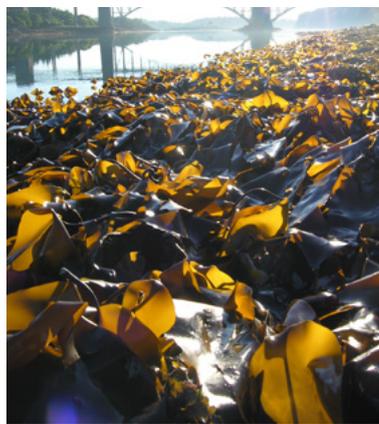




Llywodraeth Cymru
Welsh Government

Marine Protected Area (MPA) Network Management

ANNUAL REPORT 2020-2021





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Coronavirus (COVID-19)

The Marine Protected Area Management (MPA) Steering Group selected and scored actions prior to the COVID-19 outbreak. Delivery of some of the actions have been subsequently restricted by Welsh Government COVID-19 guidelines. This has been reflected in the following report.

Introduction

This document is the third Marine Protected Area (MPA) Network Management Annual Report produced by the MPA Management Steering Group (Steering Group) gov.wales/marine-protected-area-management-steering-group. Its primary purpose is to provide a progress update on delivery of the actions included in the MPA Network Management Action Plan for 2020-2021 gov.wales/marine-protected-area-network-management-action-plan-2020-2021 (hereafter referred to as the 2020-2021 Action Plan).

The 2020-2021 Action Plan brought together, priority network-level actions to improve MPA management and, therefore, improve or maintain condition of the network of MPAs in Wales. Each action supported at least one of the five management principles identified in the MPA Network Management Framework for Wales 2018-2023 gov.wales/marine-protected-area-network-management-framework-wales (Box 1) (hereafter referred to as the Framework).

The Framework sets the direction of travel for management of the MPA network in Wales and the 2020-2021 Action Plan is a key tool for Management Authorities to guide delivery of the long-term vision for the management of the network:

The Welsh MPA network is under effective and consistent management which safeguards the marine wildlife and habitats of sites, and leads to site features achieving or maintaining favourable condition. Network management supports resilient marine ecosystems, which in turn help to achieve clean, safe, healthy, sustainable, productive and biologically diverse Welsh seas. MPAs are valued for the long-term benefits they provide to the people of Wales through the protection of their rich natural and cultural heritage.

This Annual Report includes information on both outputs and outcomes of management activities, reflecting on how actions are contributing to improving MPA management and, therefore, to improving or maintaining the condition of the MPA network in support of this vision. It also provides an opportunity for organisations to highlight network and local scale work that complement the actions in the 2020-2021 Action Plan undertaken by Management Authorities¹.

In preparing this Annual Report, the Steering Group has considered how it can better assess and critique the contribution the 2019-2020 Action Plan has made to the overall condition of the MPA network in Wales. The Steering Group has reflected this learning in its work to develop the **2020-2021 MPA Network Management Action Plan** and will use it to inform future iterations of both the Annual Report and Action Plan.

¹ A term used to refer collectively to organisations with statutory responsibilities in relation to any type of MPA, or who are significant seabed or coastal landowners. This includes relevant and competent authorities as defined by the Conservation of Habitats and Species Regulations (2017), the Conservation of Offshore Marine Habitats and Species Regulations (2017) and public authorities as defined by the Marine and Coastal Access Act (2009).

Report Structure

Management Authorities have provided an update on delivery progress for each of their actions within the 2020-2021 Action Plan. Table 1 summarises the outputs and outcomes for each, with further details presented in Annex A. As part of this process, the European Marine Site Relevant Authority Groups (RAGs) produced

a report to the Steering Group to update on the local activities occurring within European Marine Sites. The full report can be accessed by visiting the Welsh Government website gov.wales/marine-protected-areas-0.

Progress and Highlights

The Steering Group prioritised 25 actions for delivery by Management Authorities in the 2019-2020 Action Plan. Each action supported at least one of the five management principles gov.wales/marine-protected-area-network-management-framework-wales and the prioritisation process was designed to focus effort on actions, which improve management of the MPA network and, therefore, improve or maintain network condition.

The actions vary in nature, from network scale activities to specific interventions and local pilot projects. Many are ongoing in their nature, for example, actions that are regulatory or assessment process based. Others are discrete tasks or projects with defined start and end dates, often spanning more than twelve months. Ongoing work and those projects and tasks with duration greater than a year will carry on into the 2020-21 Action Plan, alongside the new prioritised actions. A number of the ongoing actions, particularly those relating to planning and consenting, whilst not always visible to external audiences, continue to provide vital protection to the network and represent a considerable volume of management work.

In considering the outputs and outcomes of each of the actions, the Steering Group has been able to strategically review both individual and collective progress towards the Framework's vision and objectives. In summary, Management Authorities have this year delivered a significant breadth of activity relating to:

- strengthening decision making processes, strategy development and implementation;
- improving the evidence base; and
- increasing our understanding of pressures on MPA features and the wider marine environment.

Examples of work delivered from the 2019-2020 Action Plan highlighting both network and local level contributions to the Framework's five management principles include:

Network level actions:

- This year we completed work on assessing how vulnerable our MPA network features are to the different stressors caused by climate change – the assessments were made under different emission scenarios ([link to action](#)).
- **Seal pup disturbance** panels were again deployed and installed in key locations across the MPA network during grey seal pupping season, raising awareness with partners as well as stakeholders.
- Significant progress has been made this year on developing a process to carry out condition assessments on our MPAs in Wales. The project is on track to complete in June 2022.
- Work has progressed to deliver the **Marine Litter Action Plan** for Wales. Greater consideration is being given to the risk of Personal Protective Equipment (PPE) litter upon the marine environment following an increase in litter found in the annual Great British Beach Clean survey. A Welsh Government pilot scheme to improve marine litter education continues at selected secondary schools in Wales as part of the Eco-schools programme and contributing to the Marine Litter Action Plan.

Pilot site level actions:

These are actions that trial an approach at the site level that will have benefits, if successful, across the whole network.

- In Milford Haven, in the Pembrokeshire Marine Special Area of Conservation (SAC) a pilot native oyster restoration project is underway. The project is looking to see how feasible it is to restore the native oyster in areas where it was once plentiful. The key outputs of the project will be the Wales Native Oyster Restoration Guidance report and a Native Oyster Action Plan, which will outline the approach and 'next steps' for native oyster restoration in Wales.
- In **Pen Llŷn a'r Sarnau (PLAS) SAC** a biosecurity plan is being developed to prevent the introduction or spread of marine invasive species and have produced and overlaid INNS distribution maps on pathways heatmaps for marine INNS in PLAS SAC and Wales. In addition to this, a stakeholder map has been introduced to identify stakeholders in the area and propose potential biosecurity actions.

In addition, site level projects were carried out on sites across Wales. Among others, these projects included:

- Large scale seagrass work has taken place in both Pen Llŷn a'r Sarnau and Pembrokeshire Marine SAC, trialling various methods of restoring seagrass including re seeding and the use of alternative anchor systems.
- The Tir a Môr project in Pen Llŷn a'r Sarnau SAC entered its final phase looking at management across the land/sea interface. Work on water quality, habitat restoration and a payment for outcomes method has been trialled.
- Pembrokeshire Marine took their SWEPT project to the open coast, looking to expand the use of citizen science in water quality monitoring.

Additional work which benefits the MPA Network in Wales

This year NRW received some additional capital funding from Welsh Government to improve biodiversity in Wales, some of this money was successfully spent in the marine environment (**Annex B**). In summary the money was spent on:

1. Enhancing NRW's marine monitoring capabilities through the purchase of:
 - An acoustic position system.
 - An acoustic camera; and
 - Passive acoustic loggers (F-PODS).

2. Delivering marine biodiversity enhancement projects.
3. Removing dumped debris and derelict boats from Milford Haven.
4. Increasing the size of the native oyster trial in Milford Haven (links to an existing action).
5. Trialling new methods to determine the extent of spread of *D. vex* in Holyhead Marina and potential ways it could be eliminated.
6. A feasibility study exploring options to deliver saltmarsh enhancement and restoration opportunities at Rumney Great Wharf, Cardiff.

Future Action

The Steering Group have agreed to review the process for assessing proposals to include in the MPA Network Management Action Plan. By conducting this review, it is hoped the process to submit a proposal will be simpler and more coherent, by outlining key management areas for proposals to focus on. The Steering Group will also explore how best to encourage collaborative working and proposals.

Plans will seek to build on this work, strengthening the links between network level and site level delivery. The Steering Group will reflect on future developments within the wider policy context and how they may relate to Welsh MPA management.

The Steering Group supports the stakeholder group under the Welsh Marine Advice and Action Group (WMAAG) gov.wales/wales-marine-action-and-advisory-group, The Marine Resilience Sub-group which, provides a forum to facilitate more in-depth discussion around MPA management, amongst other marine areas, and enables wider engagement in the development of future Action Plans. Engagement with the group has been limited this year due to COVID-19 restrictions.

Table 1

MPA Network Action Plan 2020-2021 – Summary of Progress:

Integrate sustainable management of the MPA network with the Area Statement Process and delivery

Progress Summary: with further details set out in **Annex A1**

Further stakeholder engagement has taken place, including working closely with MPA Management Authorities:

- A successful multi-stakeholder two-day online event was held in January 2021, with 300 delegate registrations from all around the UK.

We continue to implement our three Marine Area Statement themes (all of which impact on MPA management):

- Building resilience of marine ecosystems.
- Nature-based solution and adaptation at the coast.
- Making the most of marine planning.

Develop an approach to undertaking improved and periodic MPA condition assessments

Progress Summary: with further details set out in **Annex A2**

- Four rule setting workshops were held between April and July 2020.
- Five guideline reports around the marine condition assessment process were developed.
- To the end of March 2021, 15 feature level workshops were held covering 8 features.
- 51 individual members of staff from across NRW have contributed almost 500 staff hours to the process. This highlights the scale and breadth of this project, and the resources needed to make it a success.

Further, develop a risk based marine monitoring programme across the MPA network

Progress Summary: with further details set out in **Annex A3**

While statutory monitoring continues, WG continue to explore opportunities for its enhancement in collaboration with key delivery partners in Wales and the UK.

MPA Network Condition Improvement Programme

Progress Summary: with further details set out in **Annex A4**

- Reviewing and creating new site actions. Focusing this year on Menai Strait and Conwy Bay SAC, Dee Estuary SAC, Pen Llyn a'r Sarnau SAC, Pembrokeshire Marine SAC and the Severn Estuary SAC.
- Developing new site actions for the three Harbour Porpoise SACs.
- Continued work across policy and operational teams within NRW on issues such as water quality.

Develop consistent and proportionate guidance to improve casework advice, and to support implementation of the Welsh National Marine Plan

Progress Summary: with further details set out in **Annex A5**

Welsh National Marine Plan policies and can be found at **Natural Resources Wales/Guidance and advice** www.naturalresources.wales/guidance-and-advice/?lang=en

Guidance recently completed or begun includes:

- Guidance on coastal squeeze.
- Guidance on the conservation of sediment.
- At-sea ornithological survey guidance.
- Position statement on the use of Marine Mammal Management Units in Habitats Regulation Assessment (HRA).
- Position statement on determining the Adverse Effect on Site Integrity from potential marine mammal mortality in Special Areas of Conservation.

Developing vulnerability assessment methodologies of network features using inshore vessel monitoring system (iVMS) data – New for 2020-2021*

Progress Summary: with further details set out in **Annex A6**

Due to COVID-19 priorities, it was not feasible to carry this action forward as planned. An internal review was, however, commissioned to consider existing work in this area. It is hoped that further works can be progressed in the coming year to further explore the utility of iVMS data in the future.

Deliver MPA management through regulatory consenting and assessment processes

Progress Summary: with further details set out in **Annex A7**

NRW determined 57 Marine Licences and varied 18 Marine Licences, and the potential effects on MPAs have been considered within all of these decisions, and where necessary, appropriate mitigatory measures included as condition(s) within these Marine Licences.

Welsh Government issued 18 fisheries legislation exemptions for a variety of scientific research. 17 of these exemptions required an HRA, which confirmed that the exemptions would have no impact on protected species and habitats.

Improve maps of the extent and distribution of Annex I marine habitats

Progress Summary: with further details set out in **Annex A8**

More work has been undertaken to improve the quality of our Annex I habitat maps. This year marine multibeam data collected by the Marine and Coastguard Agency (MCA) as part of the UKHO Civil Hydrography Program was used to map reef and sediment features in Tremadog bay.

Sustainable Management of Marine Natural Resources Project

Progress Summary: with further details set out in **Annex A9**

Phase 1 reports have now been published, this includes the final report, a review of the Marine Planning Portal and results of drop down video surveys off Anglesey and Pembrokeshire.

Phase 2 outputs currently published include a report giving an overview of mapping natural resources, a report on mapping natural resources survey and an ecological constraints and opportunities report:

gov.wales/sustainable-management-marine-natural-resources

Data layers have also been added to marine planning portal: **gov.wales/marine-planning-portal**

Maintain links between the MPA Network Management Action Plan and locally agreed actions, where they exist, and support exploration of funding opportunities

Progress Summary: with further details set out in **Annex A10**

This year focused on the further development of resources including the websites, education packs and the O Dan y Don publication. Some of the Marine SAC groups have been supporting various seagrass restoration projects such as Dale and Porthdinllaen. The Severn Estuary EMS has updated the Good Practice Guidance to incorporate drone usage.

Assessing the vulnerability of Annex 1 marine habitat features to climate change in Wales – New for 2020-2021*

Progress Summary: with further details set out in **Annex A11**

A comprehensive report has been produced which presents the findings of a desk-based study investigating marine SAC feature vulnerability to climate change pressures under different emission scenarios and timeframes. The completed report has now been published. **www.naturalresources.wales/evidence-and-data/research-and-reports/marine-reports/marine-and-coastal-evidence-reports/?lang=en**

Wales Non-licensable Activities Project

Progress Summary: with further details set out in **Annex A12**

This year the project focussed on:

- Developing and appraising management options for bait digging on the Gann.
- Continuing to work to identify areas vulnerable to anchoring and mooring within the MPA network, and
- Continuing to work with local management officers to identify new prioritised activities.

Address coastal squeeze impacts on MPAs

Progress Summary: with further details set out in **Annex A13**

The two elements of this project are progressing well.

The two -year 'What is coastal squeeze?' project has now been completed and the Summary Report, Technical Report, and a recording of the dissemination webinar can be found here

www.gov.uk/flood-and-coastal-erosion-risk-management-research-reports/what-is-coastal-squeeze.

In terms of progressing delivery of compensatory habitat, NRW has now recruited some additional resource (both project management and local engagement/communication) to support this work, which should enable several large projects to progress more actively with key stakeholders over the next year.

Deliver the priority actions within the Marine Litter Action Plan where they provide benefit to the network of MPAs in Wales

Progress Summary: with further details set out in **Annex A14**

Work has progressed to deliver the Marine Litter Action Plan for Wales. Greater consideration is being given to the risk of Personal Protective Equipment (PPE) litter upon the marine environment following an increase in litter found in the annual Great British Beach Clean survey. A Welsh Government pilot scheme to improve marine litter education continues at selected secondary schools in Wales as part of the Eco-schools programme and contributing to the Marine Litter Action Plan.

Community Litter Project

Progress Summary: with further details set out in **Annex A15**

A report has been produced which explores the effects of COVID-19 upon litter picking activities on the Welsh coastline. A number of new groups and individuals have been engaged in this process and to support recommendations within the report.

Wales Native Oyster Restoration Project – New for 2020-2021*

Progress Summary: with further details set out in **Annex A16**

This three -year 'Wales Native Oyster Restoration' project is progressing well with site selection, baseline surveys and oyster site set-up and oyster deployment complete.

A pilot project on saltmarsh grazing and water quality at Carmarthen Bay and Estuaries SAC

Progress Summary: with further details set out in **Annex A17**

The project outputs were focussed on increasing the evidence base for sheep on the North Gower saltmarsh contributing to E. coli issues in the Burry Inlet, which leads to a deterioration in water quality and closures of the cockle fishery. Evidence suggested that the sheep droppings washed in from the saltmarsh after tidal events were causing elevated levels of E.coli in cockle flesh, leading to temporary closures of the fishery.

Reduce disturbance to marine mammals and birds

Progress Summary: with further details set out in **Annex A18**

Awareness raising events and workshops were held highlighting the marine codes across Wales. The seal pup panels were deployed this year to reduce the disturbance during the pupping season. An engagement plan was developed which will allow for the promotion of consistent messaging going forward.

Develop a bio-security plan for marine Invasive Non-Natives Species (INNS)

Progress Summary: with further details set out in **Annex A19**

This EMFF funded project is progressing well and on target to complete on time. Significant progress has been made this year including INNS distribution maps and the adaptation of the Marine Biological Association identification guides to make them more suitable for Wales.

Develop a UK Dolphin and Harbour Porpoise Conservation Strategy

Progress Summary: with further details set out in **Annex A20**

The proposed strategy was subject to a public consultation, which closed on 14 June 2021. A Government Response document will be published later this year.

A Plan of Action to reduce the incidental bycatch of seabirds in UK waters

Progress Summary: with further details set out in **Annex A21**

Two publications covering the likely scale of seabird bycatch in UK waters were published.

- A planned stakeholder event was postponed due to COVID-19, however, an online event was held instead.
- A range of ideas was proposed and will feature in guidance documents outlining how bycatch could be reduced.
- A monitoring gap analysis is planned for 2021-22 instead of 2020-21.

Assess and where necessary manage the impact of commercial fishing activities on MPAs

Progress Summary: with further details set out in **Annex A22**

NRW have completed the potting interaction assessments and they will soon be forwarded to Welsh Government for consideration. Welsh Government commissioned surveys in the Severn Estuary and Cardigan Bay to support the proposed 'towed gear order'. The results are currently being reviewed.

Operate a risk based approach to fisheries enforcement

Progress Summary: with further details set out in **Annex A23**

During 2020-21 despite the COVID-19 pandemic significantly reducing the number of enforcement operations completed in the Welsh Zone:

- Fisheries patrol vessels carried out 83 patrols.
- Marine enforcement officers inspected 51 fishing vessels and completed 257 landing checks.
- 34 marine licence inspections were conducted.
- Welsh Government successfully prosecuted 5 infringements of fisheries legislation.

Annex A

Further details on progress of individual actions within the 2020-2021 Action Plan

| Annex A1 | |
|-----------------------|---|
| Project/Action title: | Integrate sustainable management of the MPA network with the Area Statements Process and delivery |
| Lead organisation: | Natural Resources Wales |
| Delivery Timescale: | Ongoing |

Description of Project/Action:

Ongoing Action:

The MPA Management Action Plan is embedded in the Area Statements, which were published in March 2020.

Area statements delivery will focus on a range of actions relevant to the management of MPAs across Wales. Many of the relevant actions are already embedded in this action plan.

The focus over the coming year will be on engagement with a wide range of stakeholders to agree collaborative action which we can take to deliver the actions in the identified themes:

- Nature based solutions and adaptation in the coastal zone.
- Supporting implementation of marine planning; and
- Building the resilience of the marine environment.

Outcome(s) (actual/anticipated):

Anticipated Outcomes:

Integration of marine planning and management processes and additional support for MPA network management delivery.

Actual Outputs:

Further stakeholder engagement has taken place, including working closely with MPA Management Authorities.

A successful multi-stakeholder two-day online event was held in January 2021, with 300 delegate registrations from all around the UK. The Our Coast and Seas event brought together partners and stakeholders with an interest in Wales' marine and coastal environment and provided a platform for collaboration, networking and information sharing at a local and regional scale.

Key areas of interest were:

- Mapping and improving access to current projects, funding and groups.
- Improved access to and join up of existing data, evidence and information.
- Scaling up marine and coastal restoration work.
- A joined-up approach to managing water quality.
- Greater connection between coastal communities and their local shore.
- Managing recreational pressures.
- Tackling coastal squeeze.
- Sourcing longer term funding for delivering projects.

We are now working on identifying how to take forward conversations, including linking into existing groups and Blue recovery discussions where appropriate.

In addition to this, we continue to implement our three Marine Area Statement themes (all of which impact on MPA management):

- Building resilience of marine ecosystems.
- Nature-based solution and adaptation at the coast.
- Making the most of marine planning.

The Marine Area Statement web pages can be found at www.naturalresources.wales/about-us/area-statements/marine-area-statement/?lang=en and are continually updated to reflect work and discussions.

Actual Outcomes:

Further integration of marine planning and management processes and additional support for MPA network management delivery.

Annex A2

| | |
|------------------------------|---|
| Project/Action title: | Develop an approach to undertaking improved and periodic MPA condition assessments |
| Lead organisation: | Natural Resources Wales |
| Delivery Timescale: | June 2022 |

Description of Project/Action

The project is currently progressing well and is on schedule.

This EMFF funded project will develop indicators and a process for improving reporting on condition of features protected within the network of MPAs in Wales.

The main activities of the project are:

- Development of a series of reporting indicators, to allow the more efficient assessment and reporting of the condition of MPA features.
- Development of agreed guidance describing how site condition assessments will be carried out on all our MPAs; and
- Trial of the new methodology on MPA site(s)/feature(s) in Wales.

Outcome(s) (actual/anticipated):

Actual Outputs for 2020-2021

- Four rule setting workshops were held between April and July 2020. The aim of these workshops was to discuss and set rules around different aspects of the process and the way in which some data will be used. A report was written for each workshop documenting the discussions and the agreed approaches to the issues raised.
- Five guideline reports around the marine condition assessment process were developed from the agreed approaches. These guidelines are being used for the indicator selection.
- To the end of March 2021, 15 feature level workshops were held covering 8 features. The meetings are progressing well with high staff engagement. All other features have meetings scheduled in between May and July 2021.
- So far 51 individual members of staff from across NRW have contributed almost 500 staff hours to the process. This highlights the scale and breadth of this project, and the resources needed to make it a success.

Pilot assessments to test the chosen indicators and targets are planned to commence in autumn 2021. The project will complete by June 2022.

Anticipated Outcome:

The main outcome of the project will be the ability to carry out timely site level condition assessments leading to a better understanding of the condition of our MPAs in Wales, which will better inform management and focus priorities.

Annex A3

| | |
|------------------------------|---|
| Project/Action title: | Further develop and deliver a risk-based marine monitoring programme across the MPA network |
| Lead organisation: | Welsh Government |
| Delivery Timescale: | Ongoing |

Description of Project/Action

The Welsh Government is continuing to work with NRW, JNCC and other science and policy experts to enable integrated, cost-effective monitoring to fulfil our nature conservation obligations, provide the evidence to assess and detect trends in the health and biological diversity of our seas and underpin the sustainable management of our natural resources. This monitoring covers the full spectrum of our marine ecosystems, both within and outside our MPAs, and will be coordinated across all four countries of the UK.

This is an ongoing action which is due for completion by the 2020-2021 financial year, subject to progression of UK-level dependencies.

Outcome(s) (actual/anticipated):

Actual Outputs:

WG continue to explore opportunities to enhance monitoring across all marine biodiversity components, building on the work delivered previously under this action. Site monitoring will form part of this monitoring and will follow a risk-based approach ensuring those species and habitats at greatest risk are prioritised.

Anticipated Outcomes:

Objectives are to improve the evidence base to inform future assessments of MPA condition and appropriate management measures. The monitoring programme will include elements of investigative monitoring, providing data to help us better understand pressures, impacts and management effectiveness. In the long-term, this work will enable a greater understanding of the effectiveness of management measures.

Annex A4

| | |
|-----------------------|---|
| Project/Action title: | MPA Network Condition Improvement Programme |
| Lead organisation: | NRW |
| Delivery Timescale: | Ongoing |

Description of Project/Action

This programme of work explores potential management actions, where required, to address identified pressures and threats for the MPA network.

This year the programme will focus on working with local management officers to develop projects from existing and new actions and explore possible funding routes to deliver next year. Projects will prioritise actions which can deliver improvements to condition or improving understanding of key pressures and threats.

Outcome(s) (actual/anticipated):

Focus of effort on priority management challenges, will continue to help develop and deliver those actions (1) with the greatest potential to improve (or maintain) the condition of features across the network, or (2) will improve understanding of links between activities and feature condition.

Actual Outputs:

This year efforts were focussed on reviewing and creating new site actions. The work focussed mainly on Menai Strait and Conwy Bay SAC, Dee Estuary SAC, Pen Llyn a'r Sarnau SAC, Pembrokeshire Marine SAC and the Severn Estuary SAC. NRW managed to secure some funding to work with two EMSO covering Pembrokeshire Marine and Severn Estuary, who used 6 days of their time to help NRW review and suggest new site actions and write case studies on MPA management practises and projects. We have also collated other case studies from across the MPA Network and aim to share these with partners in due course.

NRW have been working on developing new site actions for the three Harbour Porpoise SACs.

In addition, we continue to work across policy and operational teams within NRW on issues such as water quality. Where new actions are identified through this collaborative working, these will be added to the actions database.

Anticipated Outcomes:

The focus of the programme going forward will be to work with partners to continue:

- Reviewing and creating new actions. This will include continuing to work on those sites where actions now need prioritising, and also starting to review those actions within site that have not been looked at yet.
- Developing the portfolio of case studies around MPA management and actions and find a mechanism to share these more widely.
- Developing the new actions for the Harbour Porpoise sites.
- Identifying where NRW policy and operational teams can continue to work collaboratively on issues related to water quality.

| Annex A5 | |
|-----------------------|---|
| Project/Action title: | Develop consistent and proportionate guidance to improve casework advice, and to support implementation of the Welsh National Marine Plan |
| Lead organisation: | NRW JNCC |
| Delivery Timescale: | Ongoing |

Description of Project/Action

The purpose of this work is to develop guidance to support consistent and proportionate assessment of the impacts of regulated activities on the protected features of MPAs in Wales.

Guidance is being developed to support implementation of Welsh National Marine Plan policies in decision making e.g. marine licencing and policy specific guidance.

Outcome(s) (actual/anticipated):

Consistent and proportionate guidance will support improved decision making which will help to improve the security of management and help to maintain the condition, and where appropriate, improve the features of our MPAs.

Actual Outputs:

NRW has continued to develop and review guidance and positions to support environmental assessments and the implementation of Welsh National Marine Plan policies and can be found at Natural Resources Wales/Guidance and advice.

Guidance recently completed or begun includes:

- Guidance on coastal squeeze.
- Guidance on the conservation of sediment.
- At-sea ornithological survey guidance.
- Position statement on the use of Marine Mammal Management Units in Habitats Regulation Assessments.
- Position statement on determining the Adverse Effect on Site Integrity from potential marine mammal mortality in Special Areas of Conservation.

Anticipated Outcomes:

Consistent and proportionate guidance has supported improved decision making which has helped to improve the management and helped to maintain the condition, and where appropriate, improved the features of our MPAs.

Annex A6

| | |
|-----------------------|--|
| Project/Action title: | Developing vulnerability assessment methodologies of network features using inshore vessel monitoring system (iVMS) data |
| Lead organisation: | Welsh Government |
| Delivery Timescale: | March 2021 |

Description of Project/Action

Using existing, small scale, iVMS remote datasets feature interactions will be explored to determine suitability of such data (towed and static) for vulnerability assessments of network features. Work in this area is necessary to pre-empt the roll out of iVMS systems in Wales and future data analysis. Developing this knowledge base and processes now will allow for immediate benefits on MPA network vulnerabilities to fishing.

Outcome(s) (actual/anticipated):

Anticipated Outcomes:

A report of data analysis methodologies describing which features it would be suitable to use for assessments of interaction pathways. Conclusions will include future recommendations and assessment gaps.

Annex A7

| | |
|-----------------------|---|
| Project/Action title: | Deliver MPA management through regulatory consenting and assessment processes |
| Lead organisation: | Welsh Government |
| Delivery Timescale: | Ongoing |

Description of Project/Action

The aim of this work is to make sure that regulatory consenting, assessment processes and activity enabling decision making processes take account of the potential impacts to the MPA network and include appropriate mitigation where necessary.

Outcome(s) (actual/anticipated):

Anticipated Outcomes:

- Decision making that reduces impact on the features of our MPA network.

Actual Outputs:

For 01/04/2020 to 31/03/2021:

- NRW determined 57 Marine Licences and varied 18 Marine Licences, and the potential effects on MPAs have been considered within all of these decisions, and where necessary, appropriate mitigatory measures included as condition(s) within these Marine Licences.
- Welsh Government issued 18 fisheries legislation exemptions for a variety of scientific research. 17 of these exemptions required an HRA, which confirmed that the exemptions would have no impact on protected species and habitats.

In addition, as a statutory consultee, NRW advises on the potential impact to the environment, including advice relating to HRA of strategic plans that promote marine industry development. In engaging with these plans, NRW is specifically seeking to ensure that the project developments that subsequently emerge are developing in the right way and the right location in Welsh waters. For example, Crown Estate plans for offshore wind have evolved to avoid areas of key environmental sensitivity at least in part due to the evidence advice provided by NRW, and we continue to advise The Crown Estate on the Habitats Regulations Assessment of its plans for offshore wind to ensure the effective protection of European Marine Sites.

Cockle Fisheries managed by NRW: both management plans and routine management proposals, including the annual opening of the fisheries and associated total allowable catch (TAC), are subject to HRAs in accordance with Regulation 63 of the 2017 Regulations. Such assessments consider implications for MPA features in view of their respective conservation objectives, and any such plans and proposals are only agreed to where it can be ascertained that they will not adversely affect the integrity of European sites. Any relevant Sites of Special Scientific Interest features are also considered and advised upon as part of this process.

Annex A8

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| Project/Action title: | Improve maps of the extent and distribution of Annex I marine habitats |
| Lead organisation: | NRW |
| Delivery Timescale: | Ongoing |

Description of Project/Action

This work provides key evidence to support management of SACs (e.g. casework advice) and Article 17 reporting. This mainly involves collation of third party data (e.g. UKHO multibeam data) to update maps.

Outcome(s) (actual/anticipated):

Anticipated Outcomes:

- Improved maps will support management as well as assessment and reporting.

Actual Outputs:

More work has been undertaken to improve the quality of our Annex I habitat maps. This year marine multibeam data collected by the Marine and Coastguard Agency (MCA) as part of the UKHO Civil Hydrography Program was used to map reef and sediment features in Tremadog bay.

Anticipated Outcomes:

NRW's habitat maps have been updated accordingly.

| Annex A9 | |
|-----------------------|--|
| Project/Action title: | Sustainable Management of Marine Natural Resources Project |
| Lead organisation: | Welsh Government |
| Delivery Timescale: | Completed |

Description of Project/Action

This project is developing, and improving access to, the environmental evidence base to help identify opportunities and constraints in relation to potential future development of wave and tidal stream energy and aquaculture sectors in Welsh waters. It will create locational guidance and other tools to allow the consideration of environmental sensitivities and help to ensure compliance with the environmental policies in the WNMP.

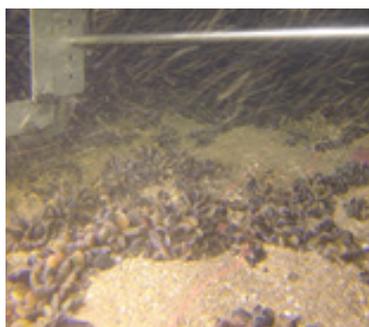
The second project phase currently underway, includes collection of new data and interpretation of existing evidence to deliver environmental constraints and opportunities mapping within resource areas. The final project outputs will be evidence packages to inform the planning, assessment and consenting of developments.

Outcome(s) (actual/anticipated):

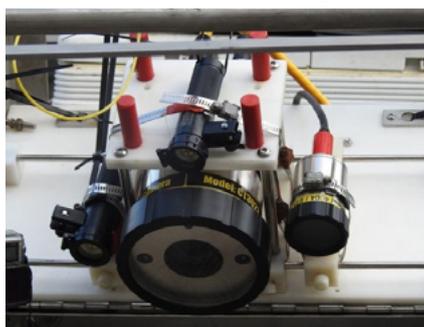
Actual Outputs:

The SMMNR project final drafts have now been received and will be quality assured before being published. The project was split into two phases. Phase 1 reports have now been published, this includes the final report, a review of the Marine Planning Portal and results of drop down video surveys off Anglesey and Pembrokeshire. Phase 2 outputs currently published include a report giving an overview of mapping natural resources, a report on mapping natural resources survey and an ecological constraints and opportunities report: gov.wales/sustainable-management-marine-natural-resources

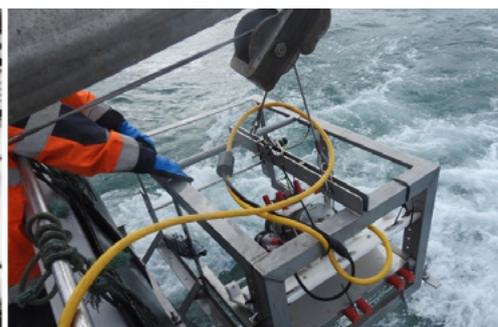
Data layers have also been added to marine planning portal: gov.wales/marine-planning-portal



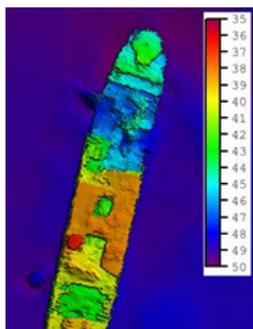
Example of habitats encountered during the Pembrokeshire DDV survey



ABPmer Drop-Down Video (DDV) camera system



Example of habitats encountered during the Pembrokeshire DDV survey



Wreck of the Usat Roanoke located to the north west of the survey area



Bathymetry at Pembrokeshire

Annex A10

| | |
|------------------------------|--|
| Project/Action title: | Maintain links between the MPA Network Management Action Plan and locally agreed actions, where they exist, and support exploration of funding opportunities |
| Lead organisation: | Relevant Authority Groups |
| Delivery Timescale: | May 2021 |

Description of Project/Action

This action will highlight and link to local actions of relevance, including specific local actions in the annual Action Plan as appropriate.

Outcome(s) (actual/anticipated):

Anticipated Outcomes:

Allows for the sharing of best practice from different sites to the MPA network, encourage cross-site working, as well as promoting the work done at the site level.

Actual Outputs:

The Pen Llŷn a'r Sarnau SAC Officer sits on the MPA Steering Group as the European Marine Site Officer (EMSO) advisor. The advisor has attended meetings and liaised with other EMSOs to input into the Steering Group's work. Other members of the Steering Group have also undertaken local liaison through their roles as Relevant Authority Group (RAG) members.

The work that EMSOs do at the site level is varied and a fuller account of the work they do can be found in a report to the Steering Group on their progress for the year 2020-21.

A number of site level projects have been implemented in 2020-21. These projects aim to either:

- reduce impacts on site features helping to work towards favourable condition;
- maintain feature condition;
- investigate impacts; and
- or focus on education and awareness.

Please note that the hours worked by site officers is directly linked to the funding received and that is reflected in the number of projects carried out at each site.

In addition to project work, all site officers carry out general site management and liaison work including but not limited to:

- Maintaining the RAG and Liaison Groups;
- Stakeholder engagement;
- Raising awareness and education (including organising events and school visits);
- Sourcing and securing funding including project development;
- MPA contact point;
- Providing advice and information;
- Promoting local marine codes;

-
- Liaison and partnership working;
 - Working with other site officers to ensure consistency across the network; and
 - Sitting on various groups to ensure MPAs are represented and promote joint working e.g. MPA Management Steering Group, Marine Planning Stakeholder Reference Group etc.

Here are some examples of initial outputs for 2020-21 (detail and complete project list in full report):

- Pen Llŷn a'r Sarnau SAC has been working on a number of materials including an updated website, the second issue of O Dan y Don (Welsh) & (English) and an education pack for schools. These materials will be published shortly.
- Pen Llŷn a'r Sarnau SAC has been working hard on multiple seagrass restoration elements for Porthdinllaen. These include setting up a trial for advanced mooring systems, re seeding and education.
- Cardigan Bay SAC managed to continue Dolphin, Porpoise and Chough Watch at various locations along the Ceredigion coast.
- Pembrokeshire Marine SAC widely shared the SWEPT (Surveying the Waterway Environment for Pollution Threats) citizen science land run off project, supporting further similar projects to set-up in Pembrokeshire and providing inspiration for projects further afield. Some repeat phosphate testing was conducted in the Milford Haven Waterway. An additional open coast project was undertaken with the Pembrokeshire Coast National Park Authority to investigate the nitrate and phosphate levels of small water inputs to the open coast and their potential for impacting water quality.
- Pembrokeshire Marine SAC continued to input to seagrass restoration in Dale including promulgation of information and visitor moorings) and work with Project Seagrass to help facilitate future seagrass restoration in Wales.
- The Severn Estuary EMS has updated the Good Practice Guidelines to incorporate the new guidance on drone use. This new publication will be available in the coming months.
- Review of recreational activity: Updated data has been collected on the intensity, frequency and location of activities within and adjacent to the Severn Estuary EMS. A draft report has been produced.

Anticipated Outcomes:

- Allows for the sharing of best practice from different sites to the MPA network, encourage cross-site working, as well as promoting the work done at the site level.
-

| Annex A11 | |
|-----------------------|---|
| Project/Action title: | Assessing the vulnerability of Annex 1 marine habitat features to climate change in Wales |
| Lead organisation: | Welsh Government |
| Delivery Timescale: | March 2021 |

Description of Project/Action

The impacts of climate change pressures on Annex 1 features across Wales are currently poorly understood.

This one-year desk-based study furthered our understanding of climate change pressures on marine SAC features, and the potential impacts that may be experienced under various emission scenarios and management timeframes. The outputs will help identify any likely future changes in feature condition and/or extent resulting from climate change pressures, which in turn will feed into development of management and/or site adaptation options.

Outcome(s) (actual/anticipated):

- The outcomes of the project will help inform future climate-related management and adaptation options at feature, site and network levels as well as further our understanding of potential changes to ecosystem services.

Actual Outputs:

A comprehensive report has been delivered which presents the findings of a desk-based study investigating marine SAC feature vulnerability to climate change pressures under different emission scenarios and timeframes. The accompanying GIS model, which is the basis for the report findings, provides a spatial representation of the relative potential vulnerability of Annex 1 marine habitats. It was developed using the latest climate projections and spatial data on marine habitats in Wales. A comprehensive literature review of the sensitivities of biotopes that make up marine Annex 1 habitats to climate change pressures was undertaken to inform this work and provided crucial evidence for the modelling and assessment process. The model (and accompanying spreadsheets) can be updated as new information on emission scenarios and habitat sensitivities arise.

Anticipated Outcomes:

Improved understanding of the marine features which are considered most vulnerable to climate change pressures in the short and longer term. This information will help prioritise future climate-related management and/or adaptation options at feature, site and network levels.

Figure showing a mapped example output for one of the climate change pressures included in the study: Projected seabed concentrations of dissolved oxygen (DO) in Welsh waters. This figure shows projected seabed DO concentrations for different relative greenhouse gas concentration pathways (RCP 4.5 and 8.5) between 2025 and 2099.

A full report can be found here www.naturalresources.wales/evidence-anddata/research-and-reports/marine-reports/marine-and-coastal-evidence-reports/?lang=en

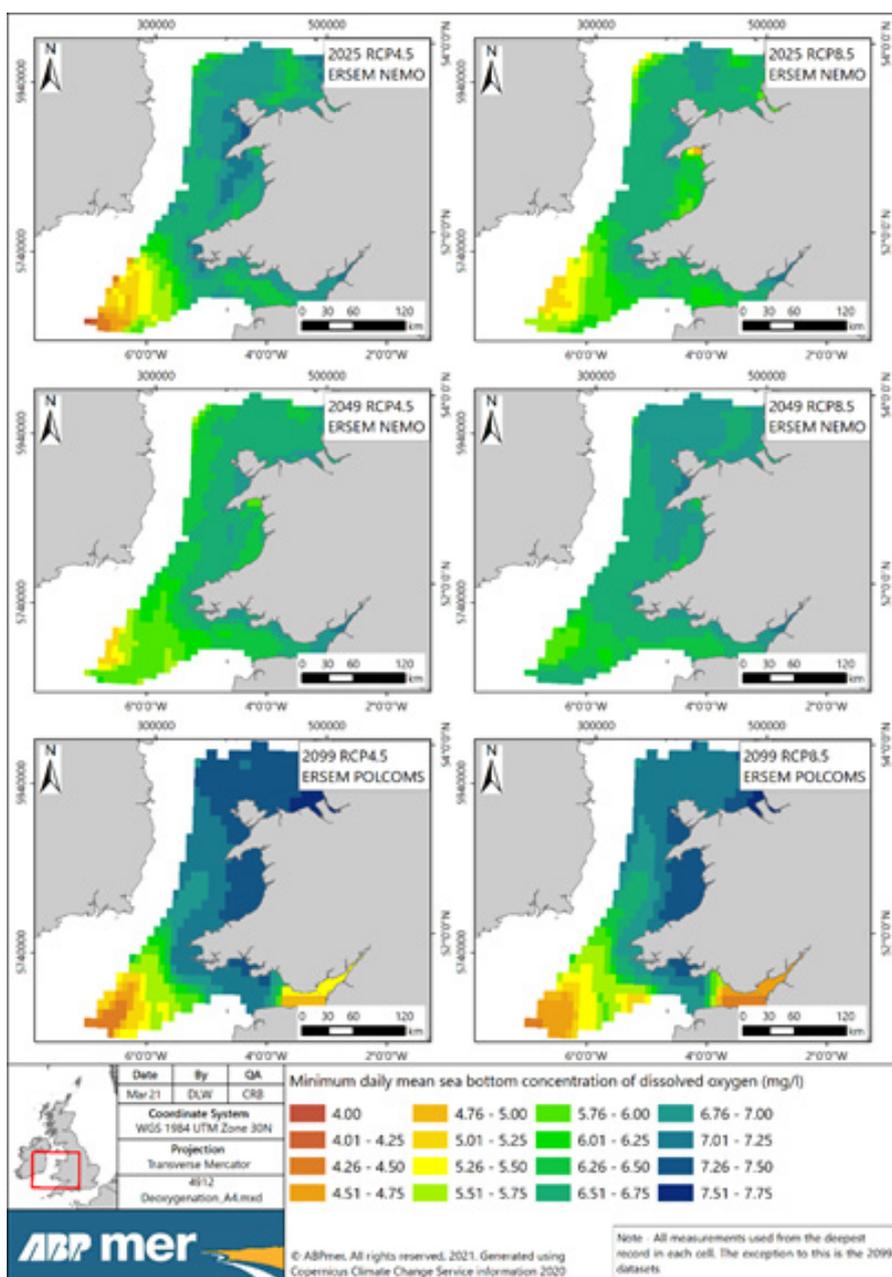


Figure showing a mapped example output for one of the climate change pressures included in the study: Projected seabed concentrations of dissolved oxygen (DO) in Welsh waters. This figure shows projected seabed DO concentrations for different relative greenhouse gas concentration pathways (RCP 4.5 and 8.5) between 2025 and 2099.

| Annex A12 | |
|-----------------------|---|
| Project/Action title: | Wales Non-Licensable Activities Project |
| Lead organisation: | NRW |
| Delivery Timescale: | March 2021 |

Description of Project/Action

The Wales Non-Licensable Activities Project focuses on priority actions to improve understanding and implement management of the MPA network.

For this year the project will focus on:

- Developing and appraising management options for bait digging on the Gann.
- Continuing to work to identify areas vulnerable to anchoring and mooring within the MPA network.
- Continuing to work with local management officers to identify new prioritised activities (linking to work under the MPA Network Condition Improvement Programme).

Outcome(s) (actual/anticipated):

Actual Outputs:

Developing and appraising management options for bait digging on the Gann

Work to address damage caused by heavy bait digging at Gann, Pembrokeshire was taken forward through a fixed term post from November 2019 to March 2021. The post made significant progress and all potential management options for the Gann were appraised, legal advice was sought and options presented to relevant NRW decision makers and Welsh Government. The postholder also instigated work with the NRW Enforcement and Environment teams to coordinate collection of activity data, re-connected with management authorities and local stakeholders, alongside ensuring all relevant evidence for the Gann was collated and accessible.

Continuing to work to identify areas vulnerable to anchoring and mooring within the MPA network

A comprehensive report has been produced which presents the findings of a desk-based GIS study investigating areas in Welsh waters which are potentially vulnerable to anchoring, mooring and launching. The report used activity data for these activities and overlaid this with 'sensitive' habitat data (building on the seagrass element completed in 2019-20) to highlight areas of Welsh seabed which are potentially vulnerable to these activities. It also highlights the management that is already in place to manage these activities in Skomer and Milford Haven. The report will be available soon on the NRW website. www.naturalresources.wales/evidence-and-data/research-and-reports/marine-reports/marine-and-coastal-evidence-reports/?lang=en

Continuing to work with local management officers to identify new prioritised activities

The project has continued to work with the Specialist advisor, Marine Ecosystems to understand the priority activities in the MPA network identified by local management officers. However, this work has largely been progressed under the MPA Condition Improvement action.

Anticipated Outcomes:

The work completed under the priority work areas increases the evidence base available to NRW regarding the distribution, intensity and impacts of high priority non-licensable activities. This allows a more informed approach to prioritisation and implementation of future management to improve condition of MPA features.

Work carried out to further understand mechanisms available for management of bait digging at Gann acts as a pilot for Wales and the lessons learnt here have Wales wide implications for future management of this activity. The work of this post has also developed the evidence base for this site and re-connected management authorities and local stakeholders, which will be valuable in future management efforts.

Identification of the location of vulnerable habitats to anchoring, mooring and launching provides the evidence base for prioritisation of areas to initially target for further investigation and consider for future management.



Boat off Ynys Llanddwyn, Anglesey
© Copyright of NRW



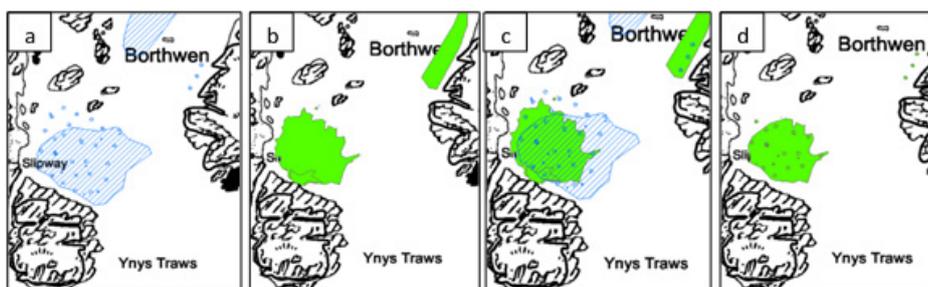
Seagrass beds (green) near to slipways (red), showing an example output of the anchoring, mooring and launching report
© Copyright of NRW



Impact of bait digging at the Gann, Pembrokeshire
© Copyright of NRW



Map showing potential overlaps of Atlantic salt meadow (pink) and Salicornia (blue) with potential mooring areas (blue hatch) in the Artro estuary, Llandanwg, north west Wales
© Copyright of NRW



Methodology used to carry out the GIS analysis, showing:
a) the mooring activity layer,
b) seagrass habitat layer,
c) overlap of the two layers, identified in GIS,
d) seagrass layer cut to shape of the overlapping mooring layer.
OS Licence Number 100019741

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| Annex A13 | |
|-----------------------|---|
| Project/Action title: | Address coastal squeeze impacts on MPAs |
| Lead organisation: | NRW, Welsh Government |
| Delivery Timescale: | Ongoing |

Description of Project/Action

This project will continue to gather evidence to understand the impacts of coastal squeeze on our MPA network including continued engagement with UK wide discussions and projects.

Work will continue in Wales to progress habitat creation projects to provide compensatory coastal habitat for anticipated habitat loss arising from work associated with flood and coastal erosion risk management schemes.

Outcome(s) (actual/anticipated):

- Use new knowledge of coastal squeeze impacts to help maintain the integrity of the network.
- Compensation for loss of some coastal habitats due to climate change.

Actual Outputs:

The two-year 'What is coastal squeeze?' project delivered under the Joint Defra/WG/EA/NRW Flood & Coastal Erosion Risk Management Research Programme, has now been completed. The Summary Report, Technical Report, and a recording of the dissemination webinar can be found here www.gov.uk/flood-and-coastal-erosion-risk-management-research-reports/what-is-coastal-squeeze. This project provides a consistent definition of coastal squeeze and sets out a methodology for assessment of losses and prediction of future coastal squeeze impacts.

NRW is now in the process of interpreting this project for use in Wales in the context of Welsh Government's position on assessment of coastal squeeze and the role of the National Habitat Creation Programme. NRW has started to develop guidance for internal use and for our customers to clarify the requirements/approach, which will be completed during 2021/2.

The relatively narrow approach to assessment of coastal squeeze through the assessment of plans and projects (under Article 6 (3) of the Habitats Directive), means that there is likely to be a greater proportion of habitat losses due to coastal squeeze which would fall within the category of deterioration (under Article 6(2) of the Habitats Directive), compared with that reported previously in the assessment undertaken for Pen Llyn a'r Sarnau SAC. This requires further discussion with Welsh Government to explore options to address this deterioration.

In terms of progress regarding delivery of compensatory habitat, NRW has now recruited some additional resource (both project management and local engagement/communication) to support this work, which should enable several large projects to progress more actively with key stakeholders over the next year. Most projects are at the Strategic Outline Case stage in line with Welsh Government's Business case guidance gov.wales/sites/default/files/publications/2019-06/flood-and-coastal-erosion-risk-management-fcrm-business-case-guidance_0.pdf. A Strategic Outline Case is prepared at the start of a project to provide the strategic case for change, identify the objectives of the project, identify and appraise a Long List of options to demonstrate the viability of a project. A Business Case developed to the SOC level is the basis from which a decision to progress to a fuller project appraisal can be taken. Over the last year, NRW has continued to gather evidence regarding the sites to help inform the Strategic Outline Cases for each site. This includes work to inform our conceptual understanding of how sites may evolve under different scenarios, and ecosystem service appraisals to help us to compare options.

Anticipated Outcomes:

At Porthmadog, the future flood risk management options may include opportunities for habitat creation, and there has been initial engagement with stakeholders. www.naturalresources.wales/about-us/our-projects/flood-scheme-projects/porthmadog-flood-risk-management-work/?lang=en

Similarly, at Tan Lan Embankment in the Conwy Valley, work is underway to consider options for future management of the embankment, and again there may be opportunities for habitat creation here also. www.naturalresources.wales/about-us/our-projects/flood-scheme-projects/tan-lan-embankment-conwy-valley-viability-study/?lang=en

| Annex A14 | |
|-----------------------|--|
| Project/Action title: | Deliver the priority actions within the Marine Litter Action Plan where they provide benefit to the network of MPAs in Wales |
| Lead organisation: | Wales Clean Seas Partnership Welsh Government |
| Delivery Timescale: | Ongoing |

Description of Project/Action

In 2019 the Wales Clean Seas Partnership (WCSP) undertook a review of the Marine Litter Action Plan (MLAP) for Wales.

The Wales Clean Seas Partnership Marine Litter Action Plan for Wales will help tackle marine litter and seeks an overall reduction in marine litter.

The WCSP encourage its partners to renew their pledges to the MLAP for 2020-21. These pledges will outline key objectives and measures they will endeavour to implement. The 2017-2020 Review has been produced capturing the progress.

The WCSP closely aligns and supports work to address Single Use Plastics (SUP) in Wales. Measures including banning some SUP items are currently being considered by Welsh Government and the WCSP will continue to support and offer advice where necessary. By introducing measures to tackle litter at source, will ultimately benefit the sustainability of the MPA network in Wales.

An EMFF grant funded project is entering stage two following on from delivering evidence-based actions from the MLAP. The second stage will involve engagement with secondary schools to investigate the feasibility of incorporating marine litter into their Eco-schools work.

Accompanying this work the project will also work with the tourist industry to investigate the feasibility of an eco-award through a pilot scheme.

Outcome(s) (actual/anticipated):

Actual Outputs:

- Publication of Clean Seas Partnership newsletter for 2020.
- Publication of the Annual Review of the Marine Litter Action Plan from partners.

Anticipated Outcomes:

Implementation of the Marine Litter Action Plan 2020-23 has been difficult for the partnership, with work impacted at a variety of different levels, such as 'on the ground' beach cleaning, planned field work and engagement with the public.

Welsh Government launched a consultation on the Litter Prevention and Fly-Tipping Plan, which complements the earlier consultation on proposing to ban commonly occurring single-use-plastics. This supports the Marine Litter Action Plan (MLAP) aim of developing measures to reduce litter at source.

The ability to engage publically and to support the volunteer network which is vital for reducing visible marine litter and for raising awareness was severely impacted in 2020. However the partnership continued to meet virtually and discussed new and emerging threats from 2020, such as PPE litter.

A scaled down annual beach litter survey was conducted in 2020 which provides valuable data to improve our understanding of the common threats to the marine environment and our MPA network. To support the launch of the event First Minister Mark Drakeford attended a beach clean in Cardiff Bay. Most notably in this years survey was the occurrence of PPE Litter. This is now a recognised category within beach litter surveys which will help improve understanding and ability to respond with actions if needed.

Many of the partners ran social media campaigns in response to the increasing amount of litter on Welsh beaches following the relaxation of restrictions. Some notable schemes have been highlighted:

Surfers Against Sewage (SAS) **#ReturnToOffender**

Severn Estuary Partnership (SEP) **#TakeltHome**

Welsh Government **#LoveWelshBeaches**

Marine Conservation Society (MCS) **#StopTheThread**

Keep Wales Tidy (KWT) **#NoLitterAfterLockdown**

Some projects have progressed in 2020 including Welsh Government 'end of life fishing gear' and 'marine litter education packs' for Welsh secondary schools and 'Eco-Schools at Home Challenges' being delivered by KWT.

Other projects include **#PostPandemicPollution** from SAS encouraging beach visitors in Brighton to photograph and raise awareness of the lack of disposal points for rubbish. SEP have made progress with their 'Litter Free Coast' project engaging with partners on both sides of the Severn. Pembrokeshire Coastal Forum (PCF) continue to deliver the 'Building Resilience in Catchment' project which focuses on water quality measures in the Cleddau Estuary. The National Federation of Women's Institutes-Wales' 'End Plastic Soup' campaign, was adapted to run from home using a variety of different tasks.

The partnership continues to work closely and engage with wider litter policies, such as waste and single use plastics. A workshop was held in 2020 relating to the 'Single-use Plastics' consultation of which some partners responded with their views.

It is hoped in 2021 'on the ground' work and research can continue supporting the delivery of the Marine Litter Action Plan which will build resilience and understanding of our MPA network in Wales.

Video Clip of FM Mark Drakeford joining a beach clean with Marine Conservation Society:

www.twitter.com/i/status/1307243158363877376



Marine Conservation Society launch of the Great British Beach Clean in 2020.



An example picture from the Welsh Government marine litter social media campaign which coincided with the relaxing of the COVID-19 restrictions in Wales.



Welsh Government publishing their research into fishing gear usage in Wales
www.businesswales.gov.wales/marineandfisheries/sites/marineandfisheries/files/understanding-commercial-fishing-gear-use-disposal-needs-wales.pdf

Annex A15

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|-----------------------|---------------------------|
| Project/Action title: | Community Litter Project |
| Lead organisation: | Relevant Authority Groups |
| Delivery Timescale: | March 2022 |

Description of Project/Action

This year the plan was to use the review of community litter projects from year 1 to deliver actions from EMS Management Schemes and the Clean Seas Partnership. Due to COVID-19 the second year of this project has been adapted to attempt to investigate the impact of COVID-19 on local litter picking groups and the impact of COVID on the amount and types of litter being found within the coastal fringe of the MPA's and across the country, alongside any behaviour changes, for example, increased use of single-use items like masks.

Specific work outputs this year will include:

- Monitoring data from the litter picks.
- An indication of best practice guidelines for litter picking groups whilst operating under COVID-19 circumstances.
- An insight into the impact of COVID on marine litter and pollution.
- An insight into the impact of COVID on individual's behaviour in using single use items and littering.
- Future work feasibility study including trialling the use of drones, AI and multispectral cameras to monitor litter and types of litter.

Outcome(s) (actual/anticipated):

Actual Outputs:

Report: Effects of COVID-19 on litter picking activities on the Welsh Coastline and Rivers 2020.

The rest of the outputs will be finalised in 2021-22.

Anticipated Outcomes:

A number of new groups and individuals have been engaged through this process and express support.

A number of recommendations have been identified that will help to reduce litter. This work will continue onto 2021-22 and 2022-23.

Annex A16

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|-----------------------|---|
| Project/Action title: | Wales Native Oyster Restoration Project |
| Lead organisation: | NRW |
| Delivery Timescale: | March 2023 |

Description of Project/Action

The focus of the EMFF funded Wales Native Oyster Restoration Project is the establishment and monitoring of a series of native oyster restoration plots in the Milford Haven waterway. The outputs of this exercise will address questions around the approach and feasibility of native oyster restoration in Wales, specifically related to oyster survivability, recruitment, stocking density, effects of the oyster disease *Bonamia* and the non native species *Crepidula fornicata*, as well as monitoring potential positive effects including habitat enhancement and increased associated species composition.

Outcome(s) (actual/anticipated):

Anticipated Outcomes:

- The key outputs of the project will be the Wales Native Oyster Restoration Guidance report and a Native Oyster Action Plan, which will outline the approach and 'next steps' for native oyster restoration in Wales.
- The key outcome will be clarity on whether native oyster can be restored in Wales and information on the best way to restore native oyster in Welsh waters.

Actual Outputs:

The three-year 'Wales Native Oyster Restoration' project delivered by NRW through contract to ABPmer is currently underway with site selection, baseline surveys and oyster site set-up and oyster deployment complete.

Year 1 Summary

Two general areas were selected for the native oyster restoration trials in the Milford Haven waterway, based on physical and environmental suitability. These areas were Burton and Beggars Reach, where baseline surveys were undertaken and at which the following range of trial restoration sites were established:

- Benthic restoration plots of differing densities (approximately 10/m² and 20/m²) in the intertidal at one location (Beggars Reach).
- Benthic restoration plots of differing densities (approximately 10/m² and 20/m²) in the subtidal at two locations (Burton and Beggars Reach).
- Oysters elevated off the seabed (in oyster cages; higher densities compared to the benthic plots) in the intertidal at two locations (Burton and Beggars Reach).

These trial restoration sites will be monitored over the next two years.

Year 2 objectives

Between April 2021 and March 2022, the following monitoring activities will be undertaken:

- Two monitoring surveys of the intertidal benthic plots (utilising the same survey methodology as per the baseline surveys). It is anticipated that these surveys will be conducted in April and September 2021.
- One monitoring survey of the subtidal benthic plots (utilising the same survey methodology as per the baseline surveys). It is anticipated that these surveys will be conducted in early September 2021.
- Two monitoring surveys (live oyster counts and size measurements) of the intertidal elevated oysters in the cages. It is anticipated that these surveys will be conducted in April and September 2021.

Production of a Year 2 Interim Report, reporting outcomes of the above monitoring surveys.

Anticipated Outcomes:

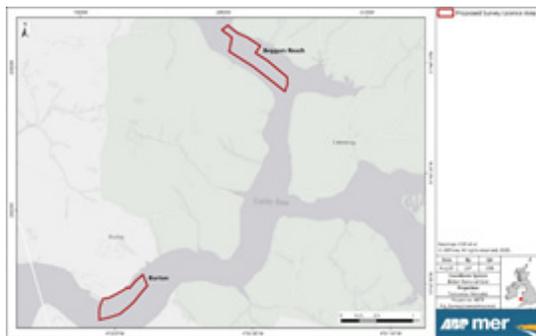
Surveys and outputs to date have focused on site selection, baseline habitat characterisation and post deployment oyster monitoring therefore, no discernible outcomes can be derived at this time. Following delivery of year 2 objectives further insights on the feasibility of native oyster restoration in the Milford Haven waterway and potentially at other sites across Wales will be obtained.



Intertidal benthic oyster plot Beggars Reach, Oct 2020. Oyster introduction surveys. Photo: Ben Wray © Copyright of NRW



Subtidal benthic oyster plot – Beggars Reach – November 2020, oyster introduction surveys. Photo: Ben Wray © Copyright of NRW



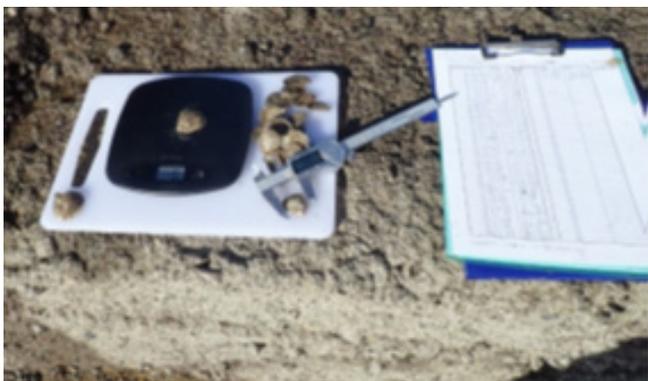
Map showing trial restoration site boundaries. * note that total plot areas for each site will be no more that 50m² ** Intertidal plots will be located on the nearest landward boundary of each site © Copyright of NRW



Native oysters (*O.edulis*) and slipper limpets (*C. fornicata*) recorded during the intertidal baseline survey © Copyright of NRW



Native oysters pre-deployment © Copyright of NRW



Weighing and measuring oyster subsamples © Copyright of NRW



Oyster 'cage' used for elevated restoration plots © Copyright of NRW

Annex A17

| | |
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| Project/Action title: | A pilot project on saltmarsh grazing and water quality at Carmarthen Bay and Estuaries SAC |
| Lead organisation: | NRW |
| Delivery Timescale: | March 2022 |

Description of Project/Action

Poor water quality was highlighted in NRW's indicative site condition reports (2018) as a major issue affecting feature condition across the network of MPAs in Wales. The objectives of this project are:

- To improve the evidence base for the impact pathway of sheep grazing.
- To investigate management measures to improve the habitat feature condition of the Carmarthen Bay and Estuaries SAC.

Evidence generated by this project could be important for other sites where there is a combination of saltmarsh and mudflats and sandflats or estuary. These sites include:

- The Dee Estuary SAC.
- Anglesey Coast: Saltmarsh SAC.
- Pen Llŷn a'r Sarnau SAC.
- Pembrokeshire Marine SAC.
- The Severn Estuary SAC.

Outcome(s) (actual/anticipated):

Anticipated Outcomes:

Improved evidence base:

- Feature condition assessments and knowledge of management measures to help reach favourable condition.
- The contribution of sheep faeces to marine water quality issues.
- To inform saltmarsh grazing limits.
- Information on potential management measures to improve water quality issues affecting the cockle fishery.

Actual Outputs:

The project outputs were focussed on increasing the evidence base for sheep on the North Gower saltmarsh contributing to *E. coli* issues in the Burry Inlet, which leads to a deterioration in water quality and closures of the cockle fishery. Evidence suggested that the sheep droppings washed in from the saltmarsh after tidal events were causing elevated levels of *E. coli* in cockle flesh, leading to temporary closures of the fishery.

Samples were collected by NRW and analysed by the Bangor Shellfish Centre, but results have not yet fully assessed, although preliminary work suggests *E. coli* of both human and sheep origin are present in the samples. However, the Centre were unable to get an SME business partner for the project, so it was not officially written up.

We are still looking for a business partner for the work and NRW hope to more survey work this year to make up for work that was not completed due to COVID-19.

We hope to take the other aspects of the project – correct grazing levels for saltmarsh – forward as part of a new action in the 2021-22 action on a strategic review of saltmarsh grazing in Wales.

| Annex A18 | |
|-----------------------|--|
| Project/Action title: | Reduce disturbance to marine mammals and birds |
| Lead organisation: | NRW |
| Delivery Timescale: | March 2022 |

Description of Project/Action

This year the focus of this work will be on three main areas:

1. Ensure all generic county level codes are consistent and have the same noted distances. Produce a standard set of backing material to support the marine codes. This will include:
 - Guidance on various activities that may have an impact.
 - Leaflets and species ID guides to provide further information about the marine code and why they are necessary.
2. Review the effectiveness of the seal pup disturbance panels developed in Year 1 of the project.
3. Working with Pembrokeshire Coastal Forum on the possible development of the marine code App.

Outcome(s) (actual/anticipated):

Anticipated Outcomes:

- Marine codes at key sites for highly mobile species are fit for purpose. Contribution to maintaining Grey Seal *Halichoerus Grypus* in favourable condition. Marine users are aware of potential disturbance issues across Wales, and how this can affect vulnerable species.

Actual Outputs:

Reports:

- A Welsh Marine Code App Proposal – Welsh.
- A Welsh Marine Code App Proposal – English.
- MPA Engagement Plan – English.
- Seal Pup Panel Review – English.
- Welsh Sustainable Recreation Management Workshop Review – English.
(Please note that the Welsh versions will be made available shortly).

Workshop and awareness events:

- Workshop: Welsh Sustainable Recreation Management (28.01.21).
- Event: Protecting Welsh Seas (23.02.21).
- Event: Welsh Marine Wildlife (04.03.21).

The rest of the outputs will be finalised in 2021-22.

Actual Outcomes:

- Awareness was raised through workshops, online events and online promotion.
- The seal pup panels were deployed again this year to reduce disturbance during the pupping season.
- Awareness was raised with partners as well as stakeholders.
- The engagement plan will allow all MPAs across the network to promote consistent.

| Annex A19 | |
|-----------------------|--|
| Project/Action title: | Develop a bio-security plan for marine Invasive Non-Natives Species (INNS) |
| Lead organisation: | NRW, PLAS RAG |
| Delivery Timescale: | September 2022 |

Description of Project/Action

This EMFF funded pilot project will deliver a biosecurity plan for Pen Llŷn a'r Sarnau (PLAS) SAC. It will also inform development and implementation of biosecurity planning across the MPA network.

This will be achieved by:

- Working with stakeholders to address the main pathways of introduction and spread of marine INNS, including working with local fishermen to identify how marine INNS may impact their fisheries.
- Developing techniques to assess and predict the effects of INNS on habitats and species.
- Building capacity to protect marine biodiversity and minimise risks to protected features.

Outcome(s) (actual/anticipated):

Anticipated Outcomes:

- Protection of features of the site by managing the key pathways by which marine INNS are introduced and spread at the site level through the use of good biosecurity.
- Lessons learned will inform biosecurity planning across the MPA network.

Actual Outputs:

Outputs for work package 1 – gathering evidence:

- Questionnaires and information packs were distributed to stakeholders and an online workshop is being planned for May 2021.
- Fisheries stakeholders reviewed evidence outputs from work package 1.
- Marine INNS data flow issues have been identified and work on these problems is in progress.
- Produced and overlaid INNS distribution maps on pathways heatmaps for marine INNS in PLAS SAC and Wales.
- Produced a stakeholder map to identify stakeholders in the area and propose potential biosecurity actions.

Outputs for work package 2 – developing the biosecurity plan:

- Continued assembling information and producing maps for pathway action plans and species action plans using evidence gathered from phase 1. The online workshop will provide further information on the feasibility of various biosecurity actions.
- Working with the Marine Biological Association to adapt their INNS ID guide to make it more suitable to Wales.
- Collaborating with the Ecostructure project on eDNA INNS monitoring in Wales.
- Awareness raising actions including social media posts, an article in the PLAS SAC magazine, online INNS identification workshop, project newsletter.
- Have received quotes for eco-moorings and anchors for the Porthdinllaen pilot project and are working with other projects to design a monitoring programme. The PLAS SAC officer has carried out a stakeholder mapping exercise and produced a communications plan for this aspect of the project.

- Discussion with Welsh Government regarding having INNS added to the MMO Catch Recording app as a voluntary addition for fishers to record.
- Investigating options for INNS reporting including developing pages with iRecord.

Anticipated Outcomes:

The main outcome of the project will be the protection of the features of the site by managing the key pathways by which marine INNS are introduced and spread at the site level by using good biosecurity. This EMFF project will develop a biosecurity plan for the PLAS SAC and inform the longer-term implementation of effective biosecurity planning for Wales' network of marine protected areas.



INNS distribution
heat map for the
PLAS SAC

Example Invasive Non-Native Species

Annex A20

| | |
|-----------------------|---|
| Project/Action title: | Develop a UK Dolphin and Harbour Porpoise Conservation Strategy |
| Lead organisation: | Natural Resources Wales Joint Nature Conservation Committee Welsh Government |
| Delivery Timescale: | March 2022 |

Description of Project/Action

This work aims to develop a consistent, UK-wide approach to managing pressures and threats on nine of the most commonly-found dolphin, porpoise and small whale species in UK waters within and outside MPAs.

Outcome(s) (actual/anticipated):

Actual Outputs:

The Strategy has been finalised with the DEFRA and the other devolved administrations. This is currently at the public consultation phase which will be complete at 14 June, at which point and feedback will be assessed and the final version of the strategy published. gov.wales/dolphin-and-porpoise-consultation

Anticipated Outcomes:

No outcomes as the strategy hasn't been implemented yet.

| Annex A21 | |
|-----------------------|---|
| Project/Action title: | A Plan of Action to reduce the incidental bycatch of seabirds in UK waters |
| Lead organisation: | Natural Resources Wales Joint Nature Conservation Committee Welsh Government |
| Delivery Timescale: | March 2022 |

Description of Project/Action

This UK-wide three-year project seeks to deliver a coherent approach to understand and where necessary reduce seabird bycatch in UK fisheries. The objectives of the project in 2019-20 are:

- Develop a programme of work to assist in decision-making for possible deployment of mitigation measures; and
- Identify enhancements to existing monitoring and assessment.

Outcome(s) (actual/anticipated):

Actual Outputs:

Published here:

- Northridge, S., Kingston, A., and Coram, A. (2020) Preliminary estimates of seabird bycatch by UK vessels in UK and adjacent waters. Defra report ME6024.
- Miles, J., Parsons, M. and O'Brien, S. (2020). Preliminary assessment of seabird population response to potential bycatch mitigation in the UK-registered fishing fleet. Report prepared for the Department for Environment Food and Rural Affairs (Project Code ME6024).
- Mindfully Wired Communications. (2020) Soaring to Solutions – Report on Seabird Bycatch Stakeholder Workshop held in November 2020.

www.sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=20461

Actual Outcomes:

Despite the substantial challenges of COVID good progress was made this year:

Two publications on the likely scale of bycatch in UK waters and possible population impacts (see above) were published.

The planned in-person stakeholder event could not take place this year but an online event was very well attended (see link to report). A range of views were heard about seabird bycatch issues and what is being done and could be done to reduce bycatch. These views were taken on board in the drafting of seabird bycatch mitigation “toolkits” – one for the industry “on the ground” and one for regulators. These practical guides on how bycatch can be reduced or avoided will be consulted upon and then made available to end-users in 2021-22.

Further evidence-gathering was progressed: a draft report on mitigation measures used around the world, which have been used/trialled in the UK and what further modifications and trials are required; a draft report on seabird bycatch “hotspots” around the UK – looking in more depth at the evidence produced in the Northridge et al 2020 report (see above), and factors that might be responsible for elevated bycatch rates.

A monitoring “gap analysis” was planned for 2020-21 but will instead be delivered in 2021-22, although useful progress was made to define data sources and methods. This work will help to identify possible improvements to data collection schemes, so that more representative estimates of bycatch can be made.

Annex A22

| | |
|-----------------------|---|
| Project/Action title: | Assess and where necessary manage the impact of commercial fishing activities on MPAs |
| Lead organisation: | Welsh Government, NRW |
| Delivery Timescale: | March 2022 |

Description of Project/Action

The aim of the project is to ensure that commercial fisheries management within European Marine Sites affords adequate protection to designated features, in line with the **Conservation of Habitats and Species Regulations 2017**.

The project is **assessing interactions** between species and habitats and different types of fisheries gear. These assessments are being used to inform whether future fisheries management measures are necessary.

This year, project activities will include:

- 9 marine mammal fixed net assessments (NRW).
- 20 potting interaction assessments (NRW).

Outcome(s) (actual/anticipated):

Actual Outputs:

- NRW have completed the potting interaction assessments and are currently quality assuring them before forwarding them to the Welsh Government.
- To fill gaps in the evidence base, WG commissioned additional surveys on Sabellaria reef in the Severn Estuary and boulder/cobble reef in Cardigan Bay to help shape proposals for a 'towed gear order' consultation. The surveys are complete and Science colleagues are reviewing the results and will be advising policy colleagues shortly to help finalise consultation proposals.

Annex A23

| | |
|------------------------------|--|
| Project/Action title: | Operate a risk based approach to fisheries enforcement |
| Lead organisation: | Welsh Government |
| Delivery Timescale: | Ongoing |

Description of Project/Action

This work, which includes enforcement and prosecution, within the Welsh zone and its MPAs, operates a risk-based and intelligence-led approach to marine enforcement, using technological improvements to maintain a focus on high-risk fisheries activities.

It serves to act as a strong deterrent to help prevent unlawful fishing activities and contribute towards the continued protection of MPA features and the overall condition of the network.

Actual Outcomes:

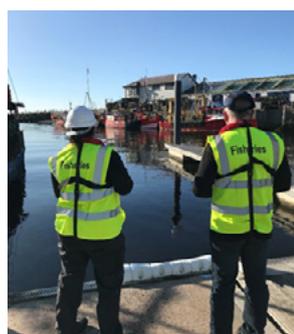
The Marine Enforcement Branch has carried out comprehensive and varied activity during 2020-21 to uphold fisheries and marine licencing regulations, and marine conservation legislation, to help keep Welsh waters clean, healthy, productive and biologically diverse.

During 2020-21 despite the COVID-19 pandemic significantly reducing the number of enforcement operations completed in the Welsh Zone:

- our fisheries patrol vessels carried out 83 patrols (image of FPV on patrol to be supplied);
- our marine enforcement officers inspected 51 fishing vessels and completed 257 landing checks;
- we carried out 34 marine licence inspections (image below of marine licence works in being inspected in a SAC);
- we successfully prosecuted 5 infringements of fisheries legislation.

One prominent area for marine enforcement is the scallop fishery within the Cardigan Bay SAC. Due to its protected status, it is paramount that this area is closely monitored and fishing effort controlled to ensure continued protection of the MPA. During the recent Welsh scallop season (1 November 2020 to 30 April 2021) the Welsh Fisheries Monitoring Centre checked and assessed all fishing effort through a number of reporting tools (including vessel monitoring system data and logbook submissions) to ensure continued compliance and to establish risk areas for our fisheries patrol vessels, marine enforcement officers and aerial surveillance support to focus on.

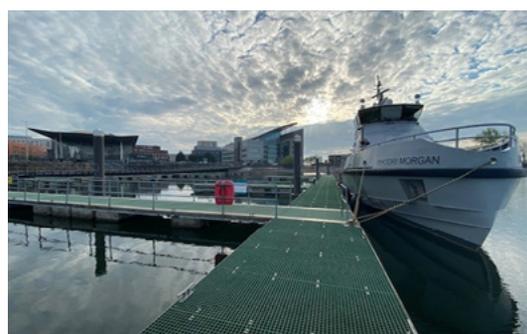
During the scallop season our patrol vessels completed more than 20 patrol days in the fishery while our enforcement officers carried out 30 landing checks to check all fishing vessels are complying with the minimum landing size and to ensure all the gear is in order. As a result of this activity four serious infringements have been detected and investigation files are being prepared.



Fisheries enforcement officers



Marine license inspection within a SAC



Fisheries Patrol Vessel (FPV) 'Rhodri Morgan'

Annex B

Using capital funding to improve Marine Biodiversity in Wales

Over 50% of Welsh seas are designated as part of a network of Marine Protected Areas (MPAs). A key focus of NRW's wider marine programme is to improve the condition of the features of this network to enhance the resilience of our seas. NRW have been able to use Natura 2000 Capital money made available by Welsh Government in 2020-21 to deliver a range of marine conservation outcomes.

Enhancing NRW's Marine Monitoring capabilities

Effective management to protect and restore marine biodiversity is reliant on robust evidence on the condition of habitats and species in our seas, and the pressures that are acting upon them. We have used additional budget this year to purchase several pieces of equipment that will enhance our marine monitoring and evidence collection capabilities. This includes:

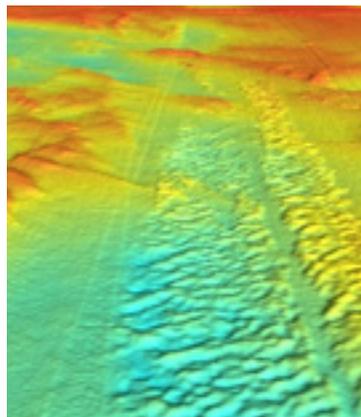
An **acoustic position system** that we can use with our existing equipment (such as side scan sonar or drop-down video). This will enable much more accurate mapping of seabed features such as the biodiverse horse mussel reefs around the Llŷn peninsula.

An **acoustic camera** that can produce fine scale images in low visibility environments where a normal optical camera cannot collect data. This is crucial in turbid environments such as the Severn Estuary, for example, where we need to monitor the condition of Honeycomb worm reefs on the sea bed that are an important feature of that site.

A number of F-PODS – **passive acoustic loggers** that can be used to collect data on the presence and behaviour of dolphins and porpoises and enable us to further study these important marine mammal populations, which are features of five MPAs around Wales.



Wales is home to the largest resident population of Bottlenose Dolphin in the UK



Multibeam image showing horse mussel bed form (rough textured area)



Horse mussel reefs are highly biodiverse

Delivering marine biodiversity enhancement projects

In addition, NRW were able to use funding to deliver new, or upscale existing, marine biodiversity work in 2020-21:

Milford Haven is one of the busiest ports in the UK but also highly important for marine biodiversity and part of the **Pembrokeshire Marine Special Area of Conservation**. A number of projects have been delivered across the site this year:

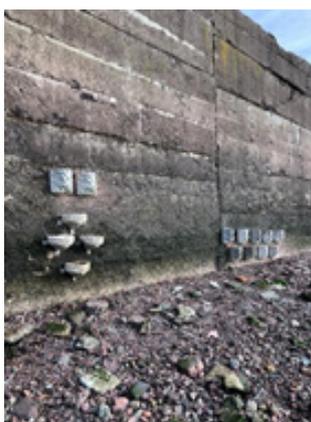
NRW have undertaken a series of actions to **enhance biodiversity on artificial structures** (such as sea walls) which alone tend to support a relatively low diversity of marine and intertidal species. This work has included boring 30 holes in artificial substrates (rock armour), and also the purchase of ‘vertical rock pools’, “pocket tiles” and ‘living sea wall panels’ all of which can support a wider range of biodiversity. A total of 64 of these have been already been installed this year on Ports of Milford Haven harbour walls, with another 60 installations planned by the end of March 2021, and others at different locations are planned for deployment in the future working with a range of local partners. Aberystwyth University will be undertaking some monitoring of the biodiversity outcomes of this work as part of The Ecostructure Project.

Dumped debris and derelict boats is also an issue which has been raised in the wider Milford Haven, which we have looked to address with the help of Welsh Government funding. A Welsh Government funded project manager worked with the local government agency, enforcement agencies, and conservation partners to address this issue, and come up with a strategy and agreement to remove debris, and clean-up sites of dumped waste, while looking at actions to reduce the risk of reoccurrence. As part of this process, an ongoing compliance operation to tackle dumping has been initiated by partner organisations. NRW have also commissioned ABPmer to deliver a practical and legal study regarding the issue of derelict/abandoned boats in the Haven, to determine the extent of the issue, and the correct legal and logistical route to tackle and remove any problem derelict/abandoned boats.

300 ‘concrete pillows’ (previously part of shoreline defences) have been removed from Angle Bay. These were **inhibiting natural shoreline processes** and thus impacting the resilience of coastal and intertidal habitats, as well as being unsightly. By engagement with and cooperation with the landowner, we have delivered commitment from the industrial landowner to manage and remove any further fallen concrete pillows in the future at their expense.



Prior to removal, these concrete pillows were unsightly debris that were inhibiting natural shoreline processes at this location



Enhancing sea walls with vertical rock pools and pocket tiles



After just two weeks, these purple top shells have moved in! Photo J. Monk, Milford Haven Port Authority

Native oyster, common in Welsh waters 100 years ago, is now critically endangered across the UK. NRW has been working in partnership with ABPmer to trial restoration of this habitat in the Milford Haven (existing action in the Action Plan). We were able to purchase additional oyster spat and cultch (oyster shell substrate that encourages settlement of oyster spat) to expand the existing project, which will continue in 2021.

The carpet sea squirt, *Didemnum vexillum*, is a **non-native invasive species** that is now present at **Holyhead Harbour**. This species has been known to spread and cause significant damage to marine biodiversity, as well as commercial interests such as aquaculture lays, by smothering the sea bed. We used the additional budget to determine extent of spread of the species, using divers and underwater ROV surveys. We trialled an ultrasound treatment system on Holyhead marina pontoons (where *D.Vex* is present). This trial was **intended to eliminate or control levels of this species in the harbour to reduce the risk of it spreading to other locations in Wales**.

Coastal habitats such as saltmarsh are important for biodiversity as well as providing wider benefits such as storing carbon and preventing coastal erosion. We have undertaken a feasibility study **exploring options to deliver saltmarsh enhancement and restoration opportunities at Rumney Great Wharf, Cardiff**. At this location, the retention of sediment leading to the expansion of saltmarsh habitats would support biodiversity improvements with the added benefit of reducing wave energy at the toe of the coastal defences, providing additional protection.



Native oyster at restoration site in Milford Haven



The invasive non-native carpet sea squirt (white spreading form) can smother other native marine species