introduction

The vision for the marine environment, as set out in the NMP, is underpinned by a series of objectives, which apply to both inshore and offshore waters. These objectives seek to integrate the ecosystem approach with the guiding principles of sustainable development to deliver a robust approach to managing human impact on Scotland's seas.

The ecosystem approach is reflected in the strategic objectives on the 11 descriptors of Good Environmental Status, set out in the Marine Strategy Framework Directive⁶⁴.

The UK High Level Marine Objectives (HLMOs) are a series of 21 objectives that commit the NMP to the five guiding principles of sustainable development:

- Achieving a sustainable marine economy
- Ensuring a strong, healthy and just society
- Living within environmental limits
- Promoting good governance
- Using sound science responsibly

This section outlines data that are relevant to HLMO 11, 12 and 13, which are as follows.

Living within environmental limits

- Biodiversity is protected, conserved and, where appropriate, recovered, and loss has been halted (HLMO 11)
- Healthy marine and coastal habitats occur across their natural range and are able to support strong, biodiverse biological communities and the functioning of healthy, resilient and adaptable marine ecosystems (HLMO 12)
- Our oceans support viable populations of representative, rare, vulnerable and valued species (HLMO 13)

Physical, environmental and biological characteristics of the region

The OSPAR Quality Status Report (QSR) 2023⁶⁵ assesses the environmental status of the marine environment of the North East Atlantic, providing the baseline environmental and physical status of the seas surrounding Scotland, as well as covering the wider OSPAR regions (Figure A1.1). This marine assessment is the most up-to-date, and, for the purposes of this review, will focus mainly on OSPAR regions

⁶⁴ [Directive - 2008/56 - EN - EUR-Lex \(europa.eu\)](#)

⁶⁵ [Quality Status Report 2023 | OSPAR Commission](#)

II: Greater North Sea and III: Celtic Seas. Small areas of regions I: Arctic Waters, and V: Wider Atlantic, contain Scottish offshore waters and will be considered when the data used in the assessment is applicable to Scotland.

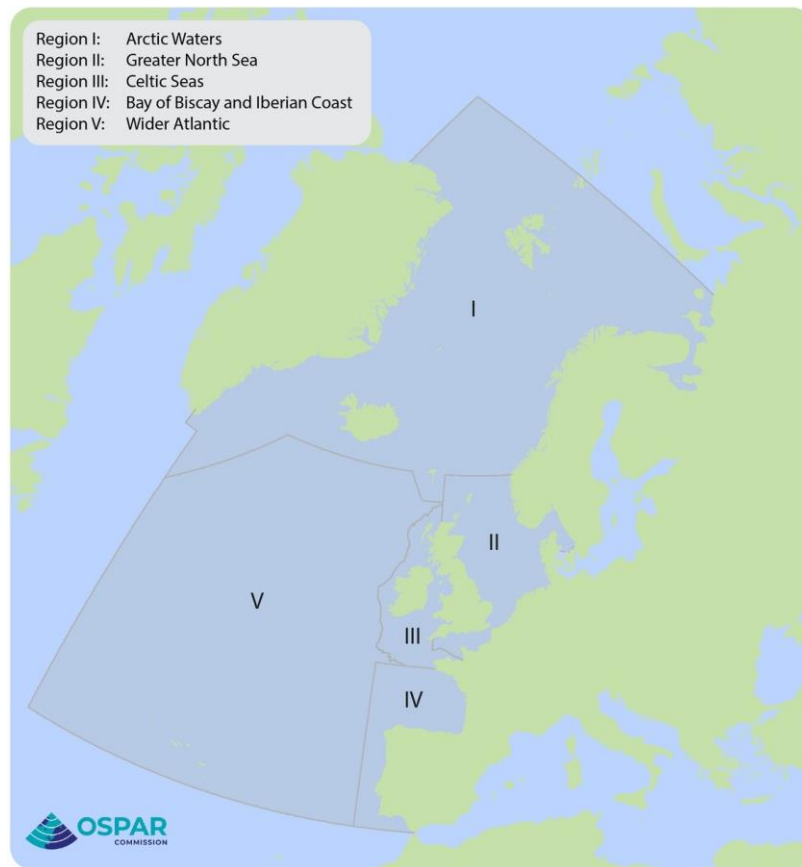


Figure A1.1 Map of the OSPAR Maritime Area and the different OSPAR Regions⁶⁶

Although not directly comparable, the Scottish Marine Assessment (SMA) 2020⁶⁷ is the most up-to-date assessment focused specifically on Scottish waters. Within this, the assessments are on a much smaller scale, separated by Scottish Marine Region and the Scottish Offshore Marine Region (Figure A1.2). The SMA 2020 provides an assessment of both the state of Scotland's seas and the main activities and pressures within these seas.

A small number of additional, more recent references are also provided in relevant sections, to allow the reader to see where conservation action is planned. The next UK Marine Strategy (part one) assessment will likely be published in 2025 and like SMA 2020, will include updates to some UK-only indicators that were not included in QSR 2023.

⁶⁶ [Introduction \(ospar.org\)](https://www.ospar.org/)

⁶⁷ [Scotland's Marine Assessment 2020 | Scotland's Marine Assessment 2020](#)

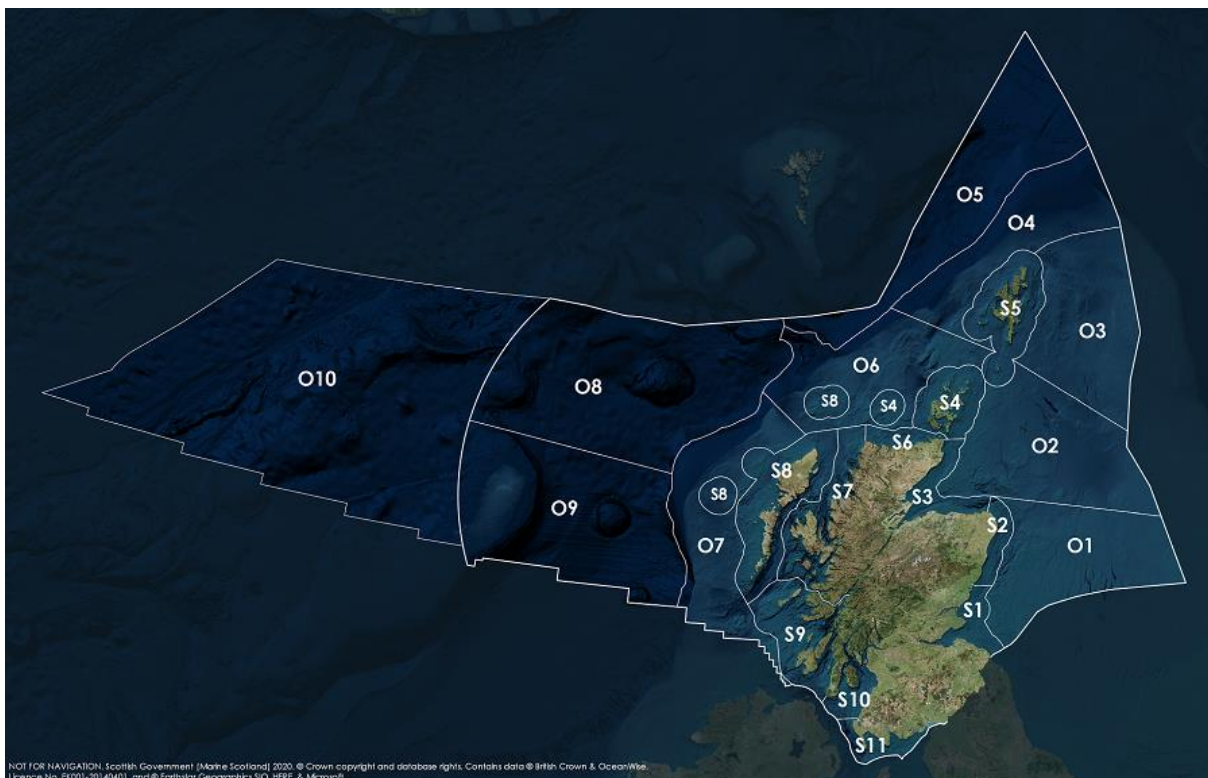


Figure A1.2. Map of the Scottish Marine Regions (SMRs; S1 – S11) and the Scottish Offshore Marine Regions (OMRs, O1 – O10)⁶⁸

Benthic habitats

Marine species rely directly and indirectly on the seafloor to feed, hide, rest or reproduce, and therefore benthic habitats are essential for marine life. These habitats, however, are under pressure from physical, biological, and chemical stressors.

OSPAR QSR 2023 was unable to evaluate changes in benthic habitats against the outcomes of the earlier QSR 2010 because agreed quantitative benthic indicators were not available at that time. These have been developed subsequently.

Broadly the data shows that collective trends in environmental status for our marine environments, as assessed by OSPAR for the North-East Atlantic and its adjacent seas, point to declining biodiversity and continued habitat degradation across many parts of our seas, even as measures to achieve clean, biodiverse and productive seas are taken. Within this summary position, environmental status has been found to vary by area and ecological component.

The condition of coastal benthic vegetation and invertebrates in intertidal and nearshore sediments in the Greater North Sea and the Celtic Seas Regions were generally considered good, although it was noted that localised effects of nutrient and organic pollution were also reported and that some water bodies are unassessed and/or not monitored.

⁶⁸ [Assessment processes and methods | Scotland's Marine Assessment 2020](#)

Several of the OSPAR listed threatened and/or declining benthic habitats present in Scottish waters are classed as being in poor status, within both the Celtic Seas and Greater North Sea. These include maerl beds, intertidal mudflats, *Zostera* beds, sea-pen and burrowing megafauna communities, and *Lophelia pertusa* reefs.

Additionally, within the Greater North Sea region, deep-sea sponge aggregations, coral gardens and intertidal *Mytilus edulis* beds on mixed and sandy sediments are also in poor status, as are *Ostrea edulis* beds in the Celtic Seas. QSR 2023 provides an evidence base to help develop future response measures and highlights the need for these to be underpinned by improved monitoring and access to data.

Physical disturbance caused by bottom-contacting fishing gear was shown to persist as the main pressure, causing a widespread reduction in biodiversity and changes to the sensitive benthic communities in the areas of the OSPAR Maritime Area that were assessed. This was also one of the main findings of the SMA 2020.

Within SMA 2020, significant levels of disturbance of seafloor habitats from towed, bottom-contacting fishing activity was predicted in 18 out of 21 assessment regions (SMRs and OMRs). Figure A1.3 shows the combined disturbance from both surface and subsurface abrasion caused by towed, bottom-contacting fisheries for Scottish waters. Categories 5 to 9 are considered to represent high levels of disturbance.

The indicator predicted that seafloor habitats were in poor condition across more than half of their area in nine out of 21 regions, with some level of damage likely in all regions. Only three of the marine regions assessed in 2020 met the target of less than 15% of the seafloor being subject to high levels of fishing-related disturbance.

These three regions are situated in deeper waters off the continental shelf (O5, O8 and O10). The overall SMA 2020 status assessment relating to physical disturbance of the seafloor was “Many concerns”.

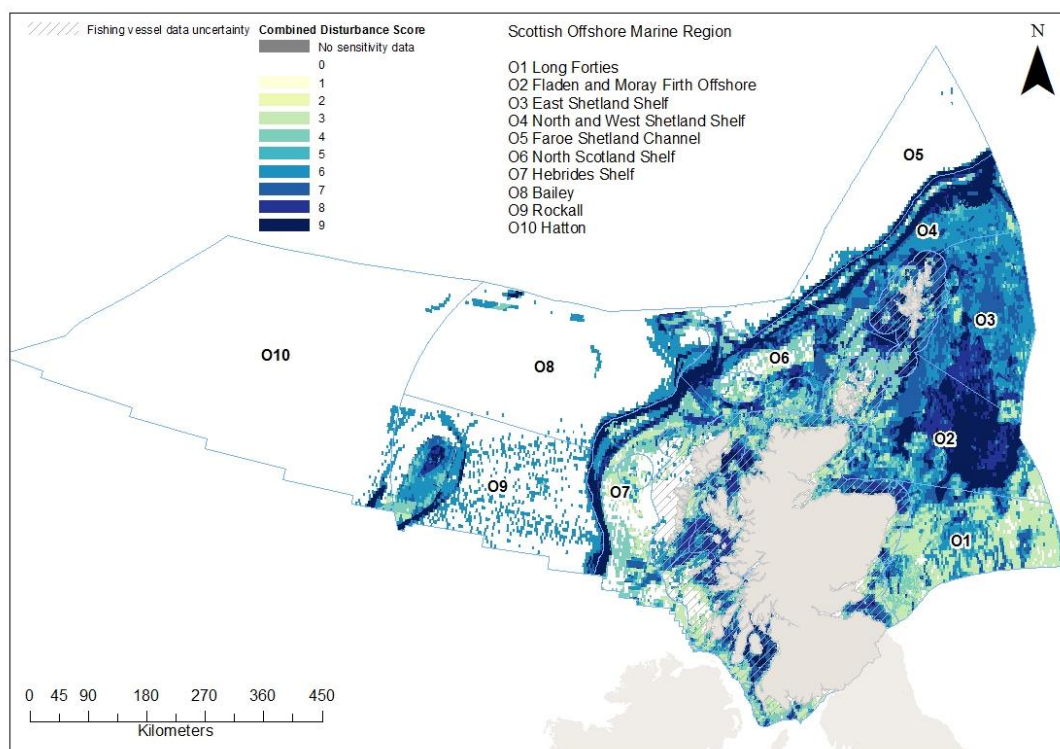


Figure A1.3. Disturbance from combined surface and subsurface abrasion from bottom - contacting fisheries in Scottish waters (0 = no disturbance, 9 = very high disturbance⁶⁹)

Climate change and ocean acidification

The change in prevailing weather and oceanographic conditions is referred to as climate change. Whilst these prevailing conditions change through natural causes, since the mid-nineteenth century, human activities have been the main cause of the changes observed – specifically resulting from increased concentrations of greenhouse gases in the Earth’s atmosphere.

The ocean plays a key role in regulating the Earth’s climate: it has absorbed 89% of excess heat trapped inside the atmosphere since the 1970’s⁷⁰ and each year absorbs at least a quarter of the carbon dioxide released by human activities⁷¹. In the ocean, climate change has led to seawater warming and heatwaves, decreasing oxygen concentrations, increasing sea-level and changes in stratification and circulation, together with other related impacts across marine ecosystems and the services they provide. Whilst the root cause is global, the effects of climate change are felt at more local scales, with regional variation in rate of change.

The role of the ocean in regulating the Earth’s climate and the changes in the ocean climate due to anthropogenic climate change have recently been summarised in extensive reports by the Intergovernmental Panel on Climate Change (Special Report

⁶⁹ [Predicted extent of physical disturbance to seafloor | Scotland's Marine Assessment 2020](#)

⁷⁰ von Schuckmann, K., et al. : Heat stored in the Earth system 1960–2020: where does the energy go?, *Earth Syst. Sci. Data*, 15, 1675–1709, <https://doi.org/10.5194/essd-15-1675-2023>, 2023.

⁷¹ Friedlingstein, P., et al. : Global Carbon Budget 2021, *Earth Syst. Sci. Data*, 14, 1917–2005, <https://doi.org/10.5194/essd-14-1917-2022>, 2022.

on the Ocean and Cryosphere in a Changing Climate⁷² and 6th Assessment Report⁷³). For the UK, the Marine Climate Change Impacts Partnership regularly reviews the evidence base and reports the scientific consensus⁷⁴.

Global surface temperature in 2011-2020 were 1.1°C warmer than those in 1850-1900 (IPCC, 2023). Regionally, temperature trends in UK waters have recently been summarised in the OSPAR QSR and by MCCIP⁷⁵. Figure A1.4 shows the sea surface temperature trend between 1870-2021 in the OSPAR Maritime Region, showing consistent warming over most of the region (except the North Atlantic ‘warming hole’⁷⁶). These temperature trends demonstrate that although in line with the global average, rates can differ throughout the water column and regionally.

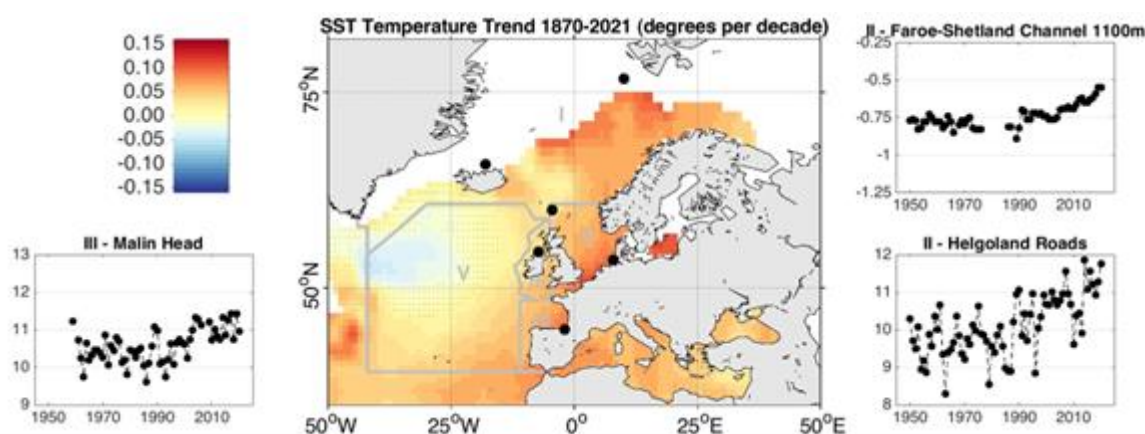


Figure A1.4. Sea temperature trends at key locations in the OSPAR Maritime Area from HadSST sea surface temperature (Rayner et al., 2003), and selected time series from the ICES Report on Ocean Climate (Gonzalez-Pola et al., 2020)⁷⁷.

The OSPAR Quality Status Report 2023⁷⁸ brings together the latest evidence of the impacts of climate change and ocean acidification on the marine system. The MCCIP scientific reviews also provide further detailed evidence summaries on key marine habitats⁷⁹.

Climate change is highlighted as a major driver of decline in many biodiversity assessments, including marine birds, pelagic habitats and food webs. However, due to knowledge gaps (including a lack of agreed monitoring and indicators), the direct

⁷² <https://www.ipcc.ch/srocc/>

⁷³ <https://www.ipcc.ch/ar6-syr/>

⁷⁴ www.mccip.org.uk

⁷⁵ Cornes, R.C., et al., Climate change impacts on temperature around the UK and Ireland. MCCIP Science Review 2023, 18pp. doi: 10.14465/2023.reu08.tem

⁷⁶ Fox-Kemper, B., et al., 2021: Ocean, Cryosphere and Sea Level Change. In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1211–1362,

⁷⁷ ([Considering the Role of Climate Change and Ocean Acidification in Healthy Seas \(ospar.org\)](https://ospar.org))

⁷⁸ <https://oap.ospar.org/en/ospar-assessments/quality-status-reports/qsr-2023/thematic-assessments/climate-change/>

⁷⁹ <https://www.mccip.org.uk>

impact of climate change cannot be fully assessed. Research findings indicate compounding negative effects, such as from contaminant pollution, eutrophication, and ocean warming, collectively contribute to declines in productivity and increase the spread of disease. Climate change can also be identified as having a compounding effect (e.g. warming and the spread of thermophilic non-indigenous species; increased storminess increasing resuspension of sediments) leading to accentuated negative impacts on both ecosystem functioning and resilience, as well as on the delivery of ecosystem services and benefits to humans.

Excess carbon dioxide released into the atmosphere and drawn down into the ocean is also causing changes in the chemical balance of the sea, in a process known as ocean acidification. Ocean acidification reduces seawater pH and aragonite saturation state, which is a form of calcium carbonate. Recent MCCIP scientific reviews and OSPAR assessment have reported ocean acidification over the past decades in all OSPAR Regions, both in coastal and open ocean areas. The rate at which ocean acidification occurs varies geographically and throughout the water column – this variability is particularly evident in coastal environments due to the complex interactions of local physical, chemical and biological processes. Ocean acidification results in more acidic and corrosive conditions that will impact marine life in different ways, with significant negative impacts for organisms with outer skeletons (e.g. shells) made of calcium carbonate, and indirect consequences for entire marine ecosystems.

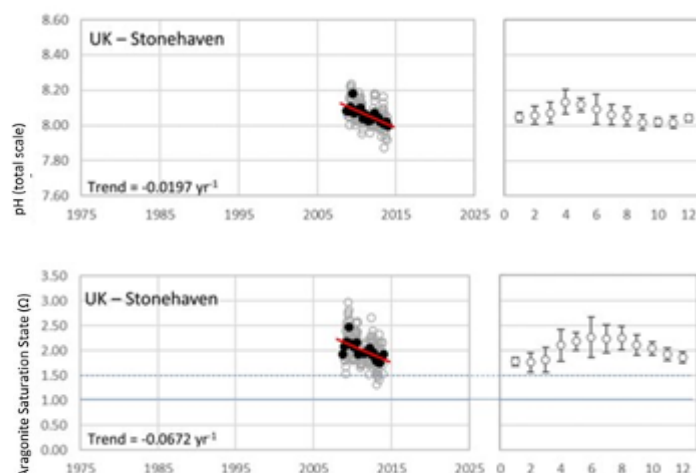


Figure A1.5. In situ time series data for pH (top) and aragonite saturation state (bottom), showing seasonally averaged data through time (black circles, first panel) and the average seasonal cycle (mean with standard deviation as error bars, second panel)⁸⁰

The lack of sustained associated chemical and biological observations is a knowledge gap in assessing the potential impacts of ocean acidification on the marine environment. The monitoring site at Stonehaven, off the East coast of Scotland, is one of the few monitoring sites on ocean acidification and plankton in coastal waters in the OSPAR region, and the main source of observational data on ocean acidification in Scottish waters.

⁸⁰ [Ocean Acidification \(ospar.org\)](http://oceanacidification.ospar.org)

Ocean acidification parameters at Stonehaven show a strong temporal variability at different time scales (weekly to annually), typical of coastal systems. The annual variability is mostly related to the seasonal cycles of biological processes (phytoplankton) rather than physical drivers (e.g. riverine discharges). In this location there is a strong trend of declining pH over the short time period of observations available (Figure A1.5), although longer time series are needed to elucidate this trend further. This is nearly double the rate observed elsewhere in the Greater North Sea (OSPAR Region II), although comparable to rates observed between the 1980s and 2010 off the coast of Belgium and the Netherlands. The observations available also show a strong decline in aragonite saturation at Stonehaven for the same study period, and a large seasonal cycle with decreasing values from summer to winter. A recent 3-year study at Stonehaven has shown sustained evidence of shell dissolution in marine snails mostly in winter, associated to the seasonal decreases of aragonite saturation⁸¹.

No statistical relationship was observed between any other measured environmental parameters (temperature, salinity, chlorophyll) and the sustained shell dissolution, and further investigations are required to explore the potential role of other factors in this relationship.

Similar observations with a relationship between decreasing aragonite saturation and shell dissolution have been described on bivalve larvae specimens collected at Stonehaven during the same study period (QSR 2023).

Eutrophication

Eutrophication is the result of excessive nutrient enrichment of aquatic environments, leading to increased phytoplankton growth. This in turn can lead to changes in the ecosystem balance and its biogeochemistry, including depletion of oxygen.

The OSPAR QSR 2023 eutrophication assessment involved a number of methodological improvements, including the definition of new ecologically coherent assessment areas, termed COMP4 assessment areas, development of area specific thresholds, the integration of chlorophyll earth observation (EO) data, and the use of the International Council for the Exploration of the Seas (ICES) Common Procedure Eutrophication Assessment Tool (COMPEAT) to perform the assessment⁸². The overall eutrophication assessment is a combined assessment based on a number of different indicators, namely concentration of chlorophyll-a, concentrations of dissolved oxygen on the seafloor, concentration of winter nutrients, inputs of nutrients (waterborne and atmospheric) to the sea.

The last four OSPAR assessments have described a gradual improvement in the eutrophication status of the Greater North Sea and Celtic Seas OSPAR regions (Figure A1.6). The first assessment covering the period 1990 – 2000 was

⁸¹ [Relationship between shell integrity of pelagic gastropods and carbonate chemistry parameters at a Scottish Coastal Observatory monitoring site | ICES Journal of Marine Science | Oxford Academic \(oup.com\)](#)

⁸² Devlin, M.J., Prins, T.C., Enserink, L., Leujak, W., Heyden, B., Axe, P.G., Ruiter, H., Blauw, A., Bresnan, E., Collingridge, K. and Devreker, D., 2023. A first ecological coherent assessment of eutrophication across the North-East Atlantic waters (2015–2020). *Frontiers in Ocean Sustainability*, 1, p.1253923.

characterised by poor conditions in much of the North Sea (QSR 2000). In contrast, this latest assessment (QSR 2023) shows areas of good status for much of the North Sea, with moderate status mainly detected in the south-eastern part. The main areas identified as being impacted by eutrophication are river plumes and adjacent coastal areas of the Greater North Sea and Bay of Biscay/Iberian coast.

Owing to the cyber-attack in December 2020 which prevented SEPA from submitting data for inclusion in the QSR 2023, Scotland's coastal waters were not assessed.

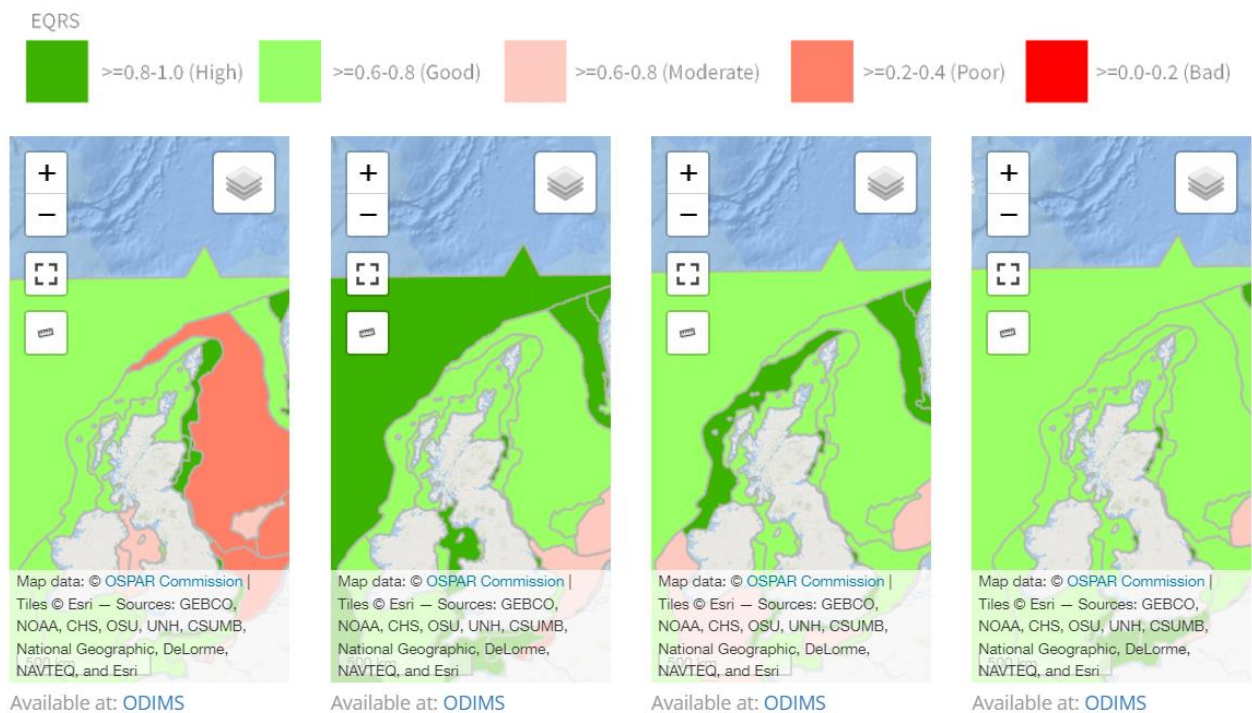


Figure A1.6. Eutrophication assessment results for all assessment periods of COMP1 (1990-2000), COMP2 (2001-2006), COMP3 (2006-2014) and COMP4 (2015-2020) covering a time span of 30 years. Colours for the classes high to bad based on the scaled ecological quality ratio (EQRs)⁸³

Scotland's Marine Assessment (SMA) 2020 which assessed the period from 2007-2017, also used a combination of indicators to assess eutrophication – nutrient inputs, winter nutrient concentrations, chlorophyll and dissolved oxygen concentrations. Regions assessed were found to have few or no concerns of eutrophication, although in a number of areas (the Clyde, the North East and Outer Hebrides, representing 3 of the 11 regions) there were local concerns. In Orkney and the Outer Hebrides localised increased nutrient inputs are likely to be a result of increasing aquaculture. However, this is in contrast to the winter nutrient assessment which shows decreasing Dissolved Inorganic Nitrogen (DIN) trends in the Orkney region and no trend in the Outer Hebrides. This suggests increased nitrogen inputs did not translate across to the wider marine regions, either because it was not readily available or there was dispersion/ dilution in the region.

⁸³ [Preventing Pollution to Achieve Clean Seas \(ospar.org\)](https://ospar.org/)

Fish

Fish are essential to marine ecosystems, and the health of fish communities has an impact on the entire marine food web. The OSPAR assessment of the population status of 316 marine fish species, which were classified as either coastal, demersal, pelagic or deep-sea, integrated commercially exploited marine fish stocks and sensitive species of conservation concern. It was found that marine fishes were not in good environmental status in the Greater North Sea or Celtic Seas, considering the period 2015-2020.

The most significant pressure on fish populations in the North-East Atlantic is fishing. Commercially fished species are managed to allow for sustained harvesting, with measures intended to keep extraction/harvest to levels at or below maximum sustainable yield (MSY) thresholds. However, whilst most commercially fished stocks are considered sustainably managed, the overall status, which also includes sensitive species of conservation concern, remains “not good”.

As well as fishing mortality, marine fish can also be affected by habitat disturbance resulting from certain fisheries. Fishing can lead to imbalances within food webs, affecting other species when prey species are being fished, as well as altering the age structure of predator populations by targeting the older, larger, more fecund fish. Non-target species can also be affected through by-catch, and this by-catch can negatively impact species of concern, such as sharks and rays. Also, fishing methods that disturb the seabed can reduce prey, lead to resuspension of sediment and the loss of habitat and (potentially) spawning grounds.

The sustainability of fish stocks is an indicator in the National Performance Framework, measuring the percentage of fish and shellfish stocks fished sustainably.⁸⁴ In 2023, 71% of commercial fish and shellfish stocks were fished at sustainable levels in Scottish waters. This represents an increase of 8% from 2019 and 34% from 1991. The percentage fished sustainably in 2023 is the highest level recorded since this data collection began (1993) and demonstrates the ongoing recovery of Scottish commercial fish and shellfish stocks.

SMA 2020 concluded the status of all commercial fish stocks within Scotland as “few or no concerns, but some local concerns”.

⁸⁴ [Measuring progress - Environment | National Performance Framework](#)

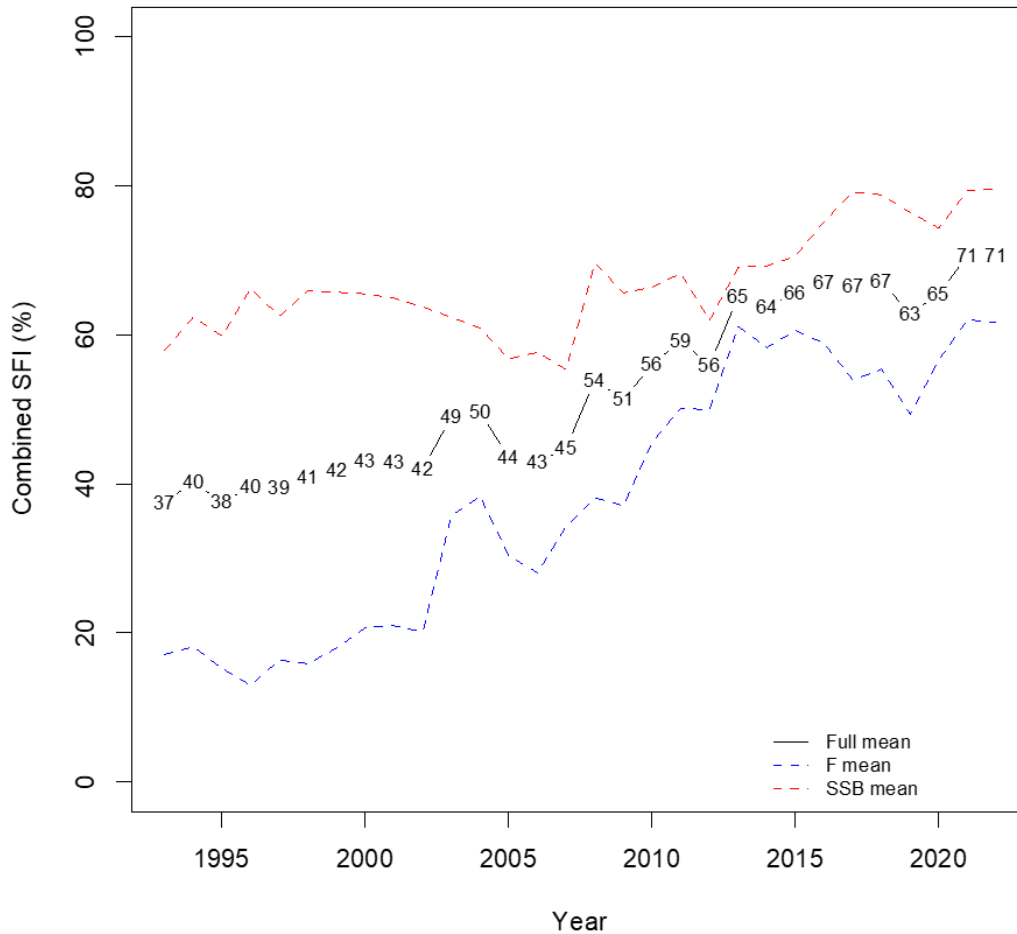


Figure A1.7. The Scottish Sustainable Fishing Indicator (SFI) from 1993 to 2023. The red line shows the percentage of the 27 commercial stocks fished in Scottish waters for which ICES assessments show spawning stock biomass is higher than the sustainable criteria. The blue line shows the percentage of such stocks for which fishing mortality is lower than the sustainable criteria. Finally, the black line gives the SFI which is the average of the blue and red lines. The specific SFI value for each year is also given.⁸⁵

Hazardous substances

The marine environment acts as a sink for many hazardous substances, including persistent organic pollutants (POPs) and heavy metals. Many of these compounds are toxic, persistent, bio accumulative and can be prone to long range transport. Known hazardous substances enter the seas through a number of human activities including watercourse modifications (resuspension of contaminated sediments), dumping of dredged sediments, mineral extraction, oil and gas extraction, fishing and fish and shellfish processing, aquaculture, shipping (including atmospheric pollution and discharges into seawater), air transport, land transport, urbanisation, industrial discharges, desalination, and waste treatment and disposal. The pathways thus include discharge at sea, riverine inputs, run-off from land and atmospheric deposition.

⁸⁵ [Measuring progress - Environment | National Performance Framework](#)

Within the OSPAR QSR 2023 in most cases, the trends for assessed hazardous organic substances (Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs), Polybrominated Diphenyl Ethers (PBDEs)) in sediment and biota (fish and shellfish) are generally decreasing or stable, with very few upwards trends. Most OSPAR Regions are also seeing stability or a decline in heavy metal pollution in seabed sediments, but a trend for increases in biota in most regions.

Mercury was found to be problematic in all areas for shellfish and fish, with no decreasing trends observed in any OSPAR subregions. Lead and cadmium were above background levels for shellfish and fish in most areas (Figure A1.8).

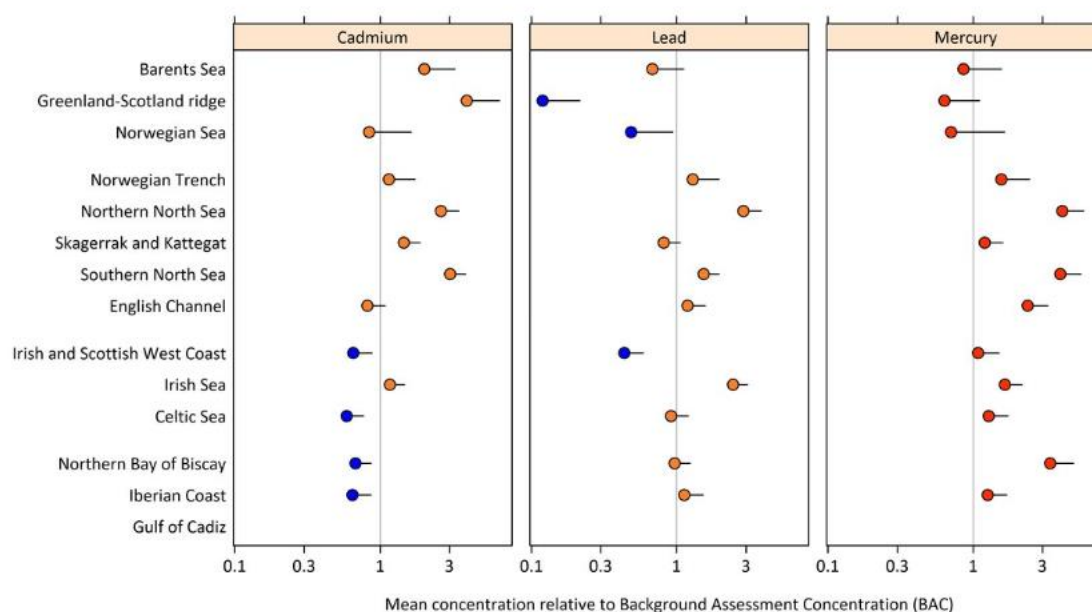


Figure A1.8. Mean metal concentration in fish and shellfish for cadmium, lead and mercury relative to Background Assessment Criteria. Blue dots indicate below background, green dots indicate below environmental criteria, and red dots indicate above environmental criteria⁸⁶.

Concentrations for most assessed contaminants are above background concentrations but below concentrations that may cause harm to marine organisms, except for mercury in biota in all regions, and the most toxic dioxin-like PCB (CB118) in some regions. Mean concentrations of CB118 in sediment are at or above the level where they could present an unacceptable risk to the environment in 2 of the 6 OSPAR contaminant assessment areas (English Channel and Irish Sea), and for biota in 7 of 13 areas, indicating possible adverse effects on marine life in these areas.

In SMA 2020, there were few or no concerns in the *combined contaminants in sediment and biota, and biological effects of contaminants* assessment, although there were local concerns, particularly in the Clyde. Trends within both the OSPAR QSR 2023 and the SMA 2020 were mainly stable or decreasing. However, the greatest difference observed between them is for the status of mercury in biota, which is

⁸⁶ [Status and Trends for Heavy Metals \(Mercury, Cadmium and Lead\) in Fish, Shellfish and Sediment \(ospar.org\)](https://ospar.org)

highlighted as in 'poor status' in all regions in OSPAR QSR 2023. This is largely due to the different assessment criteria used. Within the SMA 2020, mercury concentrations were above background levels but below European Commission food limit. The OSPAR assessment was based on the Environmental Quality Standard which categorised the mercury levels as 'too high'.

Marine birds

The OSPAR integrated assessment status of marine birds in the North-East Atlantic including waterbirds that mostly inhabit intertidal or inshore areas (waders, ducks, geese, swans, grebes and divers), and seabirds that spend most of their lives at sea (petrels and shearwaters, gannets and cormorants, skuas, gulls, terns and auks), is 'not good'.

There are widespread declines in breeding productivity and population abundance for many marine species in all assessed OSPAR Regions. Most marine birds were not in good status in 2017 (at the time of the intermediate assessment) but additional deterioration in status has been observed during the assessment period for the QSR 2023.

The OSPAR assessments of marine birds are based on trends in 78 breeding and non-breeding (i.e. over-wintering or migrating) populations of species, grouped by feeding behaviour (surface, water column, benthic, wading or grazing feeders). Of the nine marine bird species identified by OSPAR as threatened and/or declining (T&D)⁸⁷, five have been assessed for the QSR 2023 and all five are still declining. Of these, only black legged kittiwake and roseate tern breed in Scotland, with both species declining between the last (Seabirds 2000: 1998-2002) and most recent (Seabird Count: 2015-21) censuses in Scotland by -57 and -100%, respectively⁸⁸. Across the Greater North Sea and Celtic Sea grazing feeders are in good environmental status, whilst all other bird groups are in 'not good' status (Figure A1.9).



Figure A1.9. The status of marine birds in the Greater North Sea and the Celtic Seas⁸⁹

Climate change is the single biggest threat to marine birds in the North-East Atlantic. Prey availability is a key driver of seabird demography, with climate-mediated ocean warming affecting abundance, quality, and distribution of many fish species, with largely negative knock-on effects for marine birds. In addition to the changing climate, competition between seabirds and commercial fisheries for key prey is also an issue

⁸⁷ [OSPAR threatened and/or declining species and habitats](#)

⁸⁸ [Seabirds Count | JNCC - Adviser to Government on Nature Conservation](#)

⁸⁹ [Toward Biologically Diverse Seas \(ospar.org\)](#)

in some areas, in particular the Greater North Sea where seabirds compete with fishing activity for sandeels, which themselves are declining in many parts of this region.

Seabirds in the North-East Atlantic are also subject to numerous additional anthropogenic pressures and threats including invasive non-native predators, habitat loss and degradation, disturbance at breeding colonies, and fisheries by-catch mortality. The expansion of offshore renewable energy in the region is an additional, and increasing, but as of yet poorly understood, issue. This growing industry potentially impacts marine bird populations by displacing foraging birds from key areas, or via wind turbine collision mortality, which may have cumulative impacts across multiple projects. Highly Pathogenic Avian Influenza is a novel threat which has had catastrophic effects on many species⁹⁰, however the long-term prevalence of this disease and future impacts on seabird populations is unknown.

Within Scotland, the latest complete census published in 2023 (Seabirds Count⁹¹) identified dramatic declines in many seabird species assessed, with 14 declining, three showing no trend (great cormorant, sandwich tern and razorbill) and just two increasing (northern gannet and great skua). Crucially, this census was undertaken before the emergence of Avian Influenza in these populations, with northern gannet and great skua some of the hardest hit species.

The Scottish Seabird Conservation Strategy is currently being developed to set out the pressures acting on seabirds and the actions that can be taken to prevent further loss, build resilience and aid recovery for seabirds in Scotland.

Marine food webs

Food webs illustrate the network of feeding relationships at different levels within an ecosystem. Pressures within this ecosystem alter the balance between organisms. Human activities that impact biota are also likely to have an impact on food webs. At the base of marine food webs, plankton provide the foundation for most sea life.

A reduction in nutrient availability (see the *Eutrophication* section) and increases in sea surface temperatures are the main drivers for the variation in primary production in the OSPAR assessment areas, which then affects other plankton and the predators that depend on these other planktonic organisms. Declines in fish communities, found higher up in the food web, are mainly linked to fishing pressures, although changes to the food web can also play a role in reducing fish populations.

Productivity and balance in the food web is crucial for apex predators, but they also exert some top-down control. Intact marine food webs support the diversity of life in our seas and, importantly, they also support many of the ecosystem services upon which humans depend.

⁹⁰ [Avian Influenza: a major threat to our struggling seabirds \(rspb.org.uk\)](https://www.rspb.org.uk/our-work/conservation/avian-influenza/)

⁹¹ [Seabirds Count | JNCC - Adviser to Government on Nature Conservation](https://www.jncc.gov.uk/information-and-services/our-work-programmes/seabirds-count/)

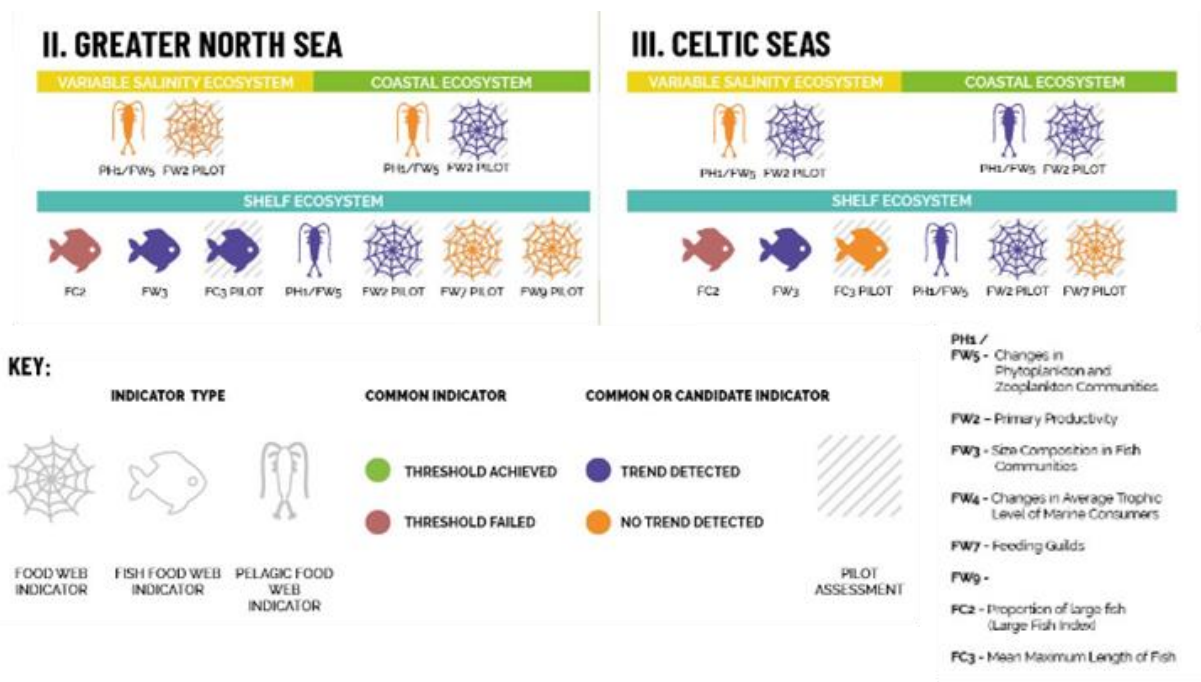


Figure A1.10. Status of marine food webs in the Greater North Sea and Celtic Seas

In both the Greater North Sea and Celtic Seas regions, indicators for demersal fish communities have not achieved good status, highlighting that this component of the food web is under pressure and experiencing a long-term decline. In both regions the plankton community indicators show a decreasing trend for primary production. In the Greater North Sea there is a mixed picture for various plankton lifeforms, with some showing increasing trends and others decreasing. Whilst in the Celtic Seas the plankton community indicators show a decreasing trend for virtually all plankton lifeforms (Figure A1.10).

Marine litter

Marine litter is known to cause significant ecological impacts, through ingestion of plastic particles either via filter feeding, suspension feeding, and consumption of prey exposed to microplastics, or through direct ingestion where mistaken for food, causing blockages and damage to the digestive tract; entanglement; and smothering of benthic habitats. Floating litter may additionally act as a vector for contaminants and biota, including microbes and non-indigenous species which can alter and modify species assemblages.

The main direct sea-based sources of litter are fishing, aquaculture, shipping, and recreational boating. In addition, marine litter originates from offshore infrastructure (for example in the oil and gas industry). The major direct and indirect land-based sources of marine litter include poor waste management, littering, untreated sewage, run-off and storm water discharges, sewage sludge applied to soils, land-based industry and construction, tourism and recreation, inland shipping, and agriculture, with rivers acting as pathways for marine litter to enter coastal waters.

Overall, marine litter levels are still high. There is a predominance of plastics among the marine litter reported across all OSPAR Regions. Microplastics have been

reported in sediments, surface waters, the water column and in biota in the OSPAR Maritime Area at different concentrations. Seafloor indicator assessments show increasing litter on the seabed in the Greater North Sea.

Seafloor litter in the OSPAR Maritime Area is widespread and has been monitored in the Greater North Sea (Region II) and Celtic Seas (Region III), with fisheries-related and plastic materials predominating. There are no clear trends in the Celtic Seas, but the amount of seafloor litter in the Greater North Sea appears to be increasing slightly (Figure A1.11 shows 2012 and 2019 smoothed data maps).

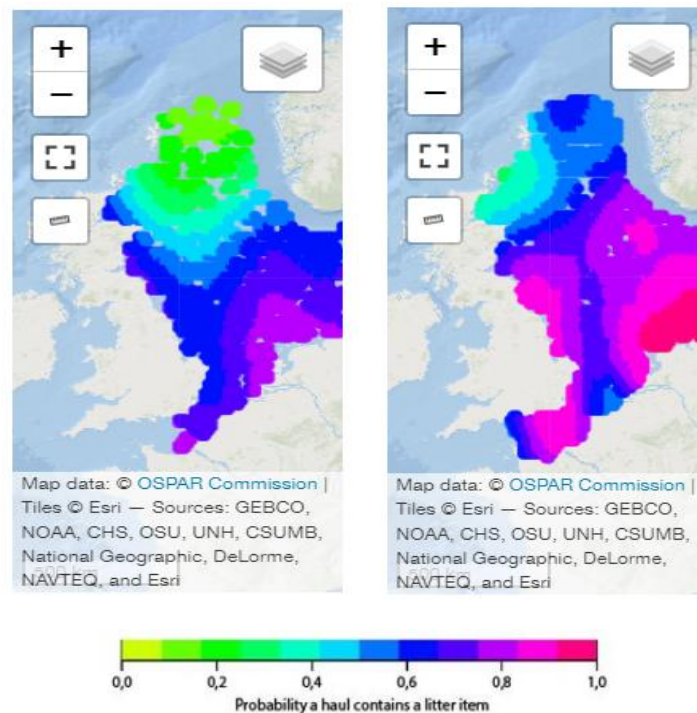


Figure A1.11. Smoothed maps for the Greater North Sea of probability that hauls contain a litter item, 2012 (left hand map) and 2019 (right hand map)⁹²

Within Scotland's Marine Assessment (SMA) 2020, marine litter was assessed by looking at beach litter, sea-floor litter and microplastics in surface water. Sea-floor litter was found in 44% of trawls undertaken in the seas around Scotland. Recently, the North Sea showed the highest densities, whilst the lowest densities in offshore waters were to the west of Scotland.

Whilst the assessments were not assigned a status due to a lack of evidence or robust assessment criteria, surveys show there is an apparent decrease in sea-floor litter density between 2012 and 2018 in areas distant from large population centres. This is different to the conclusions of the subsequent OSPAR QSR 2023.

⁹² [Preventing Pollution to Achieve Clean Seas \(ospar.org\)](https://ospar.org)





Marine mammals

Marine mammals around Scotland include two species of seals (harbour or common and grey seals) and several species of resident and migratory cetaceans. The most commonly encountered cetacean species in Scottish waters include small toothed cetaceans such as harbour porpoises and dolphins (common dolphin, Atlantic white-sided dolphin, bottlenose dolphin, white-beaked dolphin, Risso's dolphin, killer whales and striped dolphin), deep-diving toothed cetaceans (long-finned pilot whale, beaked whales and sperm whales), and baleen whales (minke, humpback and fin whales).

OSPAR integrated status assessments were undertaken as part of QSR 2023 for seals and small toothed cetaceans in the Greater North Sea and Celtic Seas, based on indicators for abundance and distribution, marine-mammal bycatch, and, for grey seals, also pup production. Small toothed cetaceans have been found 'not in good status', with mortality from incidental bycatch found to be a significant contributor to the assessment outcome. Due to limited or no available data, OSPAR assessments could not be carried out for deep-diving toothed cetaceans. For baleen whales, there was only data available for minke whales on abundance and distribution, but no data were available for other baleen species on that indicator or on marine mammal bycatch, limiting the ability to report on overall status of this functional group.

The SMA 2020 considered information on the abundance and distribution of the most regularly found cetacean species around Scotland. The assessment concluded that Scottish offshore waters continue to be important for a range of cetacean species. In the Greater North Sea, trends in abundance were only possible for harbour porpoise, white beaked dolphin and minke whales, which had more than two estimates of abundance from large-scale aerial and shipboard surveys since 1994. Numbers for these species are stable. Harbour porpoise distribution in the North Sea has expanded south, and minke whale distribution also shifted south, between 1994 and 2005.

Coastal bottlenose dolphins on the east coast, considered separately based on boat-based photo-identification data, have shown a change in their distribution over the last 20 years or so, with an expanding range and abundance increasing. The population is highly mobile within its main distribution range, and their range continues to expand (increasing, Figure A1.12). All other species assessed showed a stable trend.

Region assessed	Coastal bottlenose dolphin		Harbour porpoise		Comment
	Status with confidence	Trend with confidence	Status with confidence	Trend with confidence	
North Sea					Pre-2005 there was a southward shift in the distribution of harbour porpoise from the northern to the southern North Sea. Since 2005 there has been no change in distribution. Therefore, comparing with the abundance of harbour porpoise in the northern North Sea before 2005 with the current estimate would indicate a decrease.
West Coast	No data	No data	No data	No data	





Region assessed	White-beaked dolphin		Minke whale		All other species
	Status with confidence	Trend with confidence	Status with confidence	Trend with confidence	
All SMRs					Status and trend unknown for all other species and SMRs

Figure A1.12. Status and trend assessment of marine mammals as in the Scottish Marine Assessment 2020 showing few or no concerns for all, except some concerns with the harbour porpoise in the North Sea⁹³

Mixed results were seen in the OSPAR assessment of seals – grey seals were ‘in good status’ in both regions (Greater North Sea and Celtic Seas), while harbour seals were ‘not in good status’ in the Greater North Sea due to a number of declining populations in parts of north-east Scotland, and South-East England, the reasons for which are unclear. The OSPAR assessment for harbour seals was inconclusive in the Celtic Seas region due to uncertainty in the status of the species within Northern Ireland.

This resulted in the OSPAR integrated thematic assessment of seals as a species group (grey seal and harbour seal) in the Greater North Sea to be “not in good status”, and overall unknown in the Celtic Seas. Populations of harbour seals in western Scotland (within the Celtic Sea OSPAR region) are stable or increasing depending on the sub-area, based on the latest available survey data reported by the Special Committee on Seals (SCOS)⁹⁴.

Scottish and wider UK grey seal populations are also regularly surveyed to estimate pup production and derive overall population size and trends are reported by SCOS. The latest available data shows that the UK grey seal pup production has continued to increase, primarily driven by North Sea colonies along the east coast of Scotland and England (SCOS 2022), resulting in an increasing trend for UK grey seal population. The OSPAR assessments agree with the SMA 2020 conclusions.

⁹³ [Cetaceans | Scotland's Marine Assessment 2020](#)

⁹⁴ [Scientific Advice on Matters Related to the Management of Seal Populations: 2022 \(st-andrews.ac.uk\)](#)



Figure A1.13. The status of marine mammals⁹⁵

In OSPAR QSR 2010, climate change, noise pollution, loss of habitat and prey, and by-catch were identified as the major threats to marine mammals. QSR 2023 concludes that these main threats persist, and in many cases are increasing.

Marine mammals are highly mobile and utilise a wide range of pelagic habitats. Marine Protected Areas (MPAs) play a role in their conservation in the context of both species and wider seas measures, but do not protect all species of marine mammals and typically only protect the population associated with the protected site. However, in addition, the Habitats and Species Regulations provide robust legislative protection for these species from deliberate and reckless disturbance in all UK marine waters.

The UK Porpoise, Dolphin and Whale Conservation Strategy (PDWCS, currently in development) aims to ensure effective management to support cetacean species in UK waters. The strategy will identify relevant pressures on different cetacean species along with recommendations for work to reduce these. It also sets out recommendations for continued monitoring and research to better understand abundance, distribution and how species are using areas for key life stages such as pupping, breeding, moulting and migration.

Non-indigenous species

Non-indigenous marine species (NIS) are species which are introduced by human activities into new areas outside their native range. Some of these species can become invasive, negatively impacting ecosystems through competition for resources and space, as well as hybridisation with native species. Non-indigenous species can alter population and species composition, species' potential adaptation to environmental changes, food webs, biogeochemical cycles, and water quality. Transfer of ships' ballast water, ships' hull biofouling, movement of aquaculture stocks,

⁹⁵ [Toward Biologically Diverse Seas \(ospar.org\)](https://ospar.org/)

and marine litter are the main pathways and vectors associated with the introduction and spread of NIS.

The indicator of the number of new introductions of NIS into the OSPAR Regions II, III and IV for a period of 2003 to 2020 was used for the OSPAR assessment. However, only the first new records of NIS within a Region were considered for analysis. Additionally, NIS records in transitional waters were not considered, therefore potentially discounting a number of NIS records present in estuarine waters such as the inner Firth of Forth and Cromarty Firth. While the cumulative number of NIS for the assessed period had increased in all the two regions covering Scottish waters (II and III), there appeared to be a declining trend in the rate of new NIS introduction over the time. This decline was particularly prominent in the Celtic Sea Region III (Figure A1.14).

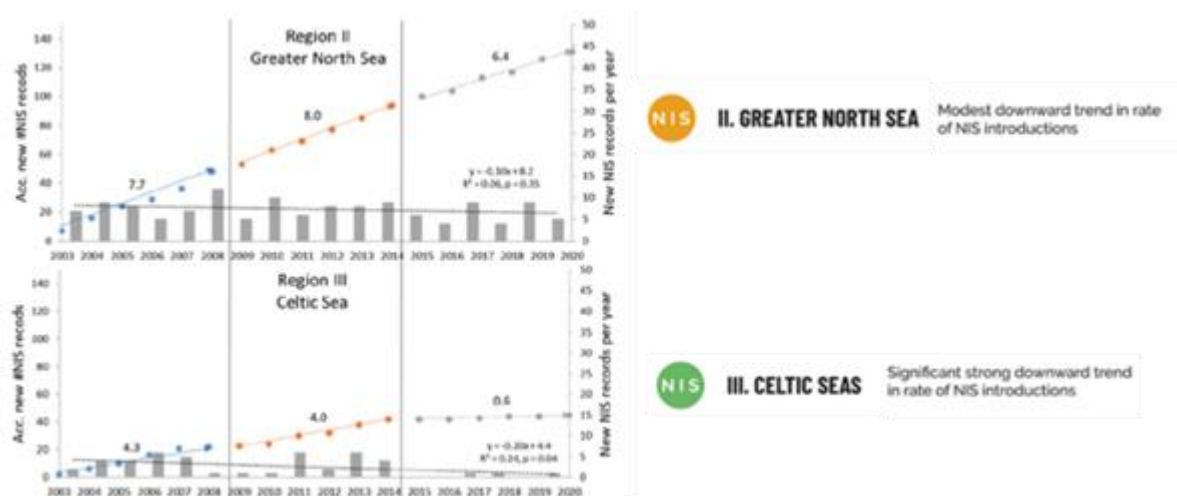


Figure A1.14. Annual new NIS records (bars) for OSPAR Regions II and III) and the trends (coloured curves) in cumulated (Acc.) new NIS records. Numbers above curves are slopes (#NIS per year = rates of introduction) of the cumulated curves from linear regression models. The overall trends in annual new NIS records (dotted line) were assessed with linear regression models, and the slope, coefficient of determination (R^2) and significance level (p) are shown⁹⁶

The OSPAR assessment concludes that there is a substantial uncertainty around the observed declining trends in new NIS introduction, as the potential impacts of monitoring gaps, varying monitoring efforts between the individual reporting parties and/or between reporting periods and suitability and sensitivity of methods used to detect NIS were difficult to address. Additionally, the suspected delays in reporting new NIS introductions for the most recent years may further increase the uncertainty around the data obtained for the third reporting period (2015-2020). Further caution is needed when interpreting the OSPAR QSR assessment because the data used to underpin it is not necessarily a reflection of NIS introduction in Scotland in-so-far as it relates to the first records of introduced species across a whole region.

For Scotland, and the United Kingdom in general, there is no dedicated monitoring programme for NIS and it is therefore difficult to ascertain if the trends concluded in

⁹⁶ [Trends in New Records of Non-indigenous Species Introduced by Human Activities \(ospar.org\)](https://ospar.org/)

the OSPAR assessment reflect the status of NIS in Scotland, or are instead driven by NIS reporting in other parts of the United Kingdom or more widely in the OSPAR Regions. In Scotland's Marine Assessment 2020, NIS were assessed as part of the Biological Quality Elements described by Water Framework Directive (WFD) Article 5 (WRD CIC, 2005) and agreed by the WFD UK Technical Advice Group (Alien Species Group) (UKTAG, 2013). Only species rated as "high-impact", by the Great Britain Non-Native Species Secretariat (GBNNS), were considered in the assessment. Data compiled from 2018 data were used to assess presence and absence of these species in 11 inshore Scottish Marine Regions (SMR).

The assessment concluded that since 2011 the number of waterbodies where these species were reported had increased⁹⁷. However, as data used for the assessment was derived from ad-hoc monitoring, it is unclear if this increasing trend is genuine, or a consequence of changes in monitoring and reporting effort over time. Moreover, no data on the impact of NIS on the Scotland's marine biodiversity was available and currently no developed indicator exists to assess and measure such impacts. Hence, in the light of lack of specific Scotland-relevant data the assessment has a low confidence.

To address some of these shortcomings the Scottish Government and NatureScot have been working on improving access and availability of marine NIS data. The are also actions in the Scottish Biodiversity Strategy to increase awareness and reporting of NIS and to improve management of pathways with the aim of reducing the rate of introduction and establishment of NIS.

Pelagic habitats

Pelagic habitats comprise the entire water column that provides a home for plankton; both phytoplankton (microscopic plants) and zooplankton (tiny animals and larvae). As the foundations of marine food webs, changes in these plankton communities can directly and indirectly affect higher trophic levels such as fish, marine mammals, and seabirds.

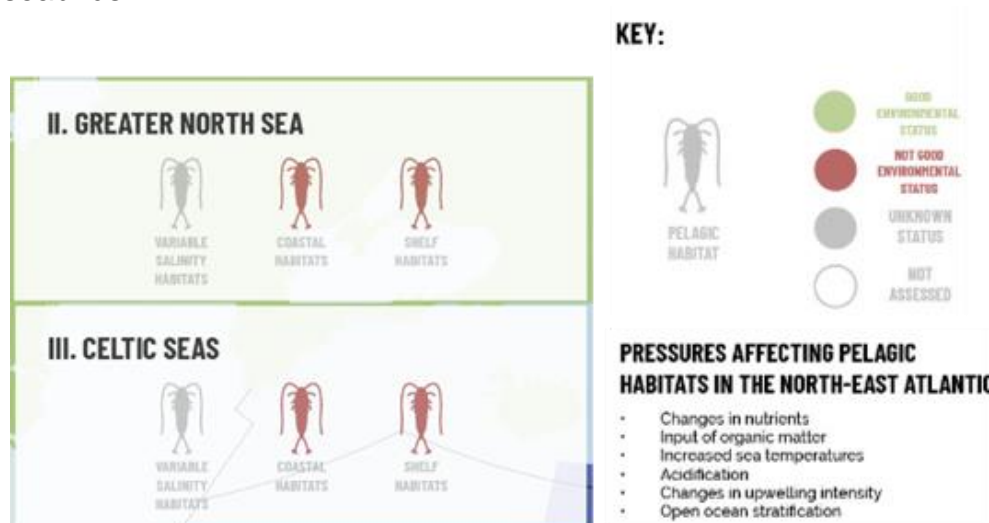


Figure A1.15. Status of pelagic habitats in the Greater North Sea and Celtic Seas⁹⁸

⁹⁷ [Scotland's Marine Atlas: Information for The National Marine Plan - gov.scot \(www.gov.scot\)](http://www.gov.scot)

⁹⁸ [Toward Biologically Diverse Seas \(ospar.org\)](http://ospar.org)

Plankton have short life cycles and fast growth rates and are considered excellent sentinels of environmental change – especially changes in climate and nutrient availability. Phytoplankton and zooplankton taxa are classified into functional groups or lifeforms, for example diatoms, dinoflagellates, small and large copepods. Changes in the abundance of these lifeforms inform the assessment of pelagic habitat status. OSPAR QSR 2023 indicates declines in the abundance of most plankton lifeforms in the northeast Atlantic, apart from meroplankton⁹⁹.

Changes in the abundance of these lifeforms are used in the assessment of the pelagic habitat status. OSPAR QSR 2023 indicates that there is a decline in the abundance of most plankton lifeforms in the northeast Atlantic. An exception to this is the meroplankton lifeform (larval stages of e.g. star fish, sea urchins etc) which is increasing in abundance. Changes in the abundance of life forms were linked to environmental pressures, with temperature particularly associated with a decline in the zooplankton copepod life form in the Atlantic and increase in meroplankton life form in the eastern North Sea¹⁰⁰.

Indicators using phytoplankton biomass and zooplankton abundance in the OSPAR QSR also highlight a general pattern of decrease across the Greater North Sea and Celtic Seas (Figure 15). The OSPAR QSR 2023 assessed the Pelagic Habitat as being ‘not good’.

SMA 2020 assessed the status of Pelagic Habitat in Scottish Marine Regions (SMRs) and Offshore Marine Regions (OMRs) using the same life form approach as in the OSPAR QSR. This assessment identified significant changes in the plankton community over the last three decades in some regions, for example increasing trends in diatom and meroplankton abundance (Fladen & Moray Firth) but declining trends in copepod abundance (Long Forties).

Whilst the immediate impacts of these changes are currently unknown, this observed ecological reorganisation could impact the entire marine food web. As mentioned in the *Marine food webs* section a reduction in nutrient availability (see also *Eutrophication* section) and increases in sea surface temperatures are the main drivers for the variation in primary production in the OSPAR assessment areas. A positive correlation between sea surface temperature increases and the abundance of some lifeforms was observed, but this was not consistent for all, suggesting other pressures are also involved in driving the observed changes in the plankton community in Scottish waters. The consequences of observed shifts in plankton communities are considered in the section *Marine food webs* (see also Figure A1.10).

Within the SMA 2020 most regions were assessed to have ‘many concerns’, with the exception of two regions (Clyde, and Forth & Tay) which showed ‘some concerns’.

⁹⁹ Bedford, J., Ostle, C., Johns, D.G., Atkinson, A., Best, M., Bresnan, E., Machairopoulou, M., Graves, C.A., Devlin, M., Milligan, A. and Pitois, S., 2020. Lifeform indicators reveal large-scale shifts in plankton across the North-West European shelf. *Global Change Biology*, 26(6), pp.3482-3497.

¹⁰⁰ Holland, M.M., Louchart, A., Artigas, L.F., Ostle, C., Atkinson, A., Rombouts, I., Graves, C.A., Devlin, M., Heyden, B., Machairopoulou, M. and Bresnan, E., 2023. Major declines in NE Atlantic plankton contrast with more stable populations in the rapidly warming North Sea. *Science of the Total Environment*, 898, p.165505.

Underwater noise

Human activities at sea generate noise, a form of pollution affecting our chances of achieving clean seas. In Scotland, the Marine Directorate are the regulator responsible for determining marine licence applications on behalf of the Scottish ministers in the Scottish inshore region (between 0 and 12 nautical miles) and in the Scottish offshore region (between 12 and 200 nautical miles) including marine renewable developments and fishing vessels. The UK government is the regulator for oil and gas activities and shipping.

When sounds are unwanted or unintentional, especially those made by humans, they are referred to as noise. Anthropogenic noise can have negative effects on marine animals, potentially causing masking (a reduction in ability to hear other sounds, or reduction in the range over which other sounds can be heard) and potentially leading to physiological stress, disturbance, or hearing damage. The assessments of anthropogenic noise in the OSPAR Underwater Noise Thematic Assessment categorise continuous noise (from shipping) and impulsive noise (such as seismic surveys, explosions and pile driving activities).

SMA 2020 described a baseline of continuous noise in the Scottish North Sea in 2013-2014. This first continuous noise assessment used data collected at ten underwater recording stations around the east coast during the summer months of 2013 and 2014. Averaged continuous noise levels were broadly similar between sites.

Modelling of AIS data in the OSPAR Greater North Sea Region, excluding the English Channel, gives some indication of the continuous noise from shipping in this heavily used area. Mapping of Excess Level shows that almost all over the Greater North Sea Region shipping noise is at a median Excess Level of 6 dB or more, with shipping noise of over 20 dB concentrated in the southern part of the North Sea and along the major shipping routes (Figure A1.16). The areas with high median Excess Level are exposed to continuous noise for a high percentage of time, and in these areas shipping noise can obscure natural sounds.

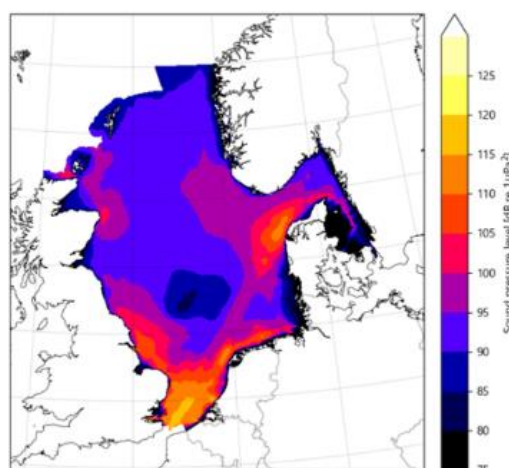


Figure A1.16. Median total sound pressure level, 2019, measured in 125 Hz band¹⁰¹

¹⁰¹ [Preventing Pollution to Achieve Clean Seas \(ospar.org\)](https://www.ospar.org/)

The impulsive noise assessment of the SMA 2020 examined data submitted to the Marine Noise Registry between 2015 – 2017. Activities generating impulsive noise occurred widely across the Scottish marine area during the years 2015-2017. There was a high degree of variability between years. 2015 had the highest number of noisy activity days. Across the three years, the vast majority of noisy activity is attributable to seismic (79%) and sub-bottom (17%) geophysical surveys, with much of the activity attributed to oil and gas surveys.

Measures to mitigate impulsive noise, such as adopting alternative methods of pile installation (which serve as the foundations for harbour construction, offshore wind farms etc.), have had some impact in the OSPAR Greater North Sea Region. However, international guidelines, such as the IMO standard on ship construction that seek to reduce continuous noise, appear to have had insignificant effect to date.

For both impulsive and continuous noise, it is not yet possible to establish any definitive long-term trends in noise levels, including trends in evidence since the Quality Status Report 2010 (QSR 2010). OSPAR has thus committed to producing a Regional Action Plan of measures to reduce noise and to improve the monitoring of noise levels. There is no policy currently in Scotland to require noise abatement techniques to be used, but EIA regulations require consideration of best practice.

Thresholds for continuous noise or for the metrics used within the MNR had not been determined for the effect of these underwater noise pressures to marine species, and no previous assessment has been carried out, a status was not assigned. As part of the OSPAR Regional Action Plan targets and thresholds will be developed and indicator species identified. The UK Porpoise, Dolphin and Whale Conservation Strategy also includes a section on underwater noise which identifies recommendations and links to ongoing work on this topic.

Marine Protected Areas and Priority Marine Features

The Scottish Marine Protected Area (MPA) network¹⁰² includes sites for protection of biodiversity, demonstrating sustainable management, and protecting our heritage¹⁰³. In total the network covers approximately 37% of our seas and comprises:

- 233 sites for nature conservation protecting a broad range of habitats and species that are found in our seas. Habitats range from rocky shores and sea caves at the coastline to deep sea habitats such as coral gardens and deep-sea sponge aggregations. Species range from harbour porpoise to flapper skate to puffins.
- One other effective area-based conservation measures which protects vulnerable marine ecosystems.
- One Demonstration and Research MPA around Fair Isle to investigate the factors affecting seabird populations and demonstrate the socio-economic benefits of protecting the marine environment¹⁰⁴.

¹⁰² [Scottish MPA network: Parliamentary Report \(www.gov.scot\)](http://www.gov.scot)

¹⁰³ [Marine Protected Areas \(MPAs\) - Marine environment - gov.scot \(www.gov.scot\)](http://www.gov.scot)

¹⁰⁴ [\[ARCHIVED CONTENT\] Fair Isle D&R MPA \(nrscotland.gov.uk\)](http://nrscotland.gov.uk)

- Eight Historic MPAs to preserve sites of historical importance around the Scottish coast¹⁰⁵.

¹⁰⁵ [Historic Marine Protected Area Records | Historic Environment Scotland](#)

APPENDIX 2: SOCIAL, CULTURAL AND ECONOMIC CHARACTERISTICS OF THE REGION

Introduction

The NMP contains a number of high-level marine objectives (HLMOs) and this Appendix contains relevant information against HLMOs 1 to 4 covering “Achieving a Sustainable Marine Economy” and HLMOs 5 to 10 covering “Ensuring a Strong, Healthy and Just Society”.

Achieving a Sustainable Marine Economy

This section provides data and evidence relevant to the following relevant HLMOs

Achieving a Sustainable Marine Economy

- Infrastructure is in place to support and promote safe, profitable and efficient marine businesses (HLMO 1)
- The marine environment and its resources are used to maximise sustainable activity, prosperity and opportunities for all, now and in the future (HLMO 2)
- Marine businesses are taking long-term strategic decisions and managing risks effectively. They are competitive and operating efficiently (HLMO 3)
- Marine businesses are acting in a way which respects environmental limits and is socially responsible (HLMO 4)

The latest published “Marine Economic Statistics” outlines the economic contribution of Scotland’s marine sectors¹⁰⁶. In 2022, Scotland’s marine economy directly generated £4.9 billion (excluding offshore renewables and oil and gas) in approximate gross value added (“aGVA”) and employed 71,000 people. It accounted for 3% of total Scottish aGVA and 2.7% of total employment.

¹⁰⁶ [Marine economic statistics - gov.scot \(www.gov.scot\)](http://www.gov.scot)

Table A2.1 outlines the sector breakdown of the Scottish marine economy in 2022.

Table A2.1. aGVA, turnover, employment and aGVA per head by marine sector, 2022¹⁰⁷.

Marine sector	aGVA (millions of pounds)	Turnover (millions of pounds)	Employment headcount (thousands)	aGVA per head (pounds)
Aquaculture	337	1,283	2.2	150,639
Construction and water transport services	395	685	3.7	106,784
Fishing	335	626	4.1	81,355
Freight water transport	102	249	0.4	255,250
Marine and coastal tourism	633	1,191	31.1	20,341
Passenger water transport	148	347	1.2	123,667
Processing	412	1,876	6.4	64,359
Renting and leasing of water transport equipment	15	28	0.1	152,000
Ship building	403	1,226	7.3	55,233
Support for oil and gas	2,157	3,697	14.4	149,778
Total	4,937	11,208	71.0	69,585

Support for oil and gas is the largest marine economic sector in terms of aGVA (44% of total marine economic aGVA) and in terms of turnover (33% of total turnover in the marine economy). When analysing employment determined by headcount, marine tourism is the largest marine economic sector, employing 44% of those employed in the marine economy. In addition, aGVA per worker could be used as a method to measure labour productivity. The aGVA per worker was highest in the Freight water transport sector (£255,250 per worker), followed by Renting and Leasing of water transport equipment (£152,000 per worker), Aquaculture (£150,639 per worker) and Support for Oil and Gas (£149,778).

¹⁰⁷ [Marine economic statistics - gov.scot \(www.gov.scot\)](http://www.gov.scot)

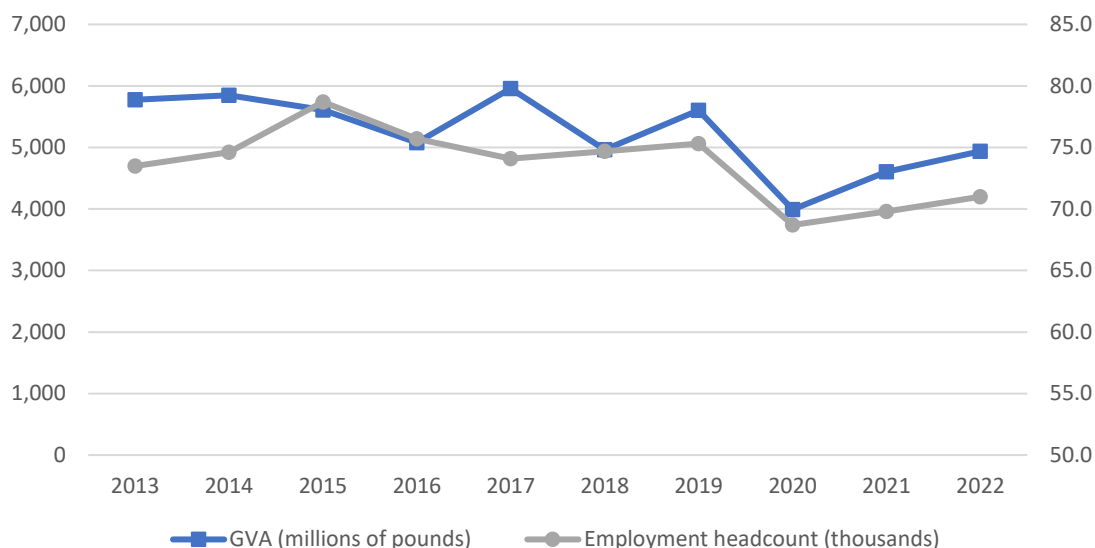


Figure A2.1. aGVA, Turnover and Employment in the Marine Economy from 2013 – 2022¹⁰⁸.

The GVA of the Scottish Marine economy in 2022 (excluding offshore renewables and oil and gas) increased from £4.6bn to £4.9bn (or by 7%) over the one-year period. However, when compared to 2013, aGVA decreased by 14%¹⁰⁹, with the largest drivers of this decrease being the “Construction and Water Transport Services” and “Support for Oil and Gas sectors”. Employment headcount (shown on the right-hand axis) increased by 1,200 (or 1.7%) relative to 2021, although relative to 2013 employment headcount has fallen by 2,500 or 3.4%, largely due to falling employment headcount in the Support for Oil and Gas sector.

Unfortunately, comparable GVA figures are not available for offshore renewables. However, power generation can provide an indication into the growth of the sector, as well as employment data showing part of the economic impact. In 2022, 52.0% of Scottish electricity generation came from wind power, with 41.6% from onshore wind and 10.4% from offshore wind. Figure A2.2 outlines the amount of electricity generated by offshore wind, showing that 6,400 gigawatt hours (“GWh”) of electricity was generated in 2023, a substantial increase relative to 2011, where only 600 GWh of electricity was generated by offshore wind. The amount of offshore wind energy generated is likely to increase further, with data showing that as at Q2 2022 there were 9.8 GW of additional offshore wind energy projects in planning, awaiting construction or under construction¹¹⁰.

Economic indicators can also be analysed, such as turnover and employment. In 2022, Scottish offshore wind had an estimated turnover of £4.2bn, approximately 1% of all Scottish turnover. This is a substantial increase relative to the £109m of turnover generated in 2014. Employment is also an important component of the Scottish Government’s commitment to offshore wind, with Scottish offshore wind employing an estimated 3,900 people in 2022, which compares to 900 people in 2014¹¹¹.

¹⁰⁸ [Marine economic statistics - gov.scot \(www.gov.scot\)](http://www.gov.scot)

¹⁰⁹ In 2022 prices.

¹¹⁰ [Scottish Energy Statistics Hub \(shinyapps.io\)](http://shinyapps.io)

¹¹¹ [Marine economic statistics - gov.scot \(www.gov.scot\)](http://www.gov.scot)

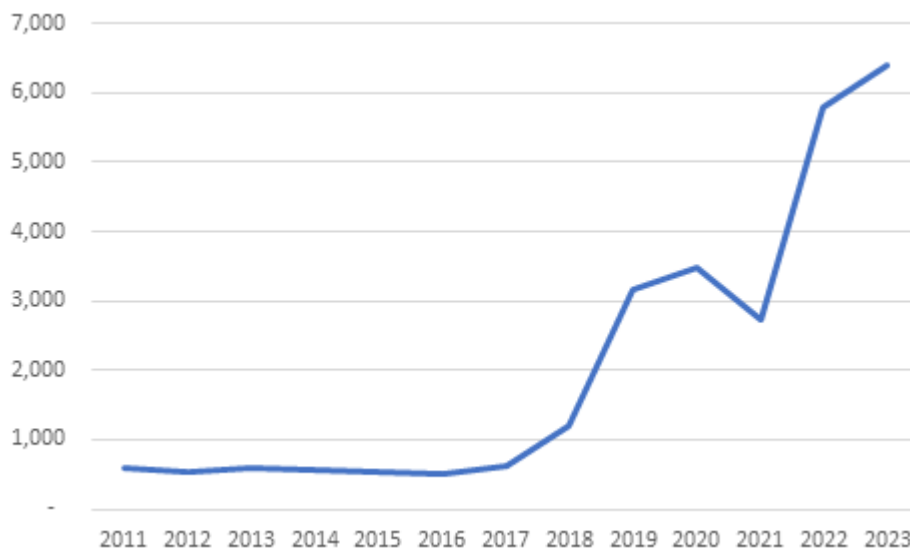


Figure A2.2. Offshore wind energy generation in Scotland from 2011 to 2023 in GWh¹¹².

Ensuring a Strong, Healthy and Just Society

This section provides data and evidence relevant to the following community and wellbeing HLMOs.

Ensuring a Strong, Healthy and Just Society

- People appreciate the diversity of the marine environment, its seascapes, its natural and cultural heritage and its resources and act responsibly (HLMO 5)
- The use of the marine environment is benefiting society as a whole, contributing to resilient and cohesive communities that can adapt to coastal erosion and flood risk, as well as contributing to physical and mental wellbeing (HLMO 6)
- The coast, seas, oceans and their resources are safe to use (HLMO 7)
- The marine environment plays an important role in mitigating climate change (HLMO 8)
- There is equitable access for those who want to use and enjoy the coast, seas and their wide range of resources and assets, and recognition that for some island and peripheral communities the sea plays a significant role in their community (HLMO 9)
- Use of the marine environment will recognise, and integrate with, defence priorities, including the strengthening of international peace and stability and the defence of the United Kingdom and its interests (HLMO 10)

¹¹² [Electricity statistics - GOV.UK \(www.gov.uk\)](https://www.gov.uk/electricity-statistics)

Preserving and appreciating the cultural heritage of island and coastal communities is critical to the wellbeing of many people in Scotland. Scotland has eight Historical MPA designations but there are many more unprotected sites of interest. There are many historic built and archaeological sites on the foreshore and seabed, including the remains of ships and aircraft lost at sea, and valued harbours, lighthouses, and other structure on the coast. There are 22 protected wreck designations under the Protection of Military Remains Act 1986 in Scottish waters. In addition, a large portion of Scotland's marine heritage resources are unrecorded, undiscovered, and unprotected.

The combination of seawater and sediment provides an important setting within which the preservation of marine archaeological remains is supported. However, the wash from vessels, anchoring, dredging, construction of port facilities and bridges have the potential to adversely affect these resources. Piers, wharves and breakwaters can result in changes to sediment which exacerbates erosion and has secondary effects on the marine historic environment. Climate change impacts, such as disturbance of submerged heritage assets from increased wave action, changes in local sediment supply causing damage or loss of submerged heritage assets, and ocean acidification causing enhanced rates of corrosion in metal shipwrecks and artefacts are expected into the future¹¹³.

It is estimated that there may also be around 38,000 historic features around the coast, including scheduled ancient monuments (SAMs), gardens and designated landscapes, archaeological remains, listed buildings, and those within conservation areas. For these sites, the sea can be an integral part of their setting and a key element in how they are experienced, understood and appreciated. Approximately 10% of 352 historic environment sites that were analysed by Historic Environment Scotland are currently exposed to Coastal Flooding in a way that is deemed unacceptable and 10% of sites analysed are exposed to Coastal Erosion in a way that is considered unacceptable¹¹⁴. This assessment only covers Historic Environment Scotland's estate and, therefore, likely underestimates the substantial level of challenge faced by coastal and marine historic environment assets. Further risk is also expected in the future due to climate change.

Marine and coastal archaeology is largely undiscovered and unprotected, which leaves it potentially vulnerable to threats such as coastal erosion and disturbance by human activity (i.e., vessel anchoring, construction).

The Marine Directorate of the Scottish Government carried out a study to improve our understanding of the economic value people place on key environmental and management characteristics of marine and coastal areas in Scotland. The study indicates that people in Scotland hold significant value for large increases in the number and variety of wildlife and habitats, are supportive of protecting areas of marine and coastal areas over doing nothing, would be willing to pay for 'low' and 'moderate' levels of restrictions on human activities that cause damage to marine

¹¹³ [A Guide To Climate Change Impacts | Historic Environment Scotland](#) (accessed 08/05/2024)

¹¹⁴ [Climate Change Risk Assessment | Historic Environment Scotland](#) (accessed 08/05/2024)

wildlife and habitats, and additional educational content, such as updating existing and installing new information boards¹¹⁵.

A further measure that could be used to approximate how much people value the marine environment could be marine and coastal tourism. The GVA of marine and coastal tourism in 2022 is equal to £633 million, 0.4% of the Scottish economy and 12.8% of the marine economy. The GVA of marine and coastal tourism, which includes domestic and international tourism, has increased substantially since the Covid-19 pandemic, increasing by 71.5% relative to 2020 and appears to be returning towards pre-pandemic levels, with marine and coastal tourism GVA now 5.7% below pre-pandemic conditions (2019). Trips to Scotland are rated highly by visitors in the Scotland Visitor Survey (2023), with 71% of visitors rating their trips as a nine or ten on a ten-point scale¹¹⁶. Seventy percent of visitors surveyed chose to visit Scotland due to its scenery and landscape, with 48% visiting due to Scotland’s history and culture¹¹⁷.

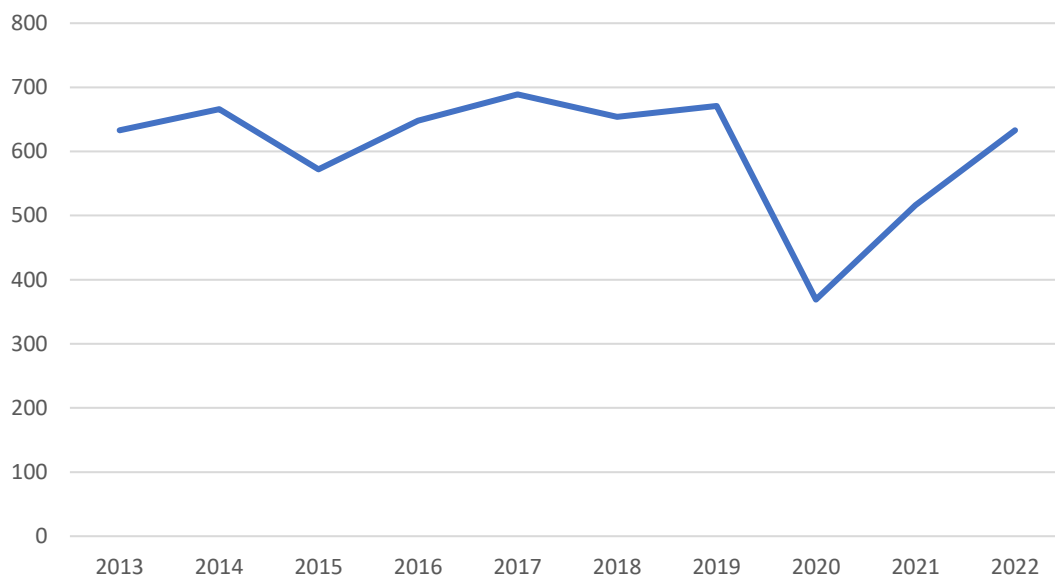


Figure A2.3. Marine Tourism GVA in 2022 prices¹¹⁸.

In addition to its economic impact, Scotland’s marine economy and environment contributes to a number of Scottish Government outcomes for a healthier, fairer, safer and stronger Scotland. The Scottish marine environment supports biodiversity and a variety of ecosystem services necessary for survival. To provide an example, the marine environment provides healthy food and space for a wide range of recreational use, which contributes to longer and healthier lives.

People appreciate marine resources, as highlighted in the Ocean Literacy in Scotland Survey (“OLS”) of 2022. Benefits of the marine environment most recognised by

¹¹⁵ [How much do people in Scotland value characteristics of marine and coastal areas - gov.scot \(www.gov.scot\)](https://www.gov.scot)

¹¹⁶ [Scotland Visitor Survey - Domestic & International | VisitScotland.org](https://www.visitScotland.org)

¹¹⁷ [Why People Choose Scotland - Research & Insights | VisitScotland.org](https://www.visitScotland.org)

¹¹⁸ [Marine economic statistics - gov.scot \(www.gov.scot\)](https://www.gov.scot)

participants of this survey include providing diverse habitats for marine species (recognised by 47% of respondents); the provision of food (43%); renewable energy (38%); weather and climate control (25%) and oxygen production, carbon capture and storage (21%)¹¹⁹. When asked specifically about salt marshes and seagrass meadows, the most important benefits recognised included the provision of diverse habitats (51% and 50%); providing a natural form of coastal protection (40%; 38%); pollution control and water purification (35%; 38%) and carbon capture and storage (28% and 31%). Ninety five percent of respondents believe it is true that the ocean is a major influence on weather and climate, with 94% believing that the oceans and humans are inexplicably linked.

In the OLS¹²⁰, concern (51%) was the most commonly reported feeling when asked to think about the marine environment, with 41% feeling awe or wonder. Other commonly felt perceptions include curiosity (29%), feeling calm and relaxed (25%). Eighty five percent of respondents in the OLS stated that protecting the marine environment is important or very important to them personally. Fifty percent of respondents thought that their lifestyle has an impact on the marine environment, with 27% citing a positive impact and 23% a negative impact. Twenty-seven percent of respondents stated that they have already made changes to their lifestyle to protect the marine environment, with 44% saying they are likely to make changes in the next 12 months. Concerns over climate change were the greatest reason people wanted to make changes.

Scotland's population of 5.49 million in mid-2023 was the highest ever recorded and is projected to grow to 5.53 million by 2033 and to 5.49 million in 2045¹²¹. Data from Scotland's 2011 census indicate that there were 93 inhabited islands in Scotland with a population of 103,700 (2% of the total Scottish population). Over 90% of people in Scotland live within a settlement, with settlements clustered around the coastline and in the central belt¹²².

The NMP aimed to promote resilient and cohesive coastal communities, with strong mental and physical wellbeing. Employment created from the Marine economy can reduce regional inequalities and improve wellbeing. **Error! Reference source not found.** outlines the contribution of the marine economy to certain local authorities. In particular, the marine economy is a large component of the local economies in Aberdeen City and the Shetland Islands, which generates 18% and 16% of their total GVA from the marine economy. These local authorities are closely followed by Aberdeenshire and Inverclyde, where 12% and 9% of their GVA is generated in the marine economy.

¹¹⁹ [Ocean Literacy in Scotland: Headline Findings Report \(www.gov.scot\)](http://www.gov.scot)

¹²⁰ [Ocean literacy survey: headline findings - gov.scot \(www.gov.scot\)](http://www.gov.scot)

¹²¹ [Population | National Records of Scotland \(nrscotland.gov.uk\)](http://nrscotland.gov.uk)

¹²² [Demographic Trends - Response to the Infrastructure Commission for Scotland Call for Evidence \(nrscotland.gov.uk\)](http://nrscotland.gov.uk) (accessed 08/05/2024)

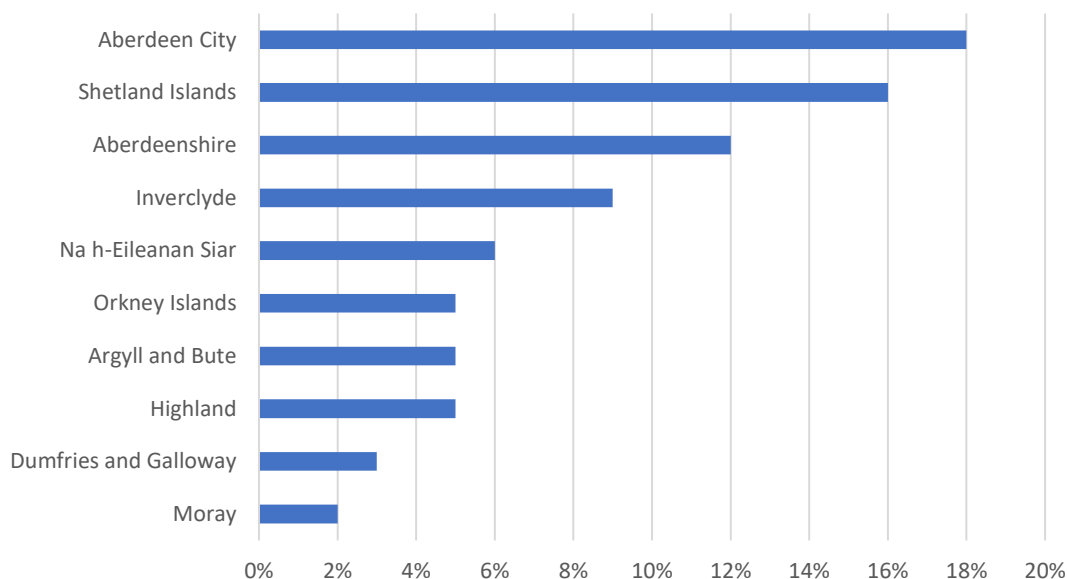


Figure A2.4. Marine Economic GVA as a percentage of total GVA in selected local authorities¹²³

The Scottish Household Survey (SHS) outlines various datapoints regarding communities. Firstly, 98% of those in Rural Scotland (using a two-fold urban-rural classification) stated their neighbourhood was a very or good place to live, with only 2% saying it was fairly or very poor. This can be compared with the rest of Scotland, where only 94% of people said their neighbourhood was fairly or very good. In addition, this can be compared against data from 2015, where 96% of people in a remote-rural area and 98% of those in an accessible rural area (using a six-fold urban-rural classification) described their neighbourhood as a fairly or very good place to live. The amount of people that see friends, relatives, neighbours or work colleagues could also be a useful metric for community cohesion and data suggests in rural Scotland, 88% of people do this at least once a month. Similarly, loneliness has been experienced by 19% of those in Scotland at least some of the time. In remote rural areas this is slightly lower at 18%, whilst in accessible rural areas it's 17%.

The SHS includes questions regarding the frequency of visits to the outdoors. Studies have shown that frequent visits to the outdoors improve health and wellbeing, for example mental health¹²⁴. In 2022, 70% of the Scottish population visiting the outdoors at least once per week, whilst in accessible rural areas it was 74% and 81% in remote rural areas. Similarly, 82% of those in Scotland visiting the outdoors at least once per month, with this higher in accessible rural areas (83%) and remote rural areas (88%). This can be compared to 2015, where 56% of those in rural areas visiting the outdoors at least once per week, with 72% of those in rural areas visiting the outdoors at least once per month¹²⁵.

In the *Inequalities in Access to Blue Coastal Space in Scotland: Research Report*¹²⁶ (2023), 71% of the Scottish public reported visiting beaches, the sea or other

¹²³ [Marine economic statistics - gov.scot \(www.gov.scot\)](http://www.gov.scot)

¹²⁴ [Green and blue spaces and mental health: new evidence and perspectives for action \(who.int\)](https://www.who.int)

¹²⁵ [Scottish Household Survey 2022: Key Findings - gov.scot \(www.gov.scot\)](http://www.gov.scot)

¹²⁶ [Inequalities in Access to Blue Coastal Space in Scotland: Research Report \(www.gov.scot\)](http://www.gov.scot)

coastlines in the previous 12 months. COVID-19 was the most cited reason for people not visiting a marine environment in the last year (49%) in OLS (2022), which may explain the lower proportion of people visiting the coast than in 2023. Walking is the most common activity undertaken during visits to the marine environment (61%) according to the OLS, with photography and videography (30%), visiting heritage sites (22%) and wildlife watching (21%) also popular.

Eighty three percent of respondents reported good mental health was an outcome of spending time in the marine environment, with 80% reporting good physical health as an outcome. 55% of respondents reported that visiting marine environments was a good opportunity to spend time with friends and family. Twenty nine percent of respondents stated they felt touched by the beauty of marine environments, whilst 24% said they had a lot of memorable experiences in marine environments.

Groups that are most likely not to have visited blue spaces include¹²⁷: disabled people, ethnic minorities, non-graduates, people renting from council or housing associations, those living in urban areas and those living in the most deprived areas. The associations that people have of the coast were positive, even in those who do not visit it often or at all, with pleasant childhood memories associated with these environments. Respondents expressed favourable views of the coast, including feelings of relaxation, tranquillity, enjoying fresh air, being in touch with nature, admiring views, unique sounds and smells, nostalgia and spending time with family on holiday. There was an overall perception of visiting the coast being good for your mental health.

A wide range of barriers were reported which stop people from visiting the coast¹²⁸. The most reported barriers included motivational barriers, capability, physical and social factors. Non-motivational factors included a lack of time to visit the coast, a lack of knowledge, poor mental health limiting ability to leave the house, travel barriers and costs, challenges interacting with the coastal environment (due to sandy beaches or eroded paths), poor facilities or not knowing others who visit these environments. Some ethnic minority participants reported being concerned about stigma, a lack of cultural facilities (e.g. suitable foods, places to pray or single sex bathing) and feeling uncomfortable at the coast. Improving public transport links to the coast and making it more affordable, having group trips led by members of ethnic minority groups, improved information and communication about visiting the coast and improved facilities, suitable for all, were highlighted as ways to address barriers to people visiting the coast.

Poverty measures might also provide an indication of social and cultural wellbeing, with various studies outlining the negative impact poverty has on physical and mental health. The percentage of those in relative poverty, which is an income below 60% of the UK median income after housing cost, in rural areas of Scotland equalled 15% in 2023 (using a three-year average), whilst 22% of those in urban areas were in relative poverty. The percentage of those in relative poverty increased slightly (2 percentage points) for those in both urban and rural areas since 2015.

¹²⁷ [Inequalities in Access to Blue Coastal Space in Scotland: Research Report \(www.gov.scot\)](http://www.gov.scot)

¹²⁸ [Inequalities in Access to Blue Coastal Space in Scotland: Research Report \(www.gov.scot\)](http://www.gov.scot)

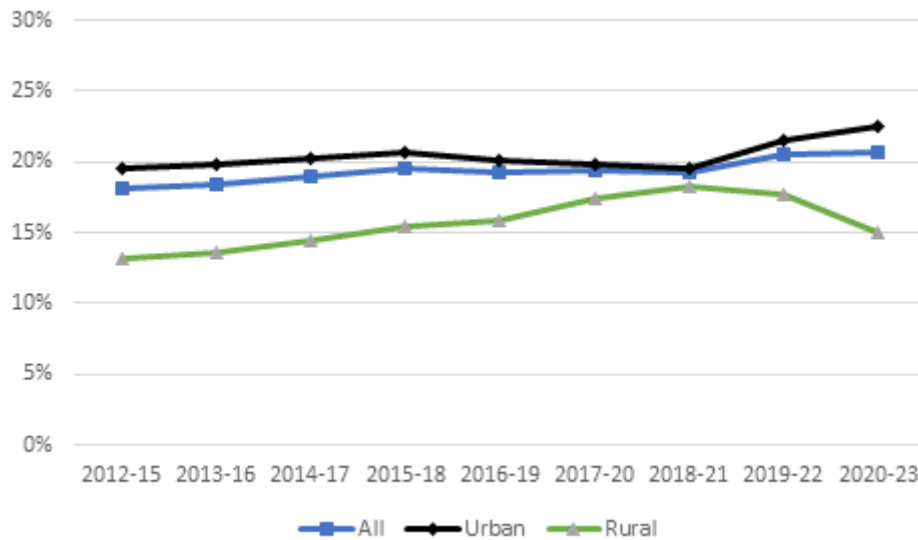


Figure A2.5. The percentage of people in relative poverty by urban-rural classification¹²⁹.

It's also possible to look at severe poverty, which is below 50% of the UK median income after housing costs. It can be seen that 9% of those in rural areas are in severe poverty, relative to 16% of those in urban areas. The percentage of people in severe poverty has increased in urban areas since 2015 by 3 percentage points, whilst remaining the same in rural areas¹³⁰.

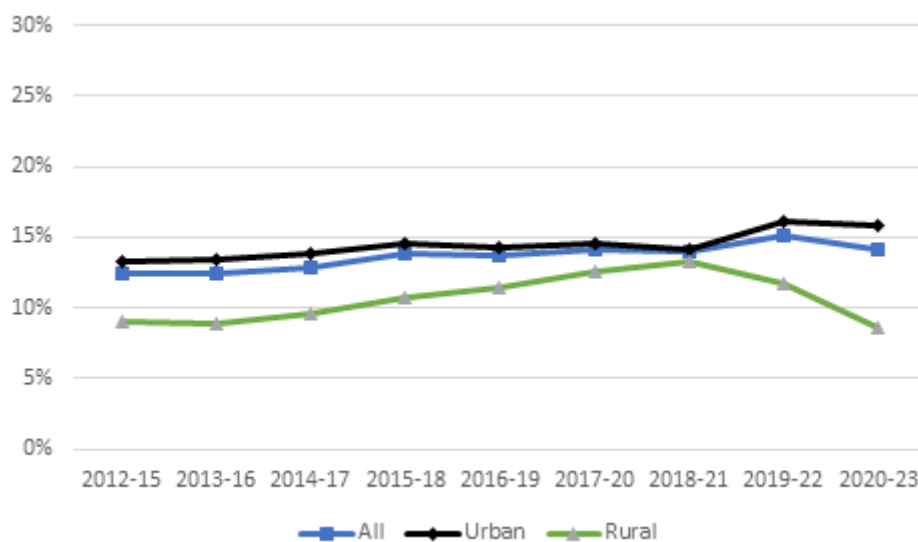


Figure A2.6. The percentage of people in absolute poverty by urban-rural classification¹³¹.

¹²⁹ [Poverty and Income Inequality in Scotland 2020-23 \(data.gov.scot\)](https://data.gov.scot)

¹³⁰ [Poverty and Income Inequality in Scotland 2020-23 \(data.gov.scot\)](https://data.gov.scot)

¹³¹ [Poverty and Income Inequality in Scotland 2020-23 \(data.gov.scot\)](https://data.gov.scot)

APPENDIX 3: RELEVANT POLICY CONTEXT

Guiding Principles

Blue Economy Vision

The “blue economy” concept has been increasingly recognised internationally as an approach to sustainably manage marine resources. The Scottish Government published its Blue Economy Vision for Scotland in 2022¹³².

Scotland’s Blue Economy vision is that by 2045 Scotland’s shared stewardship of our marine environment supports ecosystem health, improved livelihoods, economic prosperity, social inclusion, and wellbeing. The vision supports establishing and growing “blue” as a natural capital asset in Scotland, so that will be recognised as significantly contributing to the economy and to support a just transition to net zero Greenhouse Gas (GHG) emissions in 2045. The six blue economy outcomes are:

Environment

- Scotland’s marine ecosystems are healthy and functioning, with nature protected and activities managed using an ecosystem-based approach to ensure negative impacts on marine ecosystems are minimised and, where possible, reversed.
- Scotland’s blue economy is resilient to climate change, contributing to climate mitigation and adaptation, with marine sectors decarbonised, resource efficient and supporting Scotland’s Net Zero and Nature Positive commitments.

Social

- Thriving, resilient, regenerated, healthy communities have more equal access to the benefits that ocean resources provide.
- Scotland is an ocean literate and aware nation.

Economic

- Established and emerging marine sectors are innovative, entrepreneurial, productive and internationally competitive.
- Scotland is a global leader in healthy, quality, sustainably harvested and farmed Blue Foods, for our own population and beyond.

The NMP is an important tool to help guide new marine development in a manner that delivers the Blue Economy outcomes. To ensure new marine development is delivered effectively and efficiently there is a need for the emerging NMP2 policies to reflect, and be aligned with, the Blue Economy Action Plan objectives.

¹³²Scottish Government, [Blue Economy Vision](#) (2022)

Scotland's commitments to Just Transition Planning

The Scottish Government defines a just transition as both the outcome – a fairer, greener future for all – and the process that must be undertaken in partnership with those impacted by the transition to net zero. Just transition is how we achieve a net zero and climate resilient economy, in a way that delivers fairness and tackles inequality and injustice¹³³. Scotland's National Just Transition Outcomes are:

- **Citizens, communities and place: empowering and energizing communities and strengthening local economies.**
- **Jobs, skills and education: equipping people with the skills, education and retraining required;** providing access to green, fair and high-value work.
- **Fair distribution of costs and benefits.**
- **Business and economy:** supporting a strong, dynamic and productive economy, making Scotland a great place to do business.
- **Adaptation and resilience:** identifying risks and planning for long-term resilience against climate risks.
- **Environmental protection and restoration.**
- **Decarbonisation and efficiencies.**
- **Further equality and human rights implementation and preventing new inequalities from arising** for example, addressing fuel poverty and child poverty; furthering wider equality and human rights across protected characteristics.

The 2021 response to the Just Transition Commission's recommendations sets out four key principles for just transition planning:

- **Evidence-led** to ensure that the Plans are credible and robust.
- **Adaptable and iterative** to account for the complexities and 'unknowns' inherent in long-term economic planning.
- **Co-designed and co-delivered** to ensure all partners are empowered to engage, and that action is fair and co-ordinated.
- **Built upon existing work and experience.** This includes work undertaken by the Scottish Government and partners to chart the transition to net zero.

The NMP Review 2021 established that an updated NMP would support and contribute towards a just transition. Just Transition Principles are relevant to both the approach to the marine planning process, but also to help shape the planning policies themselves. The next National Marine Plan will be developed alongside the principles and embed these in the approach to the production of high-level objectives, stakeholder engagement, and relevant statutory assessments.

¹³³ Scottish Government (2022) [Just Transition: A Fairer, Greener Scotland which responds to the Just Transition Commission](#)

The Continuity Act

The Continuity Act 2021¹³⁴ furnished Scottish Ministers with a power to help meet the Scottish Government's commitment to align with future developments in EU law, where appropriate. This included the power to establish Environmental Standards Scotland (ESS) to provide environmental governance, secure improvements in public authorities' compliance with environmental law and its correct application. These are relevant powers for the marine environment.

The Act also sets out five environmental principles designed to promote the protection of the environment and contribute towards sustainability:

- protecting the environment should be integrated into the making of policies
- the precautionary principle as it relates to the environment
- preventative action should be taken to avert environmental damage
- environmental damage should as a priority be rectified at source
- the polluter should pay

ECCLR Committee Inquiry into Regional Marine Planning

The Environment, Climate Change and Land Reform (ECCLR) Committee inquiry into regional marine planning concluded in December 2020. The Scottish Government's response¹³⁵ committed to a number of actions including improved engagement through a new forum and provision of guidance. It also committed the emerging NMP2 to provide an updated context for future regional marine planning. There is potential for NMP2 to highlight emerging regional issues and priorities, giving direction to future regional plans.

National Planning Framework 4: Links to Terrestrial Planning

The National Planning Framework 4 (NPF4) sets out spatial principles, regional priorities, national developments and national planning policy, for the terrestrial environment¹³⁶. The terrestrial planning system is fully devolved and performs a similar role to the NMP. The policy framework of the NPF4 includes a specific aquaculture policy to support sustainable aquaculture development and cements the role of the NMP in aquaculture decisions. Other key connections include a number of policies with coastal elements, biodiversity connections, and delivery of onshore components of offshore energy production.

¹³⁴ [UK Withdrawal from the European Union \(Continuity\) \(Scotland\) Act 2021 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/2021/17/contents/enacted)

¹³⁵ [Regional marine plans in Scotland | Scottish Parliament Website](https://www.scottish.parliament.gov.uk/en/committees/2020-21/2020-21-ecclr/2020-21-ecclr-regional-marine-plans-in-scotland)

¹³⁶ [National Planning Framework 4 - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/national-planning-framework-4/pages/1-introduction.aspx)

Relevant Plan and Policies

Scottish Climate Change Policy and Approach

In April 2019 a Global Climate Emergency in Scotland was declared by the then First Minister. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019¹³⁷, amending the Climate Change (Scotland) Act 2009¹³⁸, sets a legally binding target of net zero greenhouse gas emissions by 2045. The Act also provides the framework for advice, plans, and reports relating to emissions reductions and climate adaptation. The Scottish Government's Climate Change Plan details policies and targets to reduce greenhouse gas emissions and increase CO2 uptake and storage (e.g. afforestation and carbon capture, utilisation and storage).

In April 2024 the Scottish Government reaffirmed, in parliament, its commitment to the 2045 target, but stated the interim target of 75% reduction by 2030 was out of reach. However, the Scottish Government remains absolutely committed to a just transition to net zero.

The SMA 2020¹³⁹ states that climate change is the most critical factor affecting Scotland's marine environment. Although one of the most direct impacts is global warming, several other impacts have been identified on the physical and chemical properties of the seas and oceans, such as changes in circulation, ocean acidification and ocean oxygen-loss. These changes in ocean climate also have an impact on the plants and animals that live in the sea (from the smallest to the largest) and marine industries. All these changes will have an impact on the Scottish economy and social well-being. Opportunities for mitigating the effects of climate change are also highlighted in SMA 2020. For example, marine renewable energy, carbon capture utilisation and storage, and blue carbon (the storage of carbon in marine ecosystems).

The assessment is clear that addressing these challenges and taking advantage of the opportunities will require a national dialogue on climate change impacts that is 'diverse and effective' and will need to reach decisions collaboratively about the measures required to address the impacts of human activities. It highlights that as the environment becomes more unpredictable and unstable because of climate change impacts, there is a requirement that future work on Scotland's National Marine Plan will take an ecosystem-based approach.

Blue carbon refers to carbon dioxide that is absorbed from the atmosphere and stored in the ocean. The Scottish Government's Blue Carbon Action Plan (BCAP), due to be published in 2025, will be a pioneering publication that will outline Scotland's approach and policy on blue carbon.

¹³⁷ [Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019 \(legislation.gov.uk\)](https://legislation.gov.uk/ukpga/2019/12/section/1)

¹³⁸ [Climate Change \(Scotland\) Act 2009 \(legislation.gov.uk\)](https://legislation.gov.uk/ukpga/2009/27/section/1)

¹³⁹ [Scottish Marine Assessment 2020](#)

This Scottish National Adaptation Plan sets out over 200 policies and actions to build Scotland's resilience to climate change¹⁴⁰. The Plan contains objectives with a marine component and one specific marine objective (Marine ecosystems and the blue economy (NC5)) that identifies the role of marine planning in supporting climate adaptation.

Since 2015 Scotland's climate change ambitions, and our understanding of the impacts of climate change on the marine environment, have continued to develop. Scientific research and our understanding of the effects of climate change on the marine environment is evolving, and we now understand the marine environment may offer potential climate solutions, from marine energy projects to blue carbon storage. Recent and planned policy development indicates that there are relevant climate matters to be considered in the development of the next NMP.

Biodiversity, flora and fauna

The Scottish Biodiversity Strategy to 2045, first published in 2022¹⁴¹ and updated in 2024¹⁴², sets out a nature positive vision for Scotland. This defines a set of outcomes for 2045 for the marine environment as follows:

- Ecosystems will be diverse, healthy, resilient and deliver a wide range of ecosystem services.
- Protected areas will be larger, better connected and in good condition.
- The abundance and distribution of species will have recovered and there will be no loss of diversity within species.
- Scotland's internationally important species will have increased in numbers and have healthy resilient populations.
- Natural capital will be embedded in policy making.
- Nature-Based Solutions, such as tree-planting, peatland and blue carbon habitat restoration, will be central to our efforts to deliver NetZero and adapt to climate change.
- Harmful invasive non-native species (INNS) will be managed so that established INNS no longer degrade native habitats and species or impede their restoration and regeneration, and new introductions are managed quickly and effectively.
- Biodiversity as a concept will be understood and valued across the population and embedded in educational curriculums.
- The health, condition, and resilience of pelagic, coastal, shelf, and deep-sea marine habitats will have been restored, supporting wider ecosystem function,

¹⁴⁰ [Climate change: Scottish National Adaptation Plan 2024-2029 - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/scottish-national-adaptation-plan-2024-2029/pages/introduction/)

¹⁴¹ [Biodiversity strategy to 2045: tackling the nature emergency - draft - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/biodiversity-strategy-to-2045-tackling-the-nature-emergency-draft/pages/introduction/)

¹⁴² [Scottish Biodiversity Strategy to 2045 - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/scottish-biodiversity-strategy-to-2045/pages/introduction/)

providing increased benefits to society, and contributing to climate resilience and adaptation through nature-based solutions.

The Scottish Biodiversity Delivery Plan 2024–2030¹⁴³ sets out actions to deliver the strategy across six objectives:

1. Accelerate ecosystem restoration and regeneration
2. Protect nature on land and at sea, across and beyond protected areas
3. Embed Nature Positive farming, fishing and forestry
4. Protect and support the recovery of vulnerable and important species and habitats
5. Invest in nature
6. Take action on the indirect drivers of biodiversity loss

There are a number of relevant marine actions in the document, some of the most relevant for marine planning include:

- Statutory Nature Restoration Targets
- Develop and implement the Scottish Plan for Invasive Non-Native Species (INNS) Surveillance, Prevention and Control
- Increase resilience in coastal and marine systems by reducing key pressures and safeguard space for coastal habitat change
- Ensure that at least 30% of land and sea is protected and effectively managed to support nature in good health by 203
- Implement further fisheries measures in vulnerable marine ecosystems and Priority Marine Features outside of MPAs
- Implement Scotland’s vision for sustainable aquaculture to minimise negative impacts on biodiversity
- Manage existing and emerging pressures to improve the conservation status of seabirds, marine mammals, elasmobranchs and wild salmon.
- Increase investment in Scotland’s coastal and marine environments

The Delivery Plan includes an action to “Develop and adopt a National Marine Plan 2 (NMP2) that supports action on the twin crises, setting out planning policies on climate mitigation and adaptation, nature protection and enhancement, and sustainable use to guide decisions and activities in line with our ambitions for Scotland’s Seas.

The 2021 NMP Review recommended that a refreshed Plan would take an ecosystem-based approach to the protection of Scotland’s seas in the management of human activities. As the environment becomes more unpredictable and unstable with increasing impacts from climate change, the resilience of ecosystems will change.

¹⁴³ <https://www.gov.scot/publications/scottish-biodiversity-delivery-plan-20242030/documents/>

Those species dependent on ocean currents for dispersal may be affected. Taking account of such changes are relevant matters for the work to update the National Marine Plan and will be a key part of that process.

Fisheries

The UK fisheries policy authorities collaborated to produce a Joint Fisheries Statement (JFS) in 2022 that sets out policies for achieving, or contributing to the achievement of, the eight fisheries objectives of the Fisheries Act 2020. The Joint Fisheries Statement forms part of the UK Fisheries Management and Support Framework and sets out the ambition of the UK to continue delivering world class, sustainable management of fisheries.

Scotland's Future Fisheries Management Strategy 2020-2030¹⁴⁴ sets out our approach to managing Scotland's Sea Fisheries from 2020 to 2030, as part of the wider Blue Economy. It explores the balance between environment, economic and social outcomes, in taking an integrated approach to stock management. It outlines the approach to transparent decision making, and a continued commitment to co-management and strengthening local management arrangements under the Regional Inshore Fisheries Groups (RIFGs)¹⁴⁵.

The Strategy confirms that supporting marine biodiversity is vitally important, alongside taking account of the wider ecosystem when developing and delivering policies. It also highlights a role for Fisheries in climate change adaptation and mitigation and reducing levels of marine litter.

The Scottish Wild Salmon Strategy¹⁴⁶ set the vision and outcomes for wild Salmon in Scotland as follows:

Vision

- Scotland's wild Atlantic salmon populations are flourishing and an example of nature's recovery. We will achieve this through the application of best-practice science and management.

Objectives

- Scotland's rivers have healthy, self-sustaining populations of wild Atlantic salmon that achieve good conservation status.
- Wild salmon management is evidence-based and underpinned by integrated data gathering, research and dissemination.

¹⁴⁴ [scotlands-fisheries-management-strategy-2020-2030.pdf \(www.gov.scot\)](#)

¹⁴⁵ [RIFG](#)

¹⁴⁶ [Scottish wild salmon strategy - gov.scot \(www.gov.scot\)](#)

- The environmental and socio-economic benefits arising from healthy wild Atlantic salmon populations are identified and maximised through partnerships between the public, private and charitable sectors.

Its companion, the Wild Salmon Strategy: Implementation Plan 2023 to 2028¹⁴⁷ sets out actions to achieve these including the following:

- Safeguard salmon and critical habitat through National, Regional and Sectoral Marine Plan policies and licensing of marine activity and development, recognising its protected status.
- Protecting and enhancing marine biodiversity, including salmon and the habitats they depend on, through a well-managed network of Marine Protected Areas, Highly Protected Marine Areas and other conservation measures, and implementing the UK Marine Strategy to achieve or maintain Good Environmental Status.
- Apply the National Planning Framework 4 policy to not support further salmon and trout open pen fish farm developments on the north and east coasts of Scotland to safeguard migratory fish species

Vision for Sustainable Aquaculture

The Vision for Sustainable Aquaculture¹⁴⁸, published in July 2023, sets ambition for the development of a sustainable aquaculture sector, operating within environmental limits, and recognises the considerable social and economic benefits the sector delivers today, and can deliver in the future. The Vision is made up of nine components:

- Produce makes a significant contribution to Scotland's reputation for premium food and drink, people at home and abroad choose our aquaculture products because they are high quality, healthy foods, farmed under strong environmental stewardship.
- Our communities are supported through the provision of highly skilled employment opportunities, access to healthy local foods and other lasting benefits.
- Environmental impact is within acceptable limits, with continual progress to minimise that impact through innovation, research and development.
- The aquaculture sector collaborates with other stakeholders to protect and restore biodiversity in the freshwater and marine environment.
- High standards for farmed animal health and welfare are a priority, maintaining Scotland's high health status and declared freedom from listed fish and shellfish diseases.

¹⁴⁷ [Wild salmon strategy: implementation plan 2023 to 2028 - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/wild-salmon-strategy-implementation-plan-2023-to-2028/pages/1-introduction.aspx)

¹⁴⁸ [Vision for Sustainable Aquaculture \(www.gov.scot\)](https://www.gov.scot/publications/vision-for-sustainable-aquaculture/pages/1-introduction.aspx)

- Development happens in the right places, underpinned by an effective and efficient regulatory framework informed by the best available science and evidence.
- The sector is leading the way in reaching net zero and adapting to the challenges arising from climate change.
- Continual innovation facilitates opportunities for a highly resource efficient and productive industry to responsibly maximise value from the production process.
- The sector is flourishing, attracting investment and delivering significant economic benefit to Scotland through domestic and international trade and through its supply chain.

The Vision also identifies a number of outcomes groups under the following headings:

- Spatial Planning and Consenting
- Environment and Biodiversity
- Climate Change and Circular Economy
- Health and Welfare
- Community
- Productivity, Supply Chain and Infrastructure.

The Vision establishes relevant matters for the NMP including industry growth, and spatial planning and regulation. The National Marine Plan 2 will be developed in consideration of the updated principles and embed these in the approach to the production of high-level objectives, stakeholder engagement, and relevant statutory assessments.

Marine Litter

The Marine Litter Strategy for Scotland, first published in 2014, was refreshed in 2022¹⁴⁹ and serves to co-ordinate action on marine litter throughout the whole of Scotland. The purpose of the Strategy is to develop current and future measures to prevent litter from entering the marine and coastal environment, to support its removal, to result in ecological, economic, and social benefits. The Marine Litter Strategy sets out five strategic directions and a range of measures to help deliver the strategy:

- Improve public and business attitudes and behaviours around marine and coastal litter, in co-ordination with the National Litter and Fly-tipping Strategy.
- Reduce marine and coastal based sources of litter, with a focus on the most problematic sources, in co-ordination with land sourced litter being reduced by the National Litter and Fly-tipping Strategy.
- Support the removal of marine litter from the marine and coastal environment.

¹⁴⁹ [Marine Scotland: A Marine Litter Strategy for Scotland \(www.gov.scot\)](http://www.gov.scot)

- Improve monitoring at a Scottish scale and develop measures for strategy evaluation.
- Maintain and strengthen stakeholder co-ordination in Scotland, the UK, regionally and globally.

The NMP Review 2021 recognised that marine litter has become a growing problem. The strategy confirms the intention to continue to take an evidence-based approach, underpinned by the best scientific advice, and will seek to strengthen our knowledge and evidence base where needed. As part of the development of NMP2, and its statutory assessments, marine litter will remain a relevant matter for consideration.

Energy in the Marine Environment

The UK Government's Energy Act 2023¹⁵⁰ aim is to help increase the resilience and reliability of energy systems across the UK, support the delivery of the UK's climate change commitments, and reform the UK's energy system while minimizing costs to consumers and protecting them from unfair pricing. The Act is structured around three outcomes:

- Liberating investment in clean technologies
- Reforming the UK's energy system so it is fit for the future
- Maintain the safety, security and resilience of the UK's energy system

The package of measures includes measures to support the delivery of offshore wind consents, using strategic environmental compensatory measures and enabling access to a library of measures across the UK to enable individual offshore wind projects to demonstrate they can be derogated under Habitats Regulations Appraisal.

The UK Government has a new ambition of achieving clean power (i.e., power sector decarbonisation) by 2030. The Electricity System Operator (NESO) has been formally commissioned to provide independent analysis on how this can be achieved, across energy supply, demand, and networks requirements. The Clean Power 2030 Action Plan¹⁵¹ set out the the need for a secure and affordable energy supply, the creation of essential new energy industries, supported by skilled workers in their thousands, and the need to reduce greenhouse gas emissions and limit our contribution to the damaging effects of climate change. It sets out what is required to deliver a clean, secure, operable power system across the UK by 2030 and suggest areas where the UK Government needs to support industry to further accelerate decarbonisation.

¹⁵⁰ [Energy Act 2023 \(legislation.gov.uk\)](https://legislation.gov.uk)

¹⁵¹

NESO define clean power as power from those sources considered to be low carbon under UK carbon accounting, in the marine environment this includes offshore renewables, hydrogen, and Carbon Capture and Storage (CCS).

Following this the UK, Scottish and Welsh Governments are progressing work towards a Strategic Spatial Energy Plan (SSEP) that intends to be a GB energy system wide plan that will draw together wider policy objectives to deliver on infrastructure development plans. The SSEP will set out what needs to be built, where, and when to deliver on 2035 targets, particularly related to connecting offshore wind.

Given Scotland's crucial contribution to the UK energy system, Scotland's particular energy and infrastructure needs and devolved policy and planning responsibilities, Clean Power 2030, the SSEP and the Energy Act will be key relevant matters for consideration in NMP2 policies to guide the consenting of offshore marine energy.

Energy Strategy and Just Transition

The draft Energy Strategy and Just Transition Plan (ESJTP) published in 2023¹⁵² sets out a vision for 2045 that *“Scotland will have a flourishing, climate friendly energy system that delivers affordable, resilient and clean energy supplies for Scotland's households, communities and business. This will deliver maximum benefit for Scotland, enabling us to achieve our wider climate and environmental ambitions, drive the development of a wellbeing economy and deliver a just transition for our workers, businesses, communities and regions”*.

The draft strategy seeks many outcomes relevant to marine planning, from support for major energy infrastructure that will contribute to a net zero economy; consideration of the role of communities and local economies; and supporting Scotland's ambitions for restoring nature and biodiversity, as part of a joined-up approach to tackling the climate and nature emergencies.

The draft ESJTP includes previously published ambition for a minimum of 8-11 GW offshore wind by 2030¹⁵³, and 5 GW of renewable and low carbon hydrogen by 2030, and 25 GW by 2045¹⁵⁴. The expectation is the majority of our 5 GW ambition by 2030 to come from renewables and in particular because of establishing hydrogen production from wind power. The development of regional hydrogen production hubs linked to offshore wind are part of the critical path towards achieving the ambition.

The draft strategy also sets out the planning and consenting requirements required to deliver the ambitions for Scotwind and the Innovation and Targeted Oil and Gas (INTOG) leasing rounds. It reaffirms the commitment to a plan led approach to support

¹⁵² [Draft Energy Strategy and Just Transition Plan](#)

¹⁵³ [Offshore Wind Policy Statement \(www.gov.scot\)](http://www.gov.scot)

¹⁵⁴ [Hydrogen action plan - gov.scot \(www.gov.scot\)](http://www.gov.scot)

sustainable commercial scale offshore wind development in Scotland. It also highlights the role of the NMP alongside regional marine plans, the Offshore Wind Policy Statement and sectoral marine planning, in delivering the planning framework for offshore wind.

The draft ESJTP includes recognition that change in the shared marine space from development of the offshore energy sector and other marine policies and the impact and opportunities of this change on other marine sectors will be considered in the development of the NMP2 and the Sectoral Plan for Offshore Wind Energy. It also recognises the potential for biodiversity impacts in delivering offshore wind and outlines ambition for a nature positive approach to offshore wind consenting, that could unlock investment in nature enhancement in a way that addresses the biodiversity crisis alongside the climate crisis and ensures that we continue to protect the marine environment and users of the marine environment.

Planning for Offshore wind and Hydrogen

The NMP acts as an overarching planning framework for the development of the Sectoral Marine Plan for Offshore Wind Energy. Thus, a Sectoral Marine Plan for Offshore Wind Energy was published in October 2020 outlining planning scenarios for offshore wind development, including an upper scenario of 10GW of energy¹⁵⁵. In January 2022 Crown Estate Scotland's Scotwind leasing round awarded lease options for potential capacity of almost 30GW in Scottish waters¹⁵⁶. A further 5.4 GW of potential capacity were awarded exclusivity agreements from the Innovation and Targeted Oil and Gas (INTOG) leasing round¹⁵⁷.

Following this the Scottish Government committed to updating the Sectoral Marine Plan for Offshore Wind, utilising the iterative plan review process to allow for the consideration of new evidence. The sectoral marine plan for offshore wind energy provides a specific plan for the sustainable development of offshore wind in Scotland's seas, consistent with the adopted NMP. As the NMP provides the planning framework for consenting offshore wind, these increased ambitions and leasing rounds are relevant consideration for a new and emerging NMP2.

Scotland's renewable energy potential could potentially also lead to new economic opportunities enabling Scotland to become a leading producer and exporter of renewable hydrogen. Renewable Hydrogen (also known as Green Hydrogen) is produced via electrolysis of water using renewable electricity and produce zero carbon and production could be situated alongside offshore wind energy in the marine environment.

¹⁵⁵ [Sectoral marine plan for offshore wind energy - gov.scot \(www.gov.scot\)](https://www.gov.scot/publications/sectoral-marine-plan-offshore-wind-energy/pages/10.aspx)

¹⁵⁶ [ScotWind leasing round | Crown Estate Scotland](https://www.crownestate.scot.nhs.uk/press-releases/scotwind-leasing-round)

¹⁵⁷ [INTOG: 13 projects selected to support green innovation and help decarbonise North Sea | Crown Estate Scotland](https://www.crownestate.scot.nhs.uk/press-releases/intog-13-projects-selected-to-support-green-innovation-and-help-decarbonise-north-sea)

The Hydrogen Policy Statement (HPS) published in 2020¹⁵⁸ described the potential role hydrogen could have in Scotland achieving net zero and set out an ambition of 5 GW of renewable and low-carbon hydrogen production by 2030 and 25 GW by 2045, committed funding towards the development of our hydrogen economy. The Hydrogen Action Plan (HAP) published in 2022 set out actions to implement the HPS and drive Scotland's hydrogen production capability, including support for the growth of Regional Hydrogen Energy Hubs¹⁵⁹.

The potential for the development of a new future Hydrogen Sector, associated with offshore wind and grid infrastructure, and requiring some transportation pipelines and is likely to require a licencing and consenting regime capable of delivery, and a spatial vision to understand the extent of interactions with existing marine users, and is therefore a relevant matter for consideration in an updated NMP.

Circular Economy

The Circular Economy represents an enormous economic and industrial opportunity for Scotland and contributes directly to a green recovery¹⁶⁰. The Circular Economy (Scotland) Act 2024 introduced measures to help develop a circular economy¹⁶¹. The Act is a relevant matter for NMP2, and any updated policies should consider how the marine decisions might support the enable the shift towards a circular economy.

Scotland's National Strategy for Economic Transformation (NSET) and Wellbeing Economy

The National Strategy for Economic Transformation (NSET), published in 2022, sets out to transform Scotland's economic model to deliver economic growth, environmental sustainability, quality of life and equality of opportunity and reward¹⁶². This is termed the Wellbeing Economy and is under pinned by three ambitions:

- Fairer: Ensuring that work pays for everyone through better wages and fair work, reducing poverty and improving life chances.
- Wealthier: Driving an increase in productivity by building an internationally competitive economy founded on entrepreneurship and innovation.
- Greener: Demonstrating global leadership in delivering a just transition to a net zero, nature-positive economy, and rebuilding natural capital.

¹⁵⁸ [Scottish Government Hydrogen Policy Statement \(www.gov.scot\)](http://www.gov.scot)

¹⁵⁹ [Hydrogen action plan - gov.scot \(www.gov.scot\)](http://www.gov.scot)

¹⁶⁰ <https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032/pages/11/> .

¹⁶¹ [Circular Economy \(Scotland\) Act 2024 \(legislation.gov.uk\)](http://legislation.gov.uk)

¹⁶² [Delivering Economic Prosperity \(www.gov.scot\)](http://www.gov.scot)

The NSET contains a large number of relevant matters for the new NMP to consider as it develops including work towards a nature-positive economy and consideration of natural capital, the Blue Economy, renewable energy, the hydrogen economy, nature restoration and eco-tourism.

APPENDIX 4: MD-LOT CASE STUDY

Introduction

NMP implementation and Good Governance are promoted through HLMO's 14 to 18. Appendices 4, 5 and 6 provide an overview of the progress made against the objectives. This Appendix provides a case study of how the NMP is utilised in the decisions made by the Marine Directorate's Licensing and Operations Team (MD-LOT). Appendices 5 and 6 contain details of a survey of decision makers in external bodies to identify how the NMP is utilised in their decisions.

Promoting good governance

- All those who have a stake in the marine environment have an input into associated decision-making (HLMO 14)
- Marine, land and water management mechanisms are responsive and work effectively together for example through integrated coastal zone management and river basin management plans (HLMO 15)
- Marine management in the UK takes account of different management systems that are in place because of administrative, political or international boundaries. (HLMO 16)
- Marine businesses are subject to clear, timely, proportionate and, where appropriate, plan-led regulation. (HLMO 17)
- The use of the marine environment is spatially planned where appropriate and based on an ecosystems approach which takes account of climate change and recognises the protection and management needs of marine cultural heritage according to its significance. (HLMO 18)

MD-LOT Case Study

Under the NMP 2018 review covering the period from the NMP launch in 2015 to end 2017, LOT had issued 1428 licences (including 277 variations). Under the NMP 2021 review covering the period start 2018 to end 2020, LOT issued 1170 licences (including 314 variations). This assessment, covering the period from start 2021 to end 2023, shows that LOT issued 1209 licences (including 265 variations, A4.1).

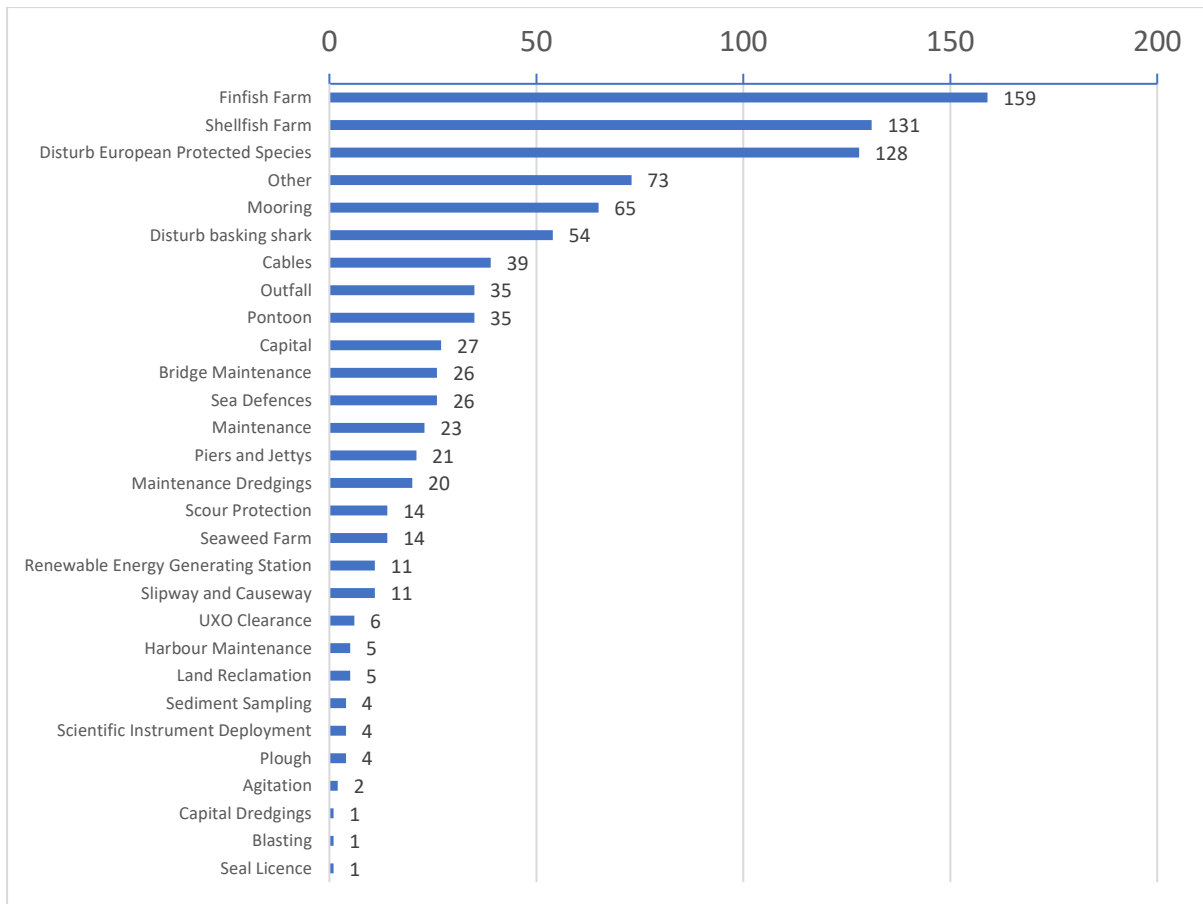


Figure A4.1. Number of licences (by type) issued January 2021 to end 2023 (945 in total), not including variations

The NMP includes general policies that outline how Scottish Ministers intend marine resources to be used and managed. These policies cover a wide range of topics related to marine activities, conservation, and economic development. In addition to general policies, the NMP also contains sector-specific policies. These policies address specific industries or activities, ensuring that they align with sustainable management principles.

To review policy usage within licence applications a subset of 15% of total licences and consents, not including variations, were analysed. Variations were not considered within the subset as the variation to the licenced activity would highly unlikely change the outlook on the policies that would need to be considered by the applicant. The licences to make the subset were randomly selected but weighted to proportionally account for the number of licences of each type. This sample accounts for 142 cases, and **Error! Reference source not found.** shows the subset of licences selected for policy review.

For each licence, a Case Handling Report is maintained by MD-LOT and these record considerations of the NMP by both the applicant and the Marine Directorate Casework Manager with respect to decisions taken. The Case Handling Report records that the decision is in accordance with the MPS, the NMP and any relevant regional marine plans and that no further action is required. The consideration is also logged on a case management system, that provides the reporting for this analysis.

Of the subset analysed there were 15 primary types of project categories, in which there were less than five licences of each type (less than 30 licences within the full dataset), these were grouped together and named 'Group'. This is with the exception of a Renewable Energy Generating Station, which was combined with the 'Other' category, which is mainly other renewable energy projects.

Finfish and shellfish farms make up almost one third of all licences. This is consistent with the previous NMP reviews, where aquaculture has been a substantial proportion of the licences being processed and issued throughout their analysis years. As of December 2020, wellboat discharge regulatory responsibility transferred from the Marine Directorate to the Scottish Environment Protection Agency (SEPA), and therefore during this analysis this licence type does not feature, whilst it was a large component of previous reviews.

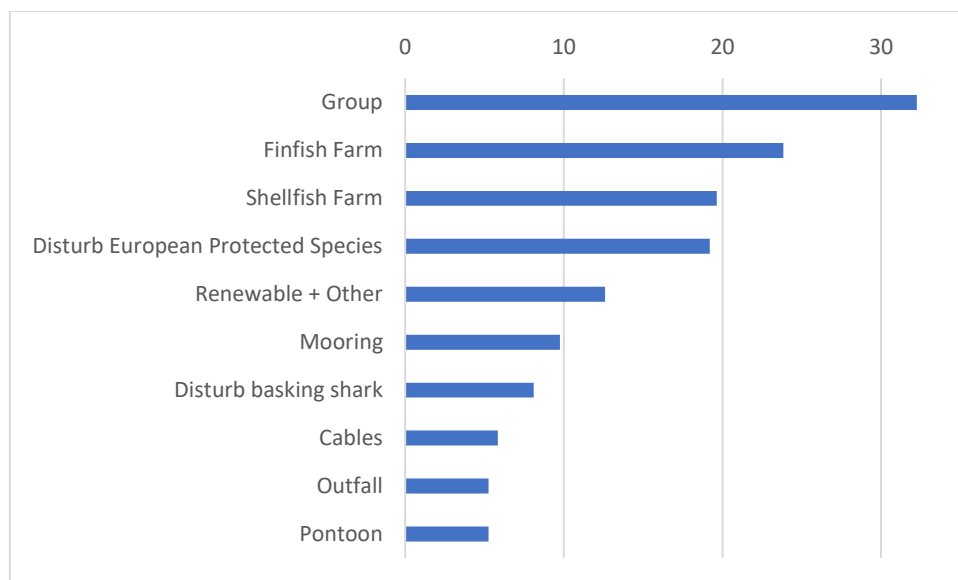


Figure A4.2. Number of licences (by type) within the subset used for policy analysis (142 in total)





An overview of policies referenced in licensing considerations is illustrated in **Error! Reference source not found.**, which identifies the total number of times each policy was referenced and considered in determining the licence, as recorded in the available case handling reports.



General policies are applicable to almost all applications, whilst sectoral policies address issues relevant to a particular sector. All decision making is subject to the General Policies, as well as sector policies where these are relevant. Within the top 15 policies referenced, General policies make up 13 of these, whilst the other two are Aquaculture policies. General 2 and General 3 are the most referenced policies, and refer to social and economic benefit:

GEN 2 Economic benefit: Sustainable development and use which provides economic benefit to Scottish communities is encouraged when consistent with the objectives and policies of this Plan.

GEN 3 Social benefit: Sustainable development and use which provides social benefits is encouraged when consistent with the objectives and policies of this Plan.

The sectoral policies most often referenced are the Aquaculture policies, and this reflects the number of finfish and shellfish licences that were issued during the analysis period. The two most referenced sectoral policies are Aquaculture 11 and Aquaculture 5:

    **AQUACULTURE 11:** Aquaculture equipment, including but not limited to installations, facilities, moorings, pens and nets must be fit for purpose for the site conditions, subject to future climate change. Any statutory technical standard must be adhered to. Equipment and activities should be optimised in order to reduce greenhouse gas emissions.

  **AQUACULTURE 5:** Aquaculture developments should avoid and/or mitigate adverse impacts upon the seascape, landscape and visual amenity of an area, following SNH guidance⁷⁵ on the siting and design of aquaculture.

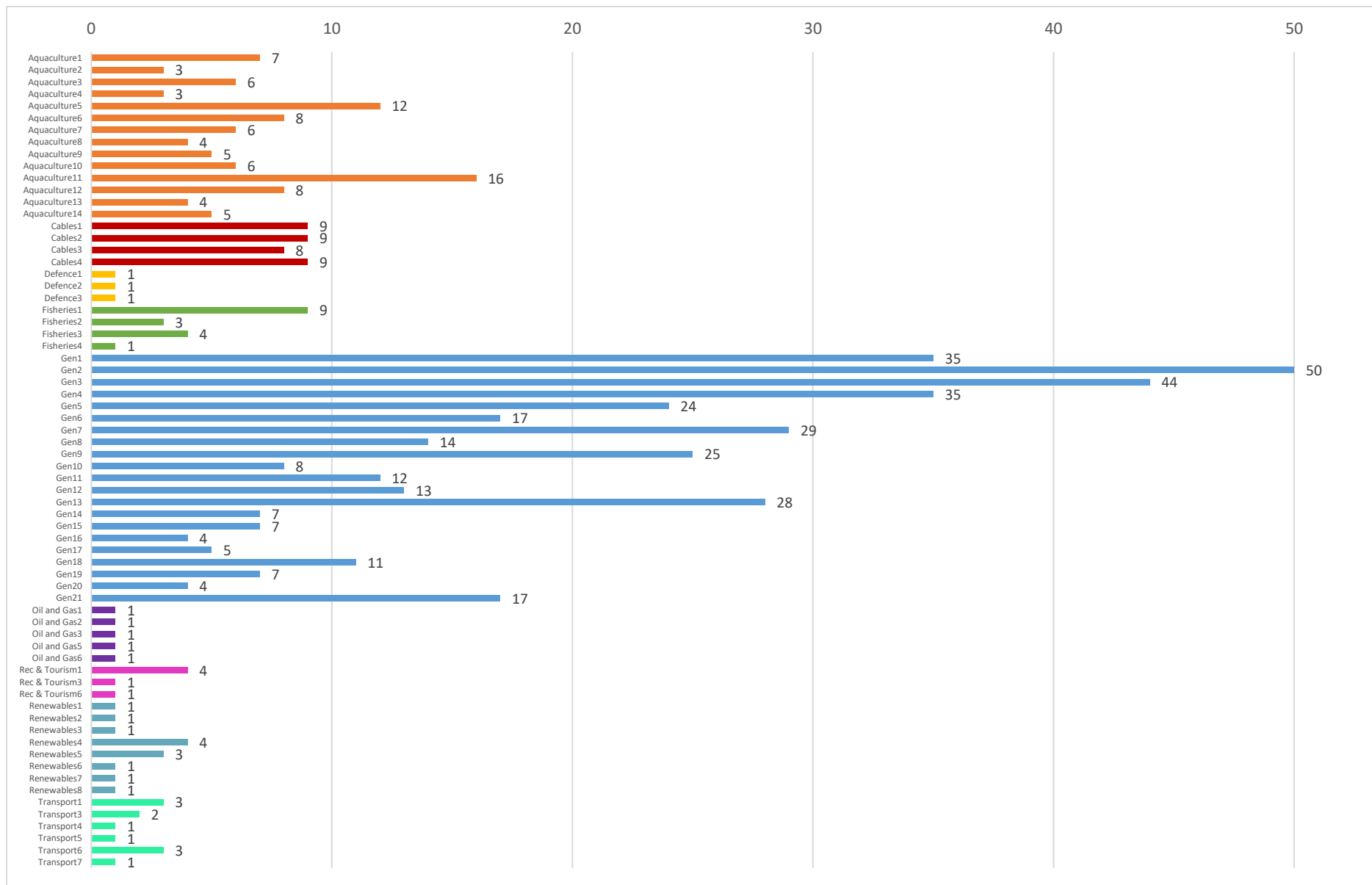


Figure A4.3. Count of policy references across the subset of 142 licences

Across the 142 licences reviewed, there are references to each section of the NMP, with the exception of Carbon Capture and Storage, Aggregates and Wildfish. Although not all policies are referenced from each section of the NMP, this analysis shows relatively wide usage of the policies within decision making.

Aggregates are not a surprising omission from the policies referenced as no licence applications were received during the analysis time period for the sole purpose of marine aggregate extraction. Although Scotland has considerable marine sand and gravel resource, historically the marine aggregate industry has been very small, because land supplies are more readily accessible.

Carbon capture and storage policies have also not been referenced. This decarbonisation system is still relatively new, and no projects have reached application stage in Scotland.

Wild fish policy was not referenced, however wild fish are considered within applications where these may have an impact. This is usually undertaken during the consultation phase of an application, where Nature Scot and local river authorities may propose, discuss, and confirm the mitigation measures to be taken, and this would be reflected in their consultation response. The policy itself is therefore unlikely to be referenced, but with accompanying mitigation plans and details in supporting documentation, and negotiation/analysis completed through consultation, wild fish impacts are considered without the case handling report necessarily referencing this NMP policy.

Within the NMP there are 21 general policies that have all been referenced at least 4 times in decisions. General Policies 1 to 4 being the most referenced, see **Error! Reference source not found.** These cover the general planning principle, economic and social benefits and co-existence, and are therefore very relevant to many different licence types.

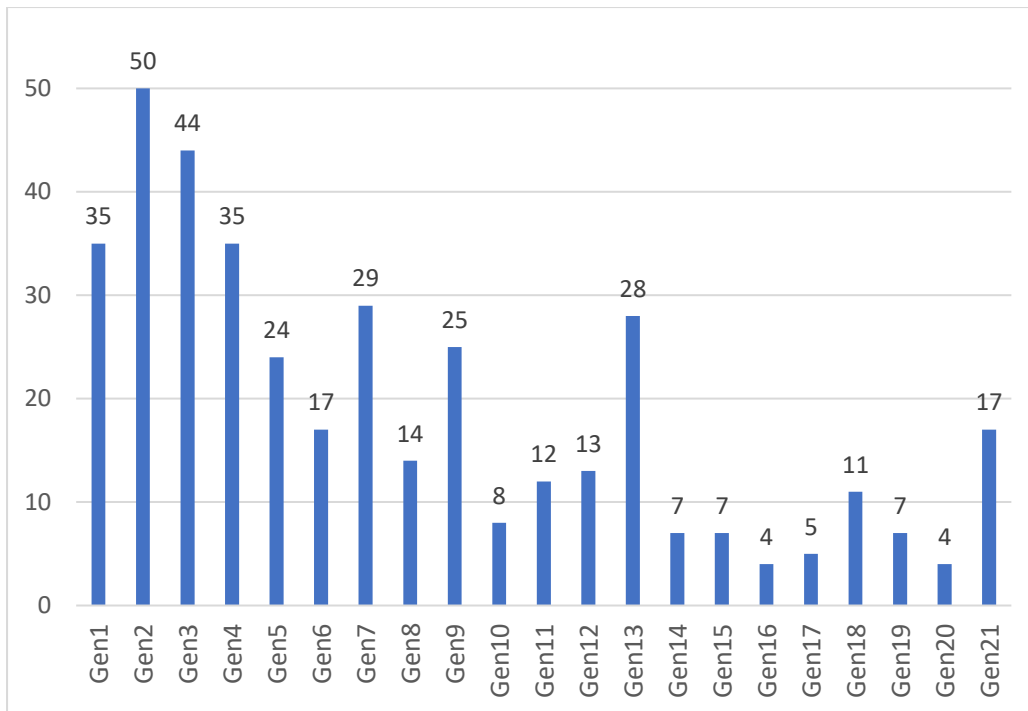


Figure A4.4. Policy counts for General Policies only within the subset

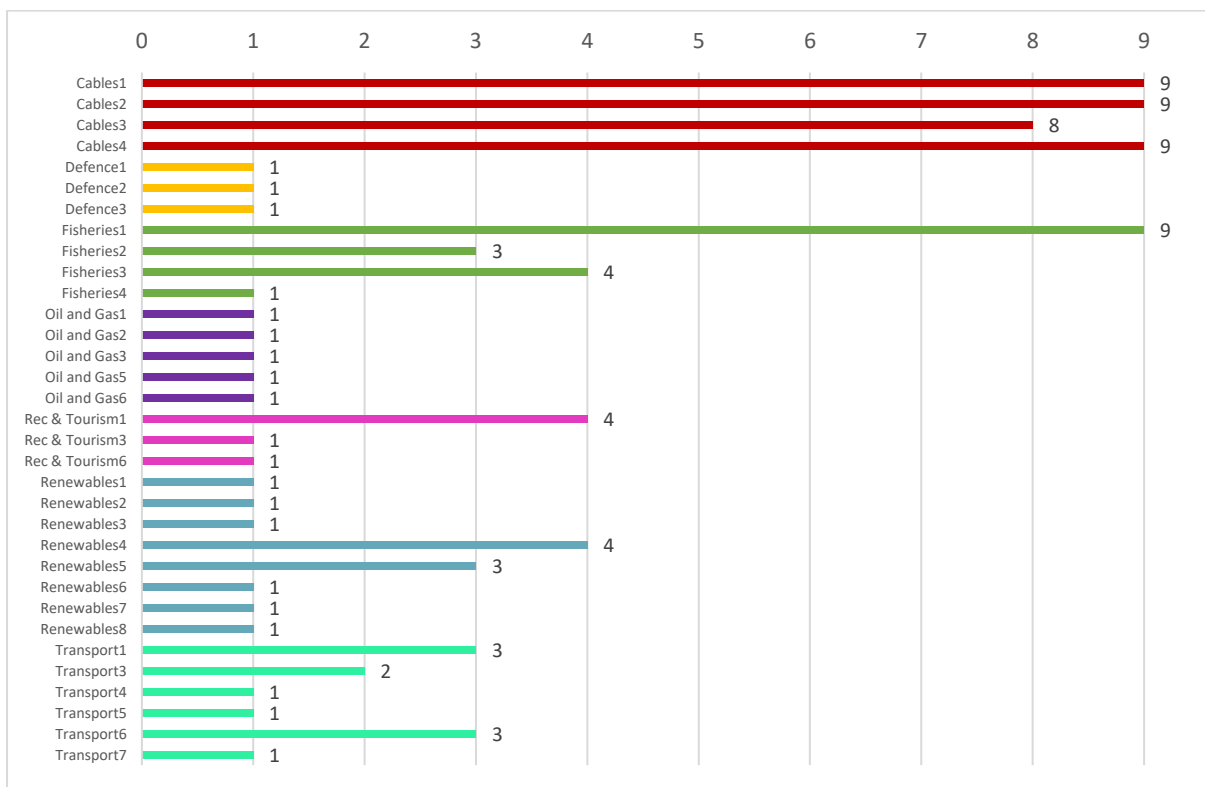


Figure A4.5. Policy counts excluding General and Aquaculture Policies

Outside of the general and aquaculture policies, cable policies that are most frequently used (figure A4.5). This is reflected in the licences required for cable replacement projects, which also included European Protected Species and Basking Shark cases related to the same projects. During this time period several existing cables met the end of their life cycle, new development was completed, and additional

surveying/maintenance was required the period of covid related lockdown which restricted maintenance work in previous years.

The relatively low numbers for policies in the other sectors reflect the frequency of those specific types of applications that need to address these, during the period 2021-2024.

APPENDIX 5: NMP REVIEW QUESTIONNAIRE

Your organisation

1. Which organisation do you work for?
2. Which marine sectors are relevant to your work? Please select all that apply
 - a. Fisheries
 - b. Aquaculture
 - c. Renewable energy
 - d. Recreation
 - e. Scientific research
 - f. Marine transport
 - g. Oil and gas
 - h. Other

Please list other sectors.

3. Which of the High-Level Marine Objectives within the NMP does your organisation contribute to? Please select all that apply.

Achieving a sustainable marine economy

- a. Infrastructure is in place to support and promote safe, profitable and efficient marine businesses. (HLMO 1)
- b. The marine environment and its resources are used to maximise sustainable activity, prosperity and opportunities for all, now and in the future. (HLMO 2)
- c. Marine businesses are taking long-term strategic decisions and managing risks effectively. They are competitive and operating efficiently. (HLMO 3)
- d. Marine businesses are acting in a way which respects environmental limits and is socially responsible. This is rewarded in the marketplace. (HLMO 4)

Ensuring a strong, healthy and just society

- e. People appreciate the diversity of the marine environment, its seascapes, its natural and cultural heritage and its resources and act responsibly. (HLMO 5)
- f. The use of the marine environment is benefiting society as a whole, contributing to resilient and cohesive communities that can adapt to coastal erosion and flood risk, as well as contributing to physical and mental wellbeing. (HLMO 6)
- g. The coast, seas, oceans and their resources are safe to use. (HLMO 7)
- h. The marine environment plays an important role in mitigating climate change. (HLMO 8)
- i. There is equitable access for those who want to use and enjoy the coast, seas and their wide range of resources and assets, and recognition that for some island and peripheral communities the sea plays a significant role in their community. (HLMO 9)
- j. Use of the marine environment will recognise, and integrate with, defence priorities, including the strengthening of international peace and stability and the defence of the United Kingdom and its interests. (HLMO 10)

Living within environmental limits

- k. Biodiversity is protected, conserved and, where appropriate, recovered, and loss has been halted. (HLMO 11)
- l. Healthy marine and coastal habitats occur across their natural range and are able to support strong, biodiverse biological communities and the functioning of healthy, resilient and adaptable marine ecosystems. (HLMO 12)
- m. Our oceans support viable populations of representative, rare, vulnerable and valued species. (HLMO 13)

Implementation and effectiveness of the National Marine Plan (NMP)

- 4. Has your organisation implemented the NMP or any element of it? i.e. have you used the NMP in developing policy, to guide your decision making and/or consenting, or in other ways?
YES or NO
 - a. If yes, can you please provide information on the decisions or policies you are making, and the role the NMP has in these?
 - b. If no, what are the barriers to implementing it?
- 5. Is your organisation monitoring the use of the NMP?
YES or NO
 - a. If yes, can you please provide details on how your procedures, when considering the NMP, are recorded.
- 6. We are interested to know about the effects of the policies of the NMP. How does the NMP and its policies steer the decisions and policy making in your organisation? Can you describe how the NMP influences you when making decisions?
- 7. We are interested in knowing more about the NMP's policies which have been used in decision making and the effectiveness of them. Can you give examples of policies which:
 - a. Have been helpful to your decision making?
 - b. Have caused difficulty in decision making?
- 8. Have you used the NMP to help generate or provide evidence for policies that have been produced by your organisation in the last 3 years?

Implementation of the new Plan

Following the 3-year statutory review in 2021 Ministers committed to updating the NMP and the process is underway.

- 9. What additional information or guidance would be helpful to enable you to implement the updated NMP in your organisation?
- 10. Please share your thoughts on what would be useful to you and your organisation for the operationalisation of the new Plan.

Marine Planning Data

We would also like to ask about your use of the Marine Directorate information resources.

11. What type of data or information do you most often require for marine planning?

Please select all that apply.

- a. Browser based map display
- b. Geospatial map services
- c. Tabular data/ spreadsheets
- d. Generic information text describing a topic/ area
- e. Reports
- f. Assessments (national and international)

12. Are you aware of the online resources offered by the Marine Directorate? Please select all that apply.

- a. maps.marine.gov.scot/NMPi
- b. data.marine.gov.scot (formerly Marine Scotland Open Data)
- c. marine.gov.scot (formerly Marine Scotland Information)

13. If you are aware of these resources, please provide examples of how you use them within your organisation.

14. Would you like to provide any other comments relating to the online resources provided by Marine Directorate?

APPENDIX 6 – NMP UTILISATION IN EXTERNAL BODIES

To provide evidence of how the current NMP is considered in decision by public bodies, an online survey was undertaken in 2024. This section provides an overview of the results of the survey. Responses to the survey, were provided by the respondents listed below – see **Annex 5** for questionnaire.

- Argyll and Bute Council
- Clyde Marine Planning Partnership
- NatureScot
- Orkney Islands Council
- Scottish Environment Protection Agency (“SEPA”)
- Shetland Islands Council
- South Ayrshire Council

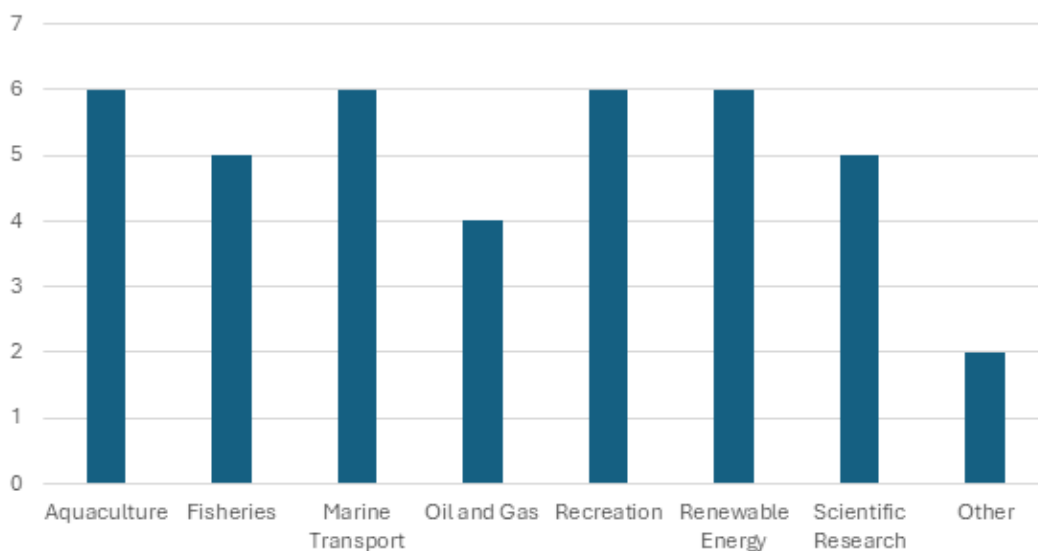


Figure A6.1. Which marine sectors are relevant to the work of participants?

Participants were asked which marine sectors are relevant to their work, with their answers shown in Figure A6.1 with each category represented by 4-6 respondents. Other includes “nature conservation, historic environment and wider environmental protection” and “coastal developments and marine licensing”.

Participants were asked which of the NMP high level objectives (“HLO”) the participants’ organisations contribute to. The results from this question can be seen in Table A6.1. This demonstrates that most HLOs are frequently utilised with only HLMO10 less frequently utilised.

Table A6.1. Which of the HLOs within the National Marine Plan does your organisation contribute to?

High Level Objective	Number of respondents	Percentage of respondents
HLMO1 (Infrastructure is in place to support and promote safe, profitable and efficient marine businesses)	6	86%
HLMO2 (The marine environment and its resources are used to maximise sustainable activity, prosperity and opportunities for all, now and in the future)	7	100%
HLMO3 (Marine businesses are taking long-term strategic decisions and managing risks effectively. They are competitive and operating efficiently)	5	71%
HLMO4 (Marine businesses are acting in a way which respects environmental limits and is socially responsible. This is rewarded in the marketplace)	6	86%
HLMO5 (People appreciate the diversity of the marine environment, its seascapes, its natural and cultural heritage and its resources and act responsibly)	7	100%
HLMO6 (The use of the marine environment is benefiting society as a whole, contributing to resilient and cohesive communities that can adapt to coastal erosion and flood risk, as well as contributing to physical and mental wellbeing)	7	100%
HLMO7 (The coast, seas, oceans and their resources are safe to use)	6	86%
HLMO8 (The marine environment plays an important role in mitigating climate change)	7	100%
HLMO9 (There is equitable access for those who want to use and enjoy the coast, seas and their wide range of resources and assets, and recognition that for some island and peripheral communities the sea plays a significant role in their community)	6	86%
HLMO10 (Use of the marine environment will recognise, and integrate with, defence priorities, including the strengthening of international peace and stability and the defence of the United Kingdom and its interests)	3	43%
HLMO11 (Biodiversity is protected, conserved and, where appropriate, recovered, and loss has been halted)	7	100%

HLMO12 (Healthy marine and coastal habitats occur across their natural range and are able to support strong, biodiverse biological communities and the functioning of healthy, resilient and adaptable marine ecosystems)	7	100%
HLMO13 (Our oceans support viable populations of representative, rare, vulnerable and valued species)	7	100%

All participants stated that they have implemented the NMP or some element of the NMP in their organisation. The survey asked for detail regarding the decisions or policies that participants were making and the role NMP has in these decisions or policies, with the results shown in Table A6.2.

Table A6.2. Can you provide information on the decisions or policies you are making, and the role the National Marine Plan has in these decisions or policies.

Decision or policy type	Number of respondents	Percentage of respondents
Local or Regional Marine Plan	5	71%
Overarching guide and policy development	2	29%
Planning guidance and decisions	4	57%

The survey also queried whether the participants are monitoring the use of the NMP, with four (or 57%) responding Yes and three (or 43%) responding No. The four respondents who stated they do monitor the use of the NMP mainly cited planning and licensing decisions, such as aquaculture consents. The three who stated they are not monitoring the use of the NMP highlighted that it's not within their remit or would not be of value.

Participants were asked how the NMP and its policies steer the decisions and policy making in the participants' organisation. Participants largely repeated their answers to the previous question, that they looked to conform with NMP policies when making planning decisions or when devising their local or regional marine plan, as well as using the NMP as a primary reference when devising policy. Those organisations who don't monitor the use of NMP stated that this wouldn't be within their remit, would only be necessary if it was specifically requested as part of a monitoring and evaluation framework and that the organisation aligned with other frameworks, such as the National Performance Framework and thus don't specifically monitor their use of NMP.

Participants were asked how the NMP policies have been used in decision making and the effectiveness of these policies. As there are many policies within the NMP, these are grouped into a subject header in Figure A6.2.

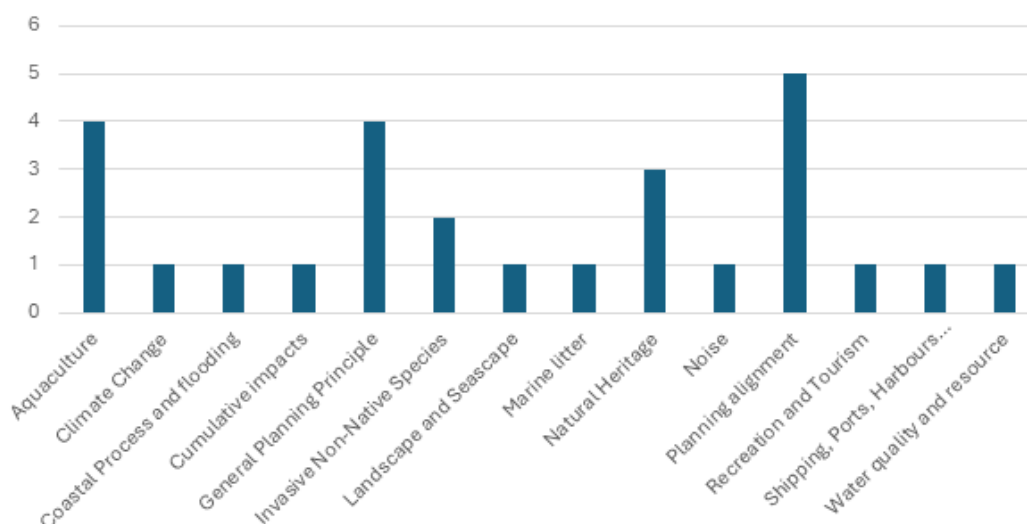


Figure A6.2. Which of the National Marine Plan policies have been used and helpful in the participants' decision making

Figure A6.2 illustrates that aquaculture and planning related policies are the most cited policies that are used in participants' decision making, with the vast majority stating that this is related to use processing aquaculture planning applications. Several respondents also indicated they make use of, and find helpful in their decision making, the planning related policies, with both the general planning principle (which 4 respondents or 57% cited) and planning alignment (which 5 respondents or 71% cited) policies being associated to processing aquaculture developments. Local and regional plans, as well as the presumption in favour of sustainable developments are also cited as reasons why the general planning principle and planning alignment policies are used and helpful.

The survey queries whether any NMP policy has created difficulties in the decision-making process. Three respondents (or 43%) stated that no policy had created difficulty, two (or 29%) had stated that the lack of clarity regarding how the NMP should be applied and implemented, whilst one respondent (or 14%) stated that regional policies should be removed from the NMP. This can be seen in Table A6.3.

Table A6.3. Have any policies created difficulties in decision making.

Policies	Number of respondents	Percentage of respondents
None	3	43%
A lack of clarity regarding how to implement the NMP	2	29%
Regional policies should be removed	1	14%

Participants were also asked if they have used the NMP to help generate or provide evidence for policies that have been produced by their organisation in the last 3 years. Table 4 outlines that 2 respondents (or 29%) have used the NMP to help generate or provide evidence for their regional marine plan or local development plan whilst one respondent (or 14%) highlighted their consultation response to a

renewable energy project, where they considered various NMP policies. Two respondents (or 29%) stated that they don't produce policies and therefore this question wasn't applicable to them. This is shown in Table A6.4.

Table A6.4. Examples of where the organisation has used the NMP to help generate or provide evidence for policies that have been produced by their organisation in the last 3 years.

Example	Number of respondents	Percentage of respondents
Renewable Energy Plan	1	14%
Regional Marine Plan	2	29%
Not applicable	2	29%

Respondents were asked what additional information, or guidance would be helpful to enable users to implement the updated NMP. A summarised version of the responses is shown in Table A6.5, which included a specific query on the interaction of aquaculture policies, with the remainder focusing on implementation guidance and the interaction between regional and national marine plans.

Table A6.5. What additional information or guidance would be helpful to enable you to implement the updated National Marine Plan in your organisation

Additional Information or guidance	Number of respondents	Percentage of respondents
A clear explanation of changes since NMP	1	14%
A condensed version showing the key points for each area	1	14%
Aquaculture	1	14%
Clear assignment of responsibilities	1	14%
Clear guidance to aid implementation, including the interaction between national and local marine plans	4	57%
Practical examples of how organisations implement and benefit from NMP	1	14%
Review of regional policies	2	29%

Participants were asked what would be useful to their organisation for the operationalisation of the new NMP. Participants provided a variety of suggestions but largely reflected the answers shown in Table A6.6. Their answers mostly focused on clarity regarding implementation and prioritisation, ensuring workable policies can be produced and providing guidance regarding the interaction between national marine plans and regional marine plans.

Table A6.6. What would be useful to you and your organisation for the operationalisation of the new National Marine Plan

Useful to the operationalisation of the new National Marine Plan	Number of respondents	Percentage of respondents
Clear prioritisation between sectors or outcomes	2	29%
Clear routes to implementation	2	29%
Examples of good practice	1	14%
Greater support for regional marine plans	1	14%
Guidance on the relationship between the National Marine Plan and Regional Marine Plans	2	29%
Provide an interactive story map to allow authorities to see what is relevant to them	1	14%
Turn concepts into workable policies	1	14%

Participants were also asked what data and information they most often require for marine planning. Figure A6.3 outlines the options and the number of participants who believed that data type would be useful.

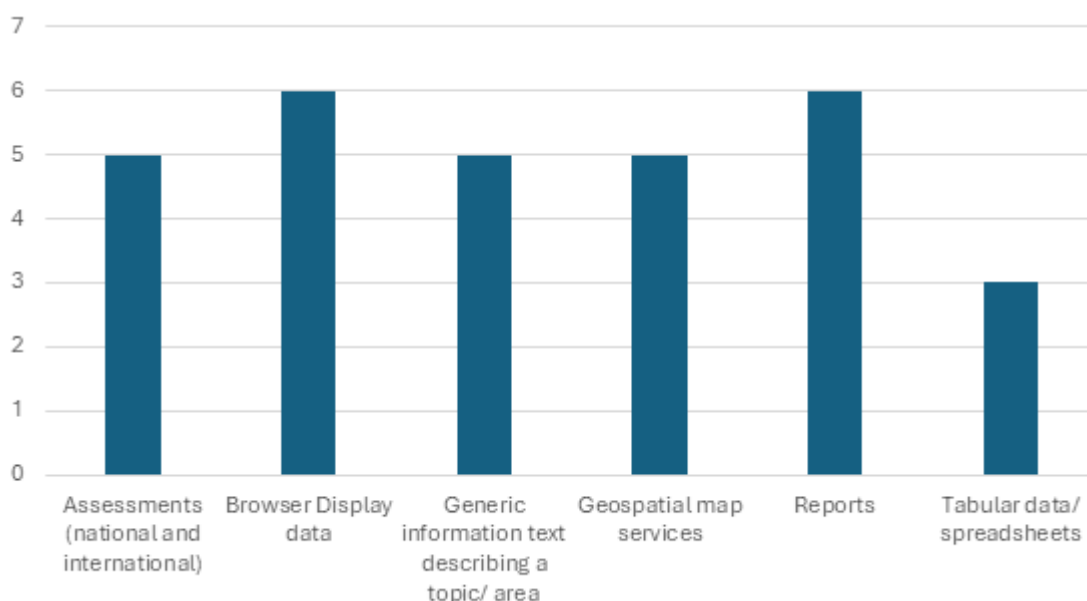


Figure A6.3. What type of data or information do you most often require for marine planning

The survey asked participants whether they were aware of the online resources offered by the Marine directorate. All participants stated that they knew of all highlighted data sources, which were:

- maps.marine.gov.scot/NMPi
- data.marine.gov.scot (formerly Marine Scotland Open Data)
- marine.gov.scot (formerly Marine Scotland Information)

Participants were also asked how they used this data. The most common answer was to help with providing advice about and determining marine development applications, whilst other responses included aiding consultation responses, for safeguarding checks for marine pre-application enquiries, for general decision making and planning, for developing a regional plan and to produce additional data and / or maps.

A couple of participants offered insights on the NMPi, with one respondent outlining that “it is a very useful central resource that could be replicated for land-based planning”, while another participant said “NMPi has unfortunately become not very user friendly, its navigation and capability perhaps being readily understood only by those using it on a very regular basis. Our geospatial information needs can often be satisfied by use of our own internal systems, but this lacks the ability to work with all the sectoral and 3rd party information available via these portals. Ideally, NMPi would be overhauled, based on a robust analysis of the needs of different users; from those making marine plans (national, regional, sectoral), to those making and advising on specific decisions, as well as developers, their consultants and key stakeholders”

APPENDIX 7: USING SOUND SCIENCE RESPONSIBLY

This Appendix reflects HLMOs 19-21 under the “using sound science responsibly” header relating to the sound collection and use of data and information to support decision making for the marine environment.

Using sound science responsibly

- Our understanding of the marine environment continues to develop through new scientific and socio-economic research and data collection. (HLMO 19)
- Sound evidence and monitoring underpins effective marine management and policy development. (HLMO 20)
- The precautionary principle is applied consistently in accordance with the UK Government and Devolved Administrations’ sustainable development policy. (HLMO 21)

Scotland’s Marine Assessment 2020 (SMA2020) provides an important source of information for national marine planning and underpins the development of the emerging NMP2. The associated information and data layers are made available on Marine Scotland Information¹⁶³ and Marine Scotland Maps - NMPi¹⁶⁴. The portals act as central repositories for spatial data currently available to Marine Scotland and can be made freely available to assist statutory authorities implement the Plan. The SMA2020 consists of 183 components linked into Themes, Assessments and Case Studies. Status assessments for the 21 assessment regions are provided, including regional assessments of anthropogenic pressures.

New evidence and data of the types underpinning SMA2020 are continually being sourced and made available on Marine Scotland Information and other reporting portals relating to OSPAR and UK Marine Strategy (“UKMS”). The portals collate data from Scottish Government and our reporting partners: SEPA, NatureScot, the Joint Nature Conservation Committee (“JNCC”) and the Marine Alliance for Science and Technology for Scotland (MASTS). Additionally regional Marine Planning Partnerships have provided data sourced to help develop regional marine plans.

With regard to species and habitat information relevant to biodiversity assessment, under UKMS and OSPAR reporting structures Marine Directorate reports on the presence of species observed by the Scottish Government and partner organisations. Data is stored in two freely accessible geospatial databases, the geodatabase of Marine features adjacent to Scotland (“GeMS”) for up to 12 nautical miles, whilst the JNCC holds data for marine features from 12 nautical miles and above, with these two

¹⁶³ marine.gov.scot

¹⁶⁴ [Marine Scotland - National Marine Plan Interactive \(atkinsgeospatial.com\)](https://marine.scotland.nationalmarineplaninteractive.com)

data sources feeding into MEDIN¹⁶⁵. Part of this reporting comes from the Scottish MPA Monitoring Strategy¹⁶⁶ which is undertaken in partnership and updated.

The precautionary principle is applied throughout decision making; this includes the publication and use of confidence approaches to assessments that are considered data poor.

¹⁶⁵ [MEDIN Discovery Metadata Portal](#)

¹⁶⁶ [Scottish Marine Protected Areas \(MPA\) Monitoring Strategy \(www.gov.scot\)](#)

APPENDIX 8 – COMPLIANCE CHECKLIST

Requirement for 3 year (MCAA) and 5 year (MSA) reviews

Requirement of Marine and Coastal Access Act 2009 and corresponding section of the Marine (Scotland) Act 2010.	Coverage within this review.
<p>MCAA <i>S54(1) A marine plan authority must keep under review the matters which may be expected to affect the exercise of its functions relating to—</i> <i>(a) the identification of areas which are to be marine plan areas, and</i> <i>(b) the preparation, adoption, review, amendment or withdrawal of marine plans for those areas.</i> <i>The reference in paragraph (b) to review is a reference to the functions of the marine plan authority under section 61.</i></p> <p>MSA <i>11(1) The Scottish Ministers must keep under review the matters which may be expected to affect the exercise of their functions relating to—</i> <i>(a) the designation of any area as a Scottish marine region,</i> <i>(b) the preparation, adoption, amendment or withdrawal of a national marine plan or (as the case may be) a regional marine plan,</i> <i>(c) keeping under review under section 16 in relation to any such plan the matters in subsection (2) of that section.</i></p>	<p>This report fulfils this duty to keep matters under review for the Scottish Marine area.</p>
<p>MCAA <i>S54(2) The matters include—</i> <i>(a) the physical, environmental, social, cultural and economic characteristics of the authority’s region and of the living resources which the region supports;</i></p> <p>MSA <i>S11(2) The matters include—</i> <i>(a) as regards a national marine plan—</i> <i>(i) the physical, environmental, social, cultural and economic characteristics of the Scottish marine area and of the living resources which the area supports,</i></p>	<p>Section 2, Appendices 1, 2 and 3.</p>
<p>MCAA <i>S54 (2) (b) the purposes for which any part of the region is used;</i></p> <p>MSA <i>S11 (2) (ii) the purposes for which any part of the area is used,</i></p>	<p>Section 2, Appendices 1 and 2.</p>
<p>MCAA <i>S54 (2) (c) the communications, energy and transport systems of the region;</i></p>	<p>Section 2, Appendix 2.</p>

<p>MSA S11 (2) (iii) the communications, energy and transport systems for the area,</p>	
<p>MCAA S54 (d) any other considerations which may be expected to affect those matters</p> <p>MSA S11 (2) (iv) any other considerations which may be expected to affect those matters,</p>	Section 2, Appendices 1, 2 and 3.
<p>MCAA S54 (3) The matters also include— (a) any changes which could reasonably be expected to occur in relation to any such matter; (b) the effect that any such changes may have in relation to the sustainable development of the region, its natural resources, or the living resources dependent on the region.</p> <p>MSA S11 (3) The matters also include— (a) any changes which could reasonably be expected to occur in relation to any matter referred to in subsection (2), (b) as regards a national marine plan, the effect that any such changes may have in relation to the sustainable development of the Scottish marine area, its natural resources, or the living resources dependent on the area,</p>	Section 2, Appendices 1 to 7
<p>MCAA (4) The reference in subsection (2)(a) to the cultural characteristics of the authority's region includes a reference to characteristics of that region which are of a historic or archaeological nature.</p> <p>MSA S11 (4) (a) - in subsection (2)(a)(i) to the cultural characteristics of the Scottish marine area includes a reference to characteristics of the area which are of a historic or archaeological nature</p>	Section 2, Appendix 2.
<p>MCAA 61 (2) For so long as a marine plan is in effect, the marine plan authority must keep under review each of the matters in subsection (3).</p> <p>(3) The matters are— (a) the effects of the policies in the marine plan;</p> <p>MSA S 16 (1) For so long as a national marine plan or (as the case may be) a regional marine plan is in effect, the Scottish Ministers must keep under review in relation to each such plan the matters in subsection (2).</p> <p>(2) The matters are— (a) the effects of the policies in the plan,</p>	Section 3, Appendices 1-7

<p>MCAA <i>(b) the effectiveness of those policies in securing that the objectives for which the marine plan was prepared and adopted are met;</i></p> <p>MSA <i>(b) the effectiveness of the policies in securing that the objectives for which the plan was prepared and adopted are met,</i></p>	Section 3, Appendices 1-7
<p>MCAA <i>(c) the progress being made towards securing those objectives;</i></p> <p>MSA <i>(c) the progress being made towards securing the objectives,</i></p>	Section 3, Appendices 1-7
<p>MCAA <i>(d) if an MPS governs marine planning for the marine plan authority's region, the progress being made towards securing that the objectives for which the MPS was prepared and adopted are met in that region.</i></p> <p>MSA <i>(d) the progress being made towards securing that the objectives in the regional marine plan secure the objectives in the national marine plan.</i></p>	Section 3, Appendices 1-7

Requirement for 6 year (MCAA) review

Requirement of Marine and Coastal Access Act 2009	Coverage within this review.
S 61 (10) Each marine plan authority must from time to time prepare and lay before the appropriate legislature a report which— <i>(a) identifies any marine plans which the authority has prepared and adopted;</i>	Sections 1, 2 and 4
S 61 (10)(b) describes any intentions the authority may have for the amendment of any marine plans which it has prepared and adopted;	Sections 1, 2 and 4
S 61 (10)(c) describes any intentions the authority may have for the preparation and adoption of any further marine plans	Sections 1, 2 and 4
S61 (1)(c) in any case, a duty to prepare, and lay, at intervals of not more than 6 years ending before 1st January 2030, a report on— <i>(i) any marine plans it has prepared and adopted,</i> <i>(ii) its intentions for their amendment, and</i> <i>(iii) its intentions for the preparation and adoption of any further marine plans,</i>	Sections 1, 2 and 4