

Nature Recovery Action Plan for Pembrokeshire

Part 1:

Our Strategy for Nature Recovery

June 2018

Pembrokeshire Nature Partnership

PEMBROKESHIRE
NATURE
PARTNERSHIP



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Thrift on Skomer.

Photo by Trevor Theobald

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Cowslips and early purple orchids on Pembrokeshire road verge

Photo by Trevor Theobald

1.0 Introduction

This plan is intended to highlight the key pressures on nature in Pembrokeshire and direct partners to suggested themes of action to address them, set within the legislative context. It can be used to stimulate project ideas, direct conservation effort, or provide a rationale for local action to achieve national objectives.

1.1 Definition

‘Nature’ means all living organisms and the ecological complexes (including non-living elements and processes) of which they are part. It includes diversity within species, between species and of ecosystems; the resilience of ecosystems; the services they provide to society and the way in which humans interact with nature.

1.2 Why Nature Matters

Nature is a particularly important component of Pembrokeshire’s distinctiveness. The County is justly famous for its magnificent coast, thronged with birds and carpeted with wild flowers in the spring; its quiet estuaries, steep wooded valleys and wide sweeps of heathland in the Preseli Hills. These features underpin the visitor economy in Pembrokeshire, which made an estimated almost £570 million contribution to the local economy in 2011, supporting some 14,000 jobs directly¹. The sea and sea bed around the Pembrokeshire coast are rich in species, some of which are of considerable economic importance. The abundance and diversity of species is a key element of the natural systems that sustain us through ecosystem services such as pollination of crops, flood alleviation, pest control and water purification. Access to nature-rich areas is also an aspect of quality of life, giving us pleasure, interest and understanding of our environment – promoting health, wellbeing and sense of place. Biodiversity (the variety of life) is also important for its intrinsic value – a fact which is recognised in the Environment (Wales) Act (2016)².

1.3 Trends

However, by most measures and at all scales from the global to the local, the diversity and abundance of wildlife is in continued decline. The State of Nature report (2016)³ estimated that 7% of Wales’ remaining species are at risk of extinction and that 33% of Wales’ priority species are still in decline. Pembrokeshire is no exception. In 2016, the Pembrokeshire Biodiversity Partnership assessed that 30% of our selected features were in decline, with a further 13% which could not be assessed due to paucity of data⁴. **Figure 1** shows a comparison with trends across the UK. The condition of many of

¹ Pembrokeshire Tourism Industry (2011) Pembrokeshire’s Facts of Tourism (2011). Available online at: http://www.tourismhelp.co.uk/content.asp?Language=&nav=4&parent_directory_id=1 (accessed on 10/02/2017).

² More information on the Environment (Wales) Act (2016) can be accessed here: <http://gov.wales/topics/environmentcountryside/consmanagement/natural-resources-management/environment-act/?skip=1&lang=en>

³ The State of Nature Partnership (2016). State of Nature 2016: Wales. Available here: http://www.wildlifetrusts.org/sites/default/files/stateofnature2016_wales_english_1_sept_pages.pdf

⁴ Pembrokeshire Biodiversity Partnership (2016). State of Wildlife in Pembrokeshire Update: April 2016. Available here: <https://www.pembrokeshire.gov.uk/biodiversity/pembrokeshire-nature-partnership-projects-and-reports>

our protected sites cannot be reliably assessed due to a lack of data. Where their condition is known, many are not in favourable condition⁵.

Figure 1: Trends in selected conservation features

Condition	UK All Species (3,816 assessed)	Wales Priority Species (249 assessed)	Pembrokeshire Selected Features (23 assessed)
Declining	40%	33%	30%
Stable	31%	43%	35%
Improving	29%	24%	22%
Data Deficient	--	--	13%

Modified from State of Nature Report (2016) and State of Wildlife in Pembrokeshire Report (2016).

1.4 Our Response for Nature Recovery

In response to these trends, Welsh Government has published its Nature Recovery Action Plan for Wales⁶, which sets six key objectives in order to halt the decline in biodiversity. The Pembrokeshire Nature Recovery Action Plan takes these objectives and sets them in the context of local priorities, inviting partners to work together in a set of broad action themes to meet the objectives. Specific actions will be recorded as they are identified and delivered. This plan is informed by and contributes towards the goals and duties set out in recent legislation such as the Wellbeing of Future Generations (Wales) Act (2015) and the Environment (Wales) Act (2016). The full legislative context for these plans is explained in **Appendix 1**.

Within this context, the full range of benefits to the environment, society and the economy from nature conservation and enhancement measures should be taken into account. For example, the conservation of wetlands for the intrinsic value of the habitats and species found there may also improve water quality downstream, reduce the severity of flood events, preserve cultural associations with the local landscape and provide access opportunities to improve the wellbeing of local people and support the visitor economy.

The Nature Recovery Action Plan for Pembrokeshire has been produced by the Pembrokeshire Nature Partnership, which includes public bodies, private sector companies, charities, community groups and individuals with an interest in the protection and enhancement of our natural resources in Pembrokeshire. Whilst it can be used to guide the members of the Partnership in setting their priorities for action, it is a guide for everyone to use. For specific advice on how you can help to

⁵ For example, see: <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/find-protected-areas-of-land-and-seas/indicative-feature-condition-assessments-for-european-marine-sites-ems/?lang=en> for marine protected area condition reports and: <https://naturalresources.wales/media/684070/chapter-3-state-and-trends-final-for-publication.pdf> for an assessment of condition of Special Area of Conservation features.

⁶ Available here:

<http://gov.wales/topics/environmentcountryside/consmanagement/conservationbiodiversity/?lang=en>

contribute towards nature recovery in our county, contact the Partnership's Biodiversity Implementation Officer at biodiversity@pembrokeshire.gov.uk.

This plan follows on from the Local Biodiversity Action Plan for Pembrokeshire⁷, which remains a valuable source of information and advice specific to species and habitats covered in that plan.

2.0 Our Ambition

To halt and then reverse the decline in biodiversity in Pembrokeshire and to improve both the condition and extent of our nature-rich areas, for their intrinsic value and to ensure the resilience of the ecosystems upon which we rely.

3.0 Threats and Opportunities

3.1 Threats

Loss of species and declines in the condition and extent of habitats resulting in fragmentation and isolation are major issues in nature conservation. These losses occur for a variety of reasons, which include:

- Intensification of agriculture with high input, high yield systems which can affect natural processes such as nutrient cycling, soil formation and erosion.
- Development pressure for residential, commercial and infrastructure developments.
- Recreational pressure, especially in the summer months which can be sensitive for many species for growth and reproduction.
- Invasive non-native species (INNS) which can out-compete native species and alter the balance of ecosystems.
- Climate change resulting in changes in the physical characteristics of areas (such as average rainfall or temperature, frequency of storms and timing of spring), which in turn affect the biological characteristics of the area.

3.2 Opportunities

However, there are also opportunities to support nature. These include:

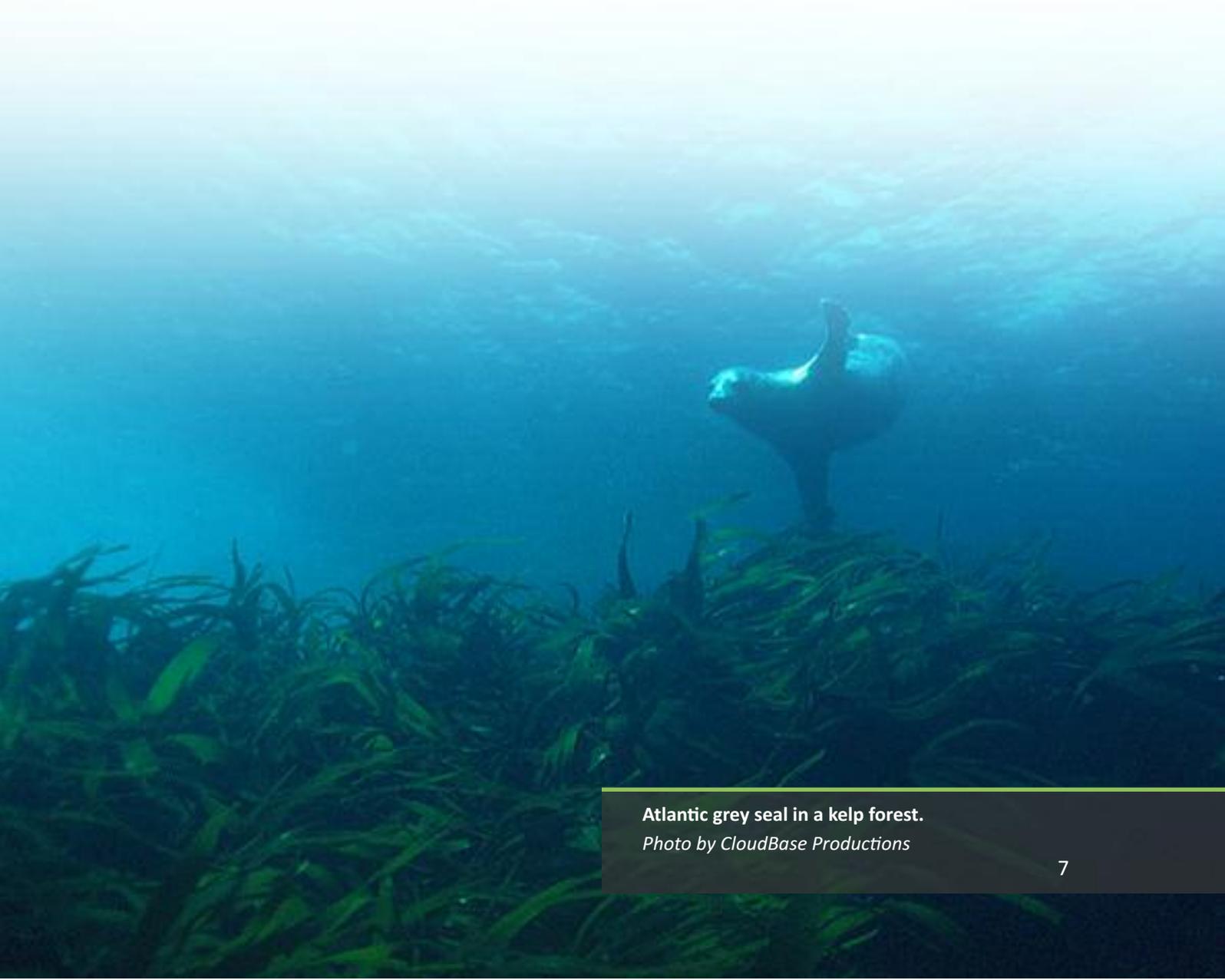
- New technologies to accurately manage the use of fertilisers and pesticides in agriculture, reducing unintentional diffuse pollution.
- Diversification of farms. Many farmers are seeking to diversify their incomes by providing accommodation, camping, outdoor activities or developing niche products. This can offer an opportunity to manage some areas less intensively.
- Smallholdings and non-intensive farms.
- Biodiversity gain in development. The planning system is increasingly seeking to enhance biodiversity through the consenting process.
- Community action.

⁷ Available here: <https://www.pembrokeshire.gov.uk/biodiversity/pembrokeshire-nature-partnership-plans-and-guidance>

- Improvements in technology facilitating ‘citizen science’ initiatives. The use of mobile devices in the field to access identification guides and upload information to robust survey protocols is facilitating greater engagement in citizen science initiatives. However, these should not be seen as a replacement for survey of key features by trained professionals, but rather as a source of supporting information.
- New duties for public bodies. The Environment (Wales) Act (2016) places an enhanced duty on all public bodies to seek to maintain and enhance biodiversity in exercising their functions. The Wellbeing of Future generations (Wales) Act (2015) states that all public bodies must maximise their contribution to all seven of the wellbeing goals in exercising their duties. These apply across all functions of these organisations, so there is an opportunity to work in a coordinated way across organisations. See **Appendix 1** for the full legislative context.

4.0 Objectives

The objectives of the Nature Recovery Action Plan for Wales are set out below, along with a set of action themes which will contribute in Pembrokeshire to local delivery of those objectives. These are summarised in **Figure 2**.



Atlantic grey seal in a kelp forest.
Photo by CloudBase Productions

Figure 2: Summary of objectives and action themes.

NRAP Wales Objective	NRAP Pembrokeshire Action Themes
<p>Objective 1: Engage and support participation and understanding to embed biodiversity throughout decision making at all levels.</p>	<p>1.1 Programme of education and awareness raising activities accessible to the public and including events, newsletters, social media and press releases.</p> <p>1.2 Work with public bodies to embed biodiversity in decision making.</p> <p>1.3 Work with the private sector to embed biodiversity in decision making.</p> <p>1.4 Work with specialist interest groups to improve understanding of the conservation status and ecological role of specific features.</p> <p>1.5 Work with communities and landowners to highlight conservation features in their area and encourage their consideration in site management.</p>
<p>Objective 2: Safeguard species and habitats of principal importance and improve their management.</p>	<p>2.1 Provide clear, publically accessible information on the species and habitats of importance in Pembrokeshire, identifying status, trend, threats and opportunities.</p> <p>2.2 Assist partners in identifying, developing and delivering actions to safeguard species and habitats of importance in Pembrokeshire.</p>
<p>Objective 3: Increase the resilience of our natural environment by restoring degraded habitats and habitat creation.</p>	<p>3.1 Assist partners in identifying, developing and delivering actions to increase the resilience of our natural environment by restoring degraded habitats and habitat creation in Pembrokeshire.</p>
<p>Objective 4: Tackle key pressures on species and habitats.</p>	<p>4.1 Work with site owners and site managers to reduce the fragmentation of habitats, setting individual actions in the broader, landscape scale context through initiatives such as B-Lines, the Long Forest and the Reconnecting Welsh Dragons project and others as they arise.</p> <p>4.2 Increase resilience of species, habitats and ecosystems to the effects of climate change through improving the condition, extent and ecological connectivity of our nature-rich areas.</p> <p>4.3 Encourage the use of natural solutions such as reed beds, buffer strips and contour hedge planting to reduce diffuse pollution and soil erosion.</p> <p>4.4 Encourage the development and adoption of voluntary codes of conduct to manage the use of our environment within sustainable limits.</p> <p>4.5 Encourage collaborative projects to tackle INNS at appropriate scales such as river catchments.</p>
<p>Objective 5: Improve our evidence, understanding and monitoring.</p>	<p>5.1 Work with West Wales Biodiversity Information Centre to provide high quality data on the distribution of habitats and species and develop tools to use these data in order to identify and target conservation opportunities.</p> <p>5.2 Support volunteer survey by providing access to advice, training and equipment and signposting to citizen science initiatives.</p>
<p>Objective 6: Put in place a framework of governance and support for delivery.</p>	<p>6.1 Provide a strong local partnership to act as an interface between local delivery partners and Welsh Government / Natural Resources Wales.</p>

Objective 1: Engage and support participation and understanding to embed biodiversity throughout decision making at all levels.

Action Theme 1.1

Programme of education and awareness raising activities accessible to the public and including events, newsletters, social media and press releases.

Case Study: Outdoor Charter Group Member Training



Working with Pembrokeshire Outdoor Charter Group, a range of stakeholders have collaborated to deliver training on wild flower identification, bumblebee identification and conservation issues to outdoor instructors who can then act as ambassadors for conservation in their work with a wide variety of customers.



Bluebells near Brandy Brook

Photo by Trevor Theobald

Action Theme 1.2

Work with public bodies to embed biodiversity in decision making.

Case Study: Fire & Rescue Service Mobile Data Access

Working with Mid and West Wales Fire & Rescue Service, Pembrokeshire Nature Partnership have mapped relevant conservation features and made them available on the mobile data terminals inside response vehicles to help inform decision making by incident commanders during incidents.



Action Theme 1.3

Work with the private sector to embed biodiversity in decision making.

Case Study: Naturally Connected

Pembrokeshire Coast National Park Authority's Naturally Connected project encouraged tourism business to adopt land management practices that provide suitable habitats for wildlife and also to promote local 'wildlife aware' visitor activities and experiences that will bring benefits to both the environment and the business involved. Seven businesses took part in the pilot project to develop and implement a wide range of exciting biodiversity and interpretation projects.



Installing an artificial otter holt at Bluestone Brewery



Action Theme 1.4

Work with specialist interest groups to improve understanding of the conservation status and ecological role of specific features.

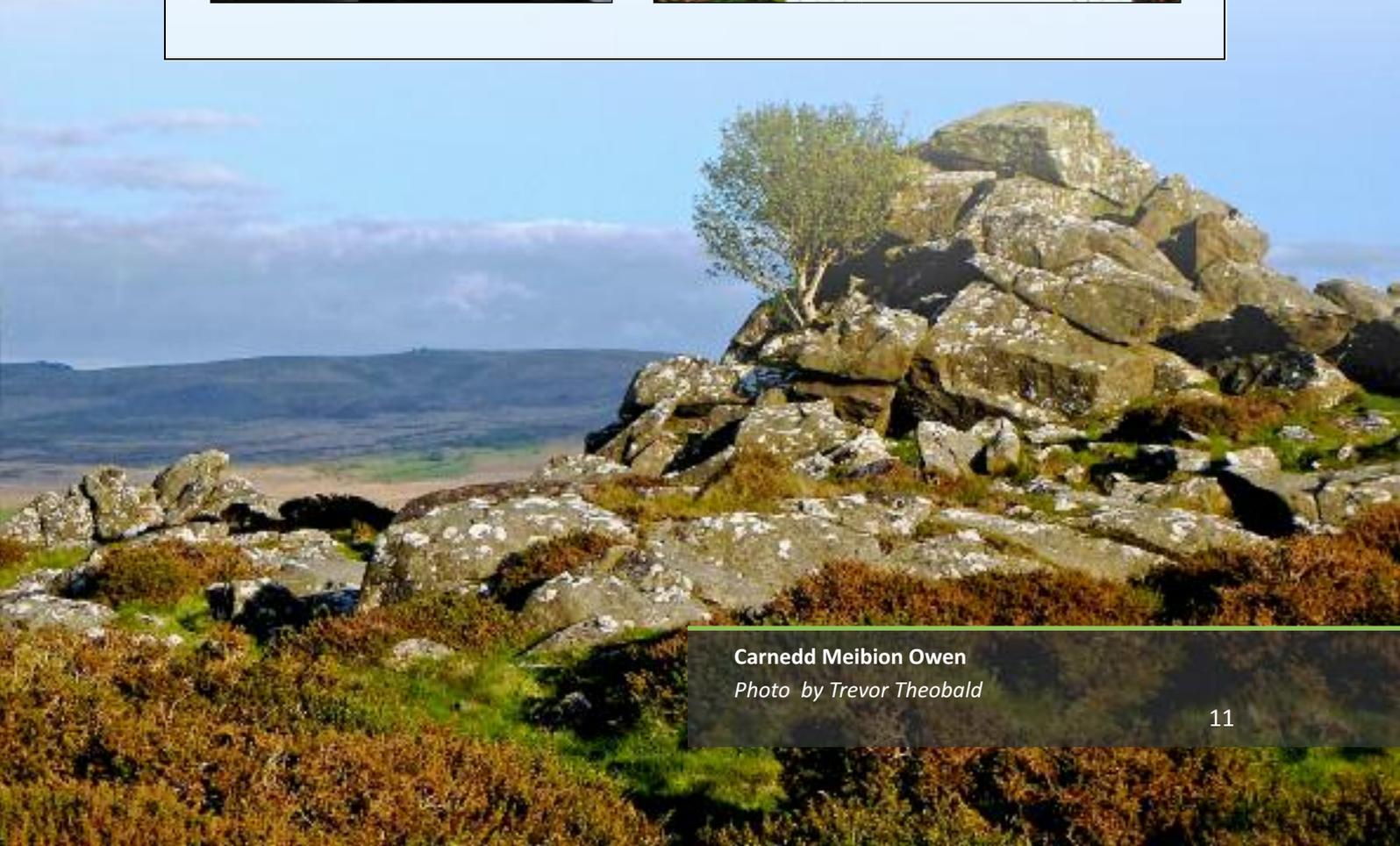
Case Study:

Pembrokeshire Fungus
Recording Network



Using a small grant from the Pembrokeshire Nature Partnership to get started, the Pembrokeshire Fungus Recording Network, with support from Aberystwyth University, has committed hundreds of hours of expert volunteer time to a citizen science project involving the analysis of fungal DNA.

The volunteers used a mini-DNA laboratory (Bento Lab) to isolate and amplify DNA barcode extracts from collections of the Blackening Waxcap (*H. conica*) in order to learn more about the distribution of this species and its variants throughout the County.



Carnedd Meibion Owen
Photo by Trevor Theobald

Theme 1.5

Work with communities and landowners to highlight conservation features in their area and encourage their consideration in site management.

Case Study: Conserving the Park

Habitats such as flower-rich grasslands, marshy grasslands, woodlands and coastal slopes all contribute to the rich diversity of wildlife in the National Park. These semi-natural habitats suffer from a range of issues such as land abandonment, inappropriate stock, lack of grazing and lack of traditional vegetation management.



Outside of designated areas there are gaps in the support available to landowners who aspire to manage their land for the benefit of wildlife. The Conserving the Park scheme aims to fill that gap, and also to facilitate access to other sources of support and add value where possible, offering a range of support including grant aid, advice, management agreements, grazing animals and practical assistance. Each farm or holding is individually assessed and offered a bespoke service for the better management of their land. In 2016-17 the scheme worked on over 900ha at over 100 sites.

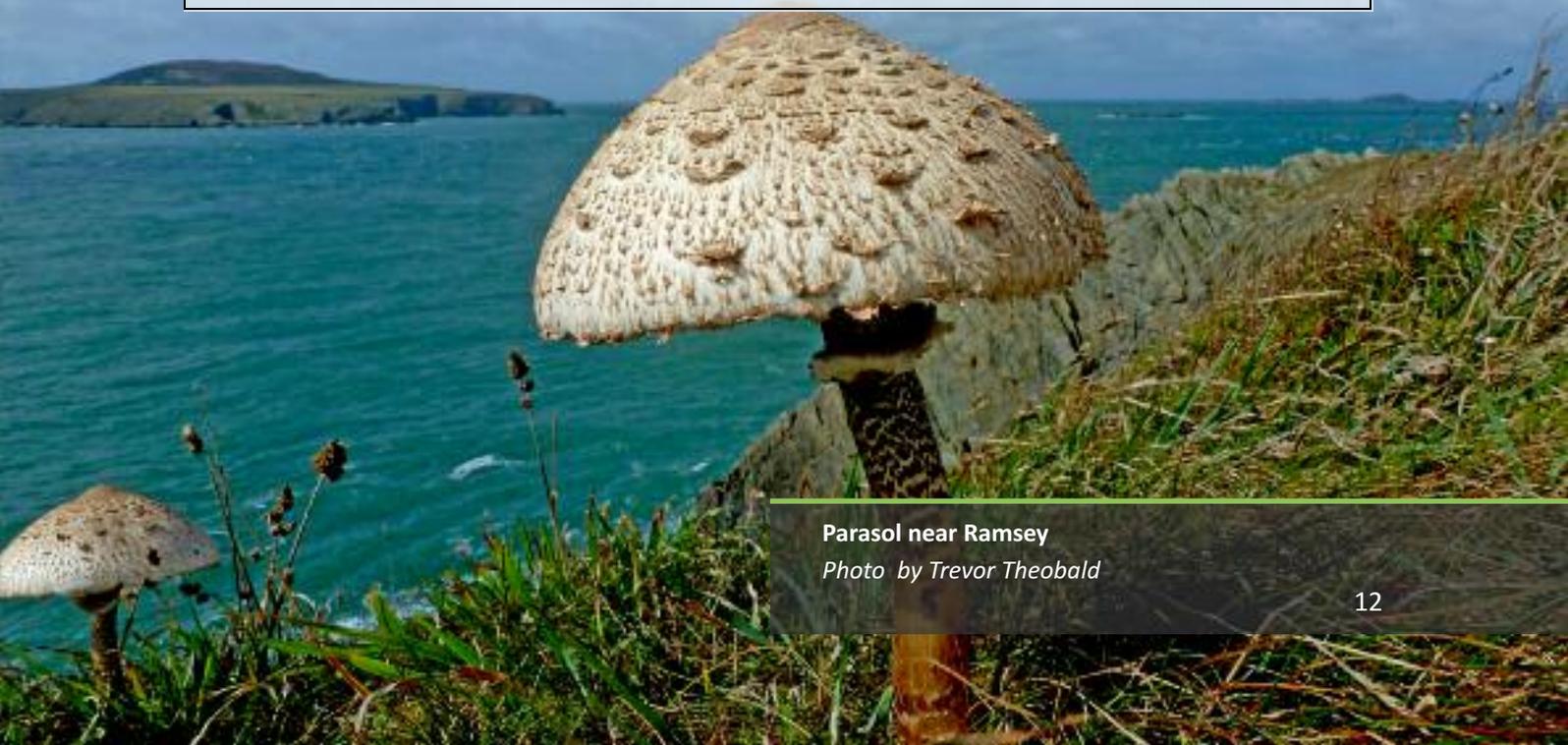
More details can be found here: <http://www.pembrokeshirecoast.wales/default.asp?PID=189>



Flower rich meadow in North Pembrokeshire



Spiked speedwell near Strumble Head



Parasol near Ramsey

Photo by Trevor Theobald

Objective 2: Safeguard species and habitats of principal importance and improve their management

Where possible, work is undertaken at a landscape scale to improve ecosystem resilience. However, specific interventions may be required where a species or habitat is considered locally important or at high risk.

Action Theme 2.1

Provide clear, publically accessible information on the species and habitats of importance in Pembrokeshire, identifying status, trend, threats and opportunities.

Case Study: State of Wildlife in Pembrokeshire Report



In 2011, the Pembrokeshire Biodiversity Partnership (now Pembrokeshire Nature Partnership) produced an assessment of selected

species and habitats in the County as a metric of condition and trends in the wider countryside in a publically accessible report. The report was updated in 2016 and it is intended that updates will be produced every five years. Both the 2011 report and the 2016 update are available here:

Feature	Condition	Trend
Heathland	Poor	Data Deficient
Southern Damselfly	Poor	Declining
Three Lobed Water Crowfoot	Moderate	Stable
Ponds and Lakes	Moderate	Improving
Rivers, Streams & Ditches	Moderate	Improving
Otters	Good	Stable
Hedgebanks	Data Deficient	Stable
Bats	Moderate	Stable
Oak Woodland	Moderate	Improving
Hazel Dormouse	Data Deficient	Data Deficient
Arable Field Margins	Data Deficient	Declining
Farmland Birds	Poor	Declining
Grassland	Data Deficient	Declining
Marsh Fritillary	Poor	Declining
Grassland Fungi	Good	Stable
Kestrel	Moderate	Data Deficient
Coastal Cliffs and Slopes	Moderate	Improving
Chough	Moderate	Stable
Wetland Birds	Moderate	Stable
Mudflats	Poor	Stable
Native Oyster	Poor	Declining
Pink Sea Fan	Moderate	Declining
Grey Seal	Good	Improving

<https://www.pembrokeshire.gov.uk/biodiversity/pembrokeshire-nature-partnership-projects-and-reports>



Banded demoiselle

Photo by Trevor Theobald

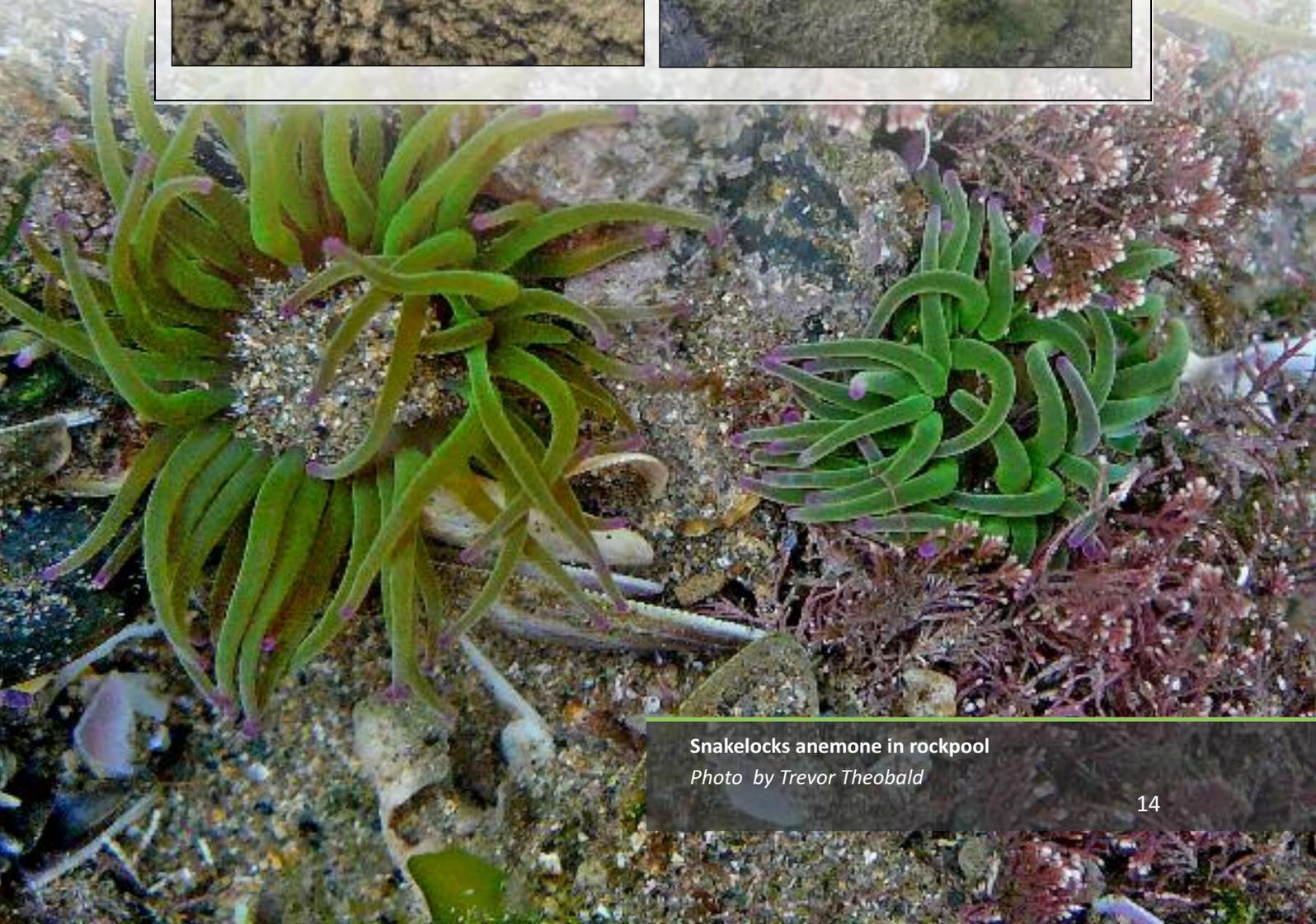
Action Theme 2.2

Assist partners in identifying, developing and delivering actions to safeguard species and habitats of importance in Pembrokeshire.

Case Study: Southern Damselfly Habitat Restoration



Using grants from the Pembrokeshire Nature Partnership and Pembrokeshire Coast National Park Authority in 2015 and 2017, The Pembrokeshire Coast National Park Authority, Natural Resources Wales and British Dragonfly Society collaborated to restore key habitat for Southern Damselfly in one of the last strongholds for this species in the UK – the Preseli Hills. Diggers were used to re-profile stream banks which were overgrown due to lack of heavy grazing animals in the area.



Snakelocks anemone in rockpool

Photo by Trevor Theobald

Objective 3: Increase the resilience of our natural environment by restoring degraded habitats and habitat creation

Action Theme 3.1

Assist partners in identifying, developing and delivering actions to increase the resilience of our natural environment by restoring degraded habitats and habitat creation in Pembrokeshire.

Case Study: Llangloffan Fen Nature Reserve

Working with Natural Resources Wales and using a grant from the Pembrokeshire Nature Partnership, the Wildlife Trust of South and West Wales have created areas of open water through ponds and scrapes along with soft engineering installations in the river that flows through the reserve at Llangloffan Fen. The reserve lies at the head of the Western Cleddau catchment. These management practices help slow down the movement of water through the site, aim to complement natural river processes and go some way to alleviate flood risk further down the catchment.



Species rich grassland in churchyard

Photo by Trevor Theobald

Objective 4: Tackle key pressures on species and habitats.

Key pressures identified by the United Nations and of importance in Wales:

- Habitat loss and degradation (addressed in objectives 2 & 3)
- Fragmentation and isolation of habitats
- Human population increases (not addressed in this plan)
- Climate change
- Excessive nutrient input and other pollution
- Over-exploitation and unsustainable use
- Invasive Non-Native Species

Action Theme 4.1

Work with site owners and site managers to reduce the fragmentation of habitats, setting individual actions in the broader, landscape scale context through initiatives such as B-Lines, the Long Forest and the Reconnecting Welsh Dragons project and others as they arise.

Case Study: Reconnecting Welsh Dragons



ARC has been working at a national and local level to improve connectivity of pond habitats. In particular the southern half of Wales over the last 5 years, creating and restoring ponds every winter to start turning the tide on the recovery of this important habitat, but there is still much work to do.

Funded by the Welsh Government's Nature fund, in partnership with Defence Infrastructure Organisation and with landowner assistants, Landmarc, Templeton Airfield was one of the largest sites. Fifteen ponds were restored in the Pembrokeshire Nature Action Zone during the winter of 2014-15.



Action Theme 4.2

Increase resilience of species, habitats and ecosystems to the effects of climate change through improving the condition, extent and ecological connectivity of our nature-rich areas.

Case Study: Solva Catchment Natural Flood Management

Working with members of Pembrokeshire Nature Partnership, Natural Resources Wales are restoring natural river processes to reduce flood risk in the Solva catchment. Creation of run-off attenuation features such as leaky dams, new areas of wetland habitat, tree planting and sediment traps not only reduce flood risk but also has wider environmental benefits. New habitat is created, water quality improved, the effects of diffuse pollution mitigated and there will be buffering of climate change through carbon storage.



Western Cleddau at St Catherine's Bridge

Photo by Trevor Theobald

Action Theme 4.3

Encourage the use of natural solutions such as reed beds, buffer strips and contour hedge planting to reduce diffuse pollution and soil erosion.

Case Study: Hedge planting at Paternoster Farm

Pembrokeshire County Council planted a mix of species along an existing hedge line to strengthen its value as a connectivity corridor for pollinators and other species, whilst also providing a buffer strip between intensive agricultural land and a newly designated Site of Special Scientific Interest.



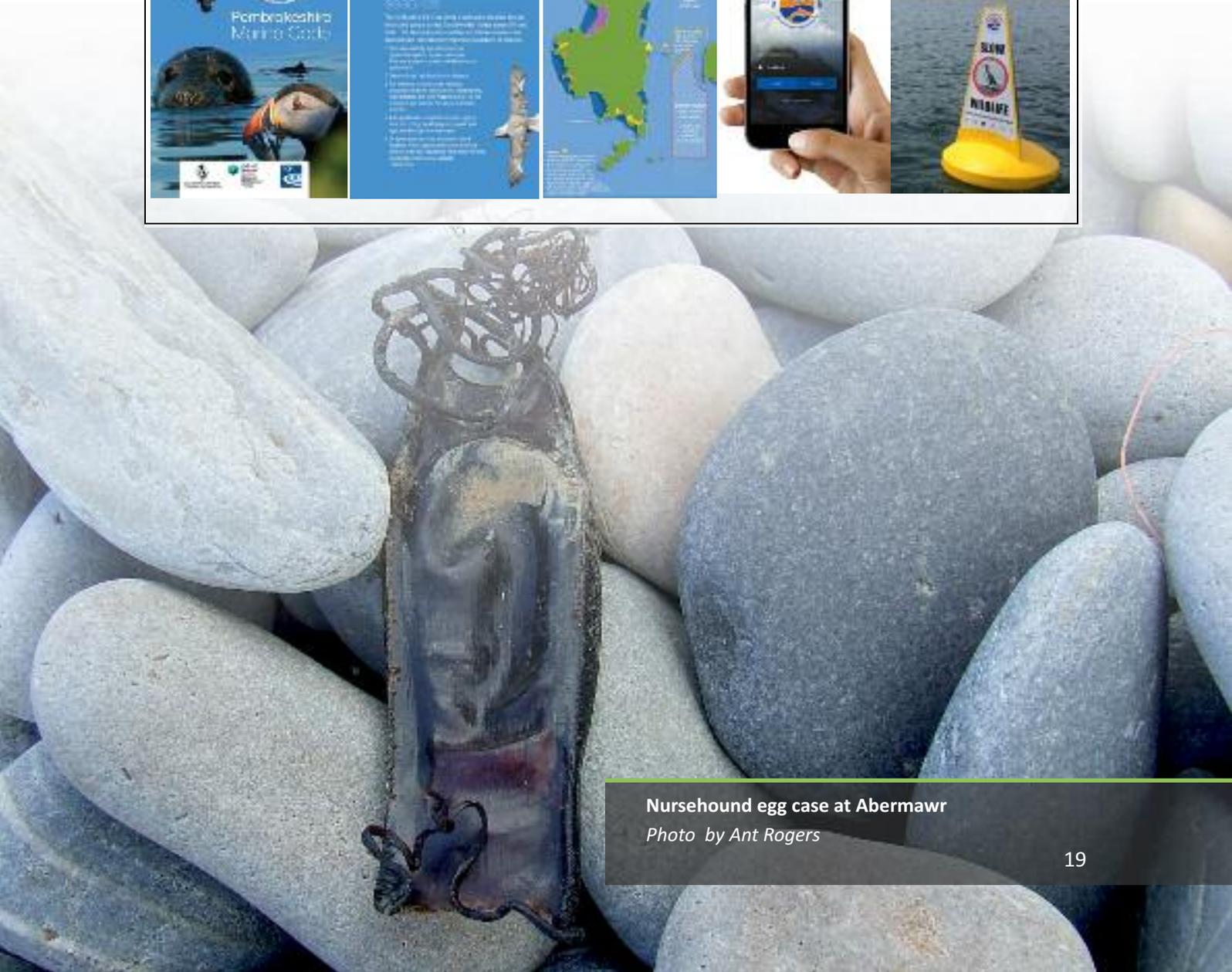
Cotton grass at Brynberian
Photo by Trevor Theobald

Action Theme 4.4

Encourage the development and adoption of voluntary codes of conduct to manage the use of our environment within sustainable limits.

Case Study: Pembrokeshire Marine Code

The Pembrokeshire Marine Code is a voluntary approach to minimising disturbance to marine wildlife. The Codes of Conduct provide guidance on agreed best practice which include sensitive areas and times of year, safe viewing distances and speeds, and animal behaviour that indicates likely disturbance. Developed in 2002 by a number of stakeholders including wildlife tour boat operators, sea kayakers and conservationists, the codes and messaging have evolved to ensure the guidance continues to be viewed as best practice. The use of a spatial approach by mapping sensitive areas allows marine users to avoid areas during sensitive times such as seabird nesting or seal pupping. The key messages of 'Plan Ahead', 'Keep your Distance' and 'Reduce Speed and Sound' have been produced in several mediums. For more information go to www.pembrokeshiremarinecode.org.uk/.



Nursehound egg case at Abermawr

Photo by Ant Rogers

Action Theme 4.5

Encourage collaborative projects to tackle INNS at appropriate scales such as river catchments.

Case Study: Stitch in Time Project

Pembrokeshire Coast National Park Authority have employed a Project Officer to coordinate effort across partner organisations, landowners and community groups to eradicate key invasive species at a catchment scale in the Gwaun catchment. Targeting individual drainage basins within the catchment to create defensible spaces, preventing re-infestation and reducing the ongoing cost of treatment.



Parc Cenedlaethol Arfordir Penfro
Pembrokeshire Coast National Park



Wild flowers near Porthclais

Photo by Trevor Theobald

Objective 5: Improve our evidence, understanding and monitoring.

As identified above, information on the condition and distribution of species and habitats is often not available. Gathering, storing and making available high quality information on conservation features is key to making informed management choices.

Action Theme 5.1

Work with West Wales Biodiversity Information Centre to provide high quality data on the distribution of habitats and species and develop tools to use these data in order to identify and target conservation opportunities.

Case Study:

Land Use Planning Tool

Working with West Wales Biodiversity Information Centre, the Pembrokeshire Nature Partnership have developed an online mapping portal to rapidly assess habitat suitability for a range of species, along with opportunities for working with partners to protect and enhance connectivity and ecosystem function. The tool is available for partners in helping to develop conservation projects.



WEST WALES
BIODIVERSITY INFORMATION CENTRE
CANOLFAN WYBODAETH BIODIMRYWIAETH
GORLEWIN CYMRU



Silver-studded blue

Photo by Trevor Theobald

Action Theme 5.2

Support volunteer survey by providing access to advice, training and equipment and signposting to citizen science initiatives.

Case Study:

The Square Challenge



WEST WALES
BIODIVERSITY INFORMATION CENTRE
CANOLIAN WYSDDAETH BIODAMRYNIAETH
GORLEWIN CYMRU



Pembrokeshire Nature Partnership worked with West Wales Biodiversity Information Centre, ISpot and Hayscastle Environment Group to develop a resource pack to encourage communities to engage in biological recording by 'adopting' a 1km grid square near them where there were few or no biological records and seeing how many records they could add in a year. The enthusiastic group adopted 36 grid squares and submitted 2,501 records.



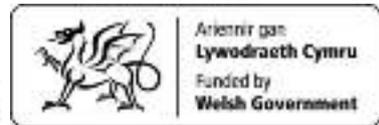
Usnea articulata indicating clean air
Photo by Trevor Theobald

Objective 6: Put in place a framework of governance and support for delivery.

Action Theme 6.1

Provide a strong local partnership to act as an interface between local delivery partners and Welsh Government / Natural Resources Wales.

Case Study: All-Wales Nature Partnerships Liaison Group.



Working with colleagues from across Wales, Pembrokeshire Nature Partnership's Biodiversity Implementation Officer attends regular liaison meetings between Nature Partnerships from other counties, Welsh Government and Natural Resources Wales. The forum facilitated by the Wales Biodiversity Partnership allows a two way flow of information and ideas from the field to the heart of Government and back again.



Lecidea lithophila matrix
Photo by Trevor Theobald

5.0 Delivering Our Objectives

Pembrokeshire Nature Partnership employs a Biodiversity Implementation Officer to support partners in delivery of these objectives. The Officer provides an overview of activity in the County to ensure delivery against identified priorities, avoid duplication and share best practice. To facilitate delivery of these objectives across the broad spectrum of stakeholders in the County and guide action to where it will be most effective, the Pembrokeshire Nature Partnership will publish part 2 of this plan as a series of themed action plans. These plans will draw together relevant information around the following themes:

- **Species or habitats of importance in Pembrokeshire.** These will be identified from the list of species of principle importance in Wales found in Section 7 of the Environment (Wales) Act (2016), data on key habitat networks and local knowledge. A list of these S7 species known to occur in Pembrokeshire can be found in **Appendix 2** and priority Welsh habitats in **Appendix 3**. Plans for many of these species and habitats are already published as Part 2 of the Local Biodiversity Action Plan (LBAP) for Pembrokeshire and will be reviewed or added to over time. They can be accessed here:
<https://www.pembrokeshire.gov.uk/biodiversity/pembrokeshire-nature-partnership-plans-and-guidance>
- **Communities of place.** Where community groups wish to take action in a specific geographic location, the Pembrokeshire Nature Partnership can help to identify locally important features and opportunities, suggest suitable actions and signpost to sources of help or funding. These community plans will be produced in partnership with community groups as opportunity arises. If you would like to develop a plan for your community, please contact us (contact details here: <https://www.pembrokeshire.gov.uk/biodiversity>). When published, the plans will be available here:
<https://www.pembrokeshire.gov.uk/biodiversity/pembrokeshire-nature-partnership-plans-and-guidance>
- **Communities of interest.** Although no two sites are the same and action should be tailored to specific local conditions, there are often common issues and opportunities amongst people with similar interests or at sites with similar management aims. These plans will draw together information relevant to specific stakeholder groups. The Pembrokeshire Nature Partnership will publish plans for the following groups:
 - Agricultural land
 - Allotments and gardens
 - Camping and caravan sites
 - Public bodies
 - Schools and colleges
 - Smallholdings and non-intensive farms

When published, the plans will be available here:

<https://www.pembrokeshire.gov.uk/biodiversity/pembrokeshire-nature-partnership-plans-and-guidance>

The Pembrokeshire Nature Partnership will continue to support, coordinate and initiate actions amongst existing and new Partners and will seek to record information on conservation action to feed into the reporting for the Nature Recovery Action Plan for Wales.

6.0 Reporting and Review

Actions from across the Pembrokeshire Nature Partnership contributing to the delivery of the objectives of this plan should be reported to the Partnership's Biodiversity Implementation Officer for inclusion in an annual summary. The plan is intended to reflect governance arrangements whilst maintaining the flexibility to react to opportunities. The plan will therefore be reviewed if governance arrangements change. Themed action plans will be written / reviewed as opportunities are identified to manage our natural resources more effectively.



Foxgloves and sea views

Photo by Trevor Theobald

Appendix 1: Policy and Legislative Context

Through the UK government we are committed to the vision of the **Convention on Biological Diversity's** (CBD) Strategic Plan for Biodiversity 2011-2020⁸.

The vision, mission and the five strategic goals are shown in full in Appendix 2 of The Nature Recovery Plan for Wales. These goals are to be met with 20 targets, known as the Aichi targets, which are shown in Appendix 3 of The Nature Recovery Plan for Wales⁹.

The **European Union's Biodiversity Strategy** sets out how European policy can best contribute to the achievement of the CBD's Strategic Plan and contains a number of objectives and targets. These are also shown in Appendix 2 of The Nature Recovery Plan for Wales. The decision of the people of the UK to leave the European Union may result in review of the UK position with reference to this strategy in due course.

The **Well-being of Future Generations (Wales) Act 2015**¹⁰ recognises the importance that the Welsh Government places on our environment and biodiversity. It sets seven well-being Goals for the sustainable Wales we want:

- a prosperous Wales
- a resilient Wales
- a healthier Wales
- a more equal Wales
- a Wales of cohesive communities
- a Wales of vibrant culture and thriving Welsh language
- A globally responsible Wales.

The 'Resilient Wales' goal envisages:

'A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change).'

All public bodies in Wales will have to work towards this and all of the other goals as required under the Act and adopt the principles outlined in the Act.

In adopting fully the principle of sustainable development, the Act recognises the need to tackle long-term trends and the root causes of the strategic challenges we face, including for our biodiversity. It requires public bodies and authorities to consider the goals in all policies and strategies.

All public bodies in Wales also have the legal duties within the **Environment (Wales) Act (2016)** to *'seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.'* Each public body must set and publish well-being objectives that are designed to maximise its contribution to achieving each of the well-being goals, and take all reasonable steps to meet those objectives, as highlighted in the Environment (Wales) Act (2016).

⁸ [Convention on Biological Diversity - Strategic Plan for Biodiversity 2011-2020, including Aichi Biodiversity Targets](#)

⁹ Available here:

<http://gov.wales/topics/environmentcountryside/consmanagement/conservationbiodiversity/?lang=en>

¹⁰ [Well-Being of Future Generations \(Wales\) Act 2015 - The Essentials](#)

The objective of the Sustainable Management of Natural Resources (SMNR) in the Environment (Wales) Act (2016) is to maintain and enhance the resilience of ecosystems and the benefits they provide to society and, in doing so, meet the needs of present generations of people without compromising the ability of future generations to meet their needs.

The Biodiversity and Resilience of Ecosystems Duty

The Environment (Wales) Act (2016) introduces an enhanced biodiversity and resilience of ecosystems duty that will apply to public bodies who exercise functions in relation to Wales. Biodiversity is placed as a "natural and integral part of policy and decision making" within public bodies in Wales. A new reporting duty enables public bodies to report on actions taken to improve biodiversity and to promote the resilience of ecosystems and also what actions have been taken to incorporate biodiversity measures into other areas of policy, strategies or initiatives.

The SoNaRR Principles

The recently published State of Natural Resources Report (SoNaRR) assesses the extent to which natural resources in Wales are being sustainably managed, and links the resilience of Welsh natural resources to the well-being of the people of Wales.

The Environment (Wales) Act (2016) puts the ecosystem approach into statute through a set of principles¹¹. All public bodies subject to the Environment (Wales) Act (2016) must use these principles in designing and implementing projects and programmes of work.

The Legislative Framework for Marine Biodiversity

The Well-being of Future Generations (Wales) Act (2015) and the Environment (Wales) Act (2016) apply to both the terrestrial and marine environments. In addition to these, the Marine Strategy Regulations 2010¹² implement the **Marine Strategy Framework Directive (MSFD)**¹³, which aims to achieve or maintain Good Environmental Status of our seas by 2020 by protecting the marine environment, preventing its decline, restoring it where practical and using marine resources sustainably.

MSFD provides the overarching framework for a number of other key Directives and legislation that are applicable to the marine environment. For example, the EC Habitats Directive¹⁴, the EC Birds Directive¹⁵, the EU Water Framework Directive¹⁶, the Common Fisheries Policy¹⁷ and the UK Marine and Coastal Access Act¹⁸.

MSFD will also help us to meet our international commitments on Sustainable Development and the Convention on Biological Diversity (CBD).

¹¹ [Environment \(Wales\) Act 2016](#)

¹² [The Marine Strategy Regulations 2010](#)

¹³ [Joint Nature Conservation Committee \(JNCC\) information on the Marine Strategy Framework Directive](#)

¹⁴ [EC Habitats Directive](#)

¹⁵ [EC Birds Directive](#)

¹⁶ [EU Water Framework Directive](#)

¹⁷ [Common Fisheries Policy](#)

¹⁸ [UK Marine and Coastal Access Act](#)

The Marine and Coastal Access Act 2009 established the Welsh Ministers as the Marine Planning Authority for Wales. The Welsh National Marine Plan¹⁹ will promote sustainable development of the marine area and the sustainable use of our marine resources.

Both the Marine Plan and MSFD integrate marine policies and place the ecosystem approach at the heart of decision making for Welsh seas.

¹⁹ [The Welsh National Marine Plan - Draft](#)

Appendix 2: Section 7 Species Known to Occur in Pembrokeshire (December 2017)

NB. This is a list based upon species records for Pembrokeshire cross referenced to the S7 list. Absence of records does not necessarily indicate absence of the species in Pembrokeshire. Full lists of species and habitats under S7 of the Environment (Wales) Act (2016) can be accessed here: <https://www.biodiversitywales.org.uk/Environment-Wales-Bill>

Taxon Group	Scientific Name	Common Name
Alga (Marine)	<i>Anotrichium barbatum</i>	Bearded Red Seaweed
Alga (Marine)	<i>Cruoria cruoriaeformis</i>	Red Seaweed
Alga (Marine)	<i>Lithothamnion coralloides</i>	Maerl
Alga (Marine)	<i>Padina pavonica</i>	Peacock's Tail
Alga (Marine)	<i>Phymatolithon calcareum</i>	Maerl
Amphibians		
Amphibian	<i>Bufo bufo</i>	Common Toad
Annelids		
Annelid	<i>Alkmaria romijni</i>	Tentacled Lagoon-worm
Birds		
Bird	<i>Acanthis cabaret</i>	Lesser Redpoll
Bird	<i>Acrocephalus paludicola</i>	Aquatic Warbler
Bird	<i>Alauda arvensis subsp. Arvensis</i>	Skylark
Bird	<i>Anser albifrons</i>	White-fronted Goose
Bird	<i>Anser albifrons subsp. flavirostris</i>	Greenland Greater White-fronted Goose
Bird	<i>Anthus trivialis</i>	Tree Pipit
Bird	<i>Botaurus stellaris</i>	Bittern
Bird	<i>Branta bernicla subsp. bernicla</i>	Dark-bellied Brent Goose
Bird	<i>Charadrius hiaticula</i>	Ringed Plover
Bird	<i>Chroicocephalus ridibundus</i>	Black-headed Gull
Bird	<i>Circus cyaneus</i>	Hen Harrier
Bird	<i>Coccothraustes coccothraustes</i>	Hawfinch
Bird	<i>Crex crex</i>	Corncrake
Bird	<i>Cuculus canorus</i>	Cuckoo
Bird	<i>Cygnus columbianus</i>	Bewick's Swan
Bird	<i>Cygnus columbianus subsp. bewickii</i>	Bewick's Swan
Bird	<i>Dendrocopos minor</i>	Lesser Spotted Woodpecker
Bird	<i>Emberiza calandra</i>	Corn Bunting
Bird	<i>Emberiza citrinella</i>	Yellowhammer
Bird	<i>Emberiza schoeniclus</i>	Reed Bunting
Bird	<i>Falco tinnunculus</i>	Kestrel
Bird	<i>Ficedula hypoleuca</i>	Pied Flycatcher
Bird	<i>Larus argentatus</i>	Herring Gull
Bird	<i>Limosa lapponica</i>	Bar-tailed Godwit
Bird	<i>Linaria cannabina</i>	Linnet
Bird	<i>Linaria flavirostris</i>	Twite
Bird	<i>Locustella naevia</i>	Grasshopper Warbler
Bird	<i>Lullula arborea</i>	Woodlark
Bird	<i>Melanitta nigra</i>	Common Scoter
Bird	<i>Motacilla flava</i>	Yellow Wagtail

Bird	<i>Muscicapa striata</i>	Spotted Flycatcher
Bird	<i>Numenius arquata</i>	Curlew
Bird	<i>Passer domesticus</i>	House Sparrow
Bird	<i>Passer montanus</i>	Tree Sparrow
Bird	<i>Perdix perdix</i>	Grey Partridge
Bird	<i>Phylloscopus sibilatrix</i>	Wood Warbler
Bird	<i>Pluvialis apricaria</i>	Golden Plover
Bird	<i>Poecile montana</i>	Willow Tit
Bird	<i>Poecile palustris</i>	Marsh Tit
Bird	<i>Prunella modularis</i>	Dunnock
Bird	<i>Puffinus mauretanicus</i>	Balearic Shearwater
Bird	<i>Pyrrhocorax pyrrhocorax</i>	Chough
Bird	<i>Pyrrhula pyrrhula</i>	Bullfinch
Bird	<i>Sterna dougallii</i>	Roseate Tern
Bird	<i>Streptopelia turtur</i>	Turtle Dove
Bird	<i>Sturnus vulgaris</i>	Starling
Bird	<i>Turdus philomelos</i>	Song Thrush
Bird	<i>Turdus philomelos subsp. clarkei</i>	Turdus philomelos subsp. clarkei
Bird	<i>Turdus torquatus</i>	Ring Ouzel
Bird	<i>Vanellus vanellus</i>	Lapwing
Clubmoss		
Clubmoss	<i>Lycopodiella inundata</i>	Marsh Clubmoss
Cnidaria		
Cnidarian (marine)	<i>Eunicella verrucosa</i>	Pink Seafan
Cnidarian (marine)	<i>Haliclystus auricula</i>	Stalked Jellyfish
Cnidarian (marine)	<i>Lucernariopsis campanulata</i>	Stalked Jellyfish
Conifer		
Conifer	<i>Juniperus communis</i>	Juniper
Crustacean		
Crustacean	<i>Austropotamobius pallipes</i>	White-clawed Freshwater Crayfish
Crustacean (marine)	<i>Palinurus elephas</i>	Crayfish
Fern		
Fern	<i>Pilularia globulifera</i>	Pillwort
Fish		
Bony Fish (marine)	<i>Ammodytes marinus</i>	Sand-eel
Bony Fish	<i>Anguilla anguilla</i>	European Eel
Cartilagenous Fish (marine)	<i>Cetorhinus maximus</i>	Basking Shark
Bony Fish (marine)	<i>Clupea harengus</i>	Herring
Cartilagenous Fish (marine)	<i>Dipturus batis</i>	Common Skate
Bony Fish (marine)	<i>Gadus morhua</i>	Atlantic Cod
Cartilagenous Fish (marine)	<i>Geleorhinus galeus</i>	Tope Shark
Bony Fish (marine)	<i>Hippocampus guttulatus</i>	Long-snouted Seahorse
Cartilagenous Fish (marine)	<i>Lamna nasus</i>	Porbeagle Shark
Jawless Fish (Agnatha)	<i>Lampetra fluviatilis</i>	River Lamprey

Bony Fish (marine)	<i>Lophius piscatorius</i>	Sea Monkfish
Bony Fish (marine)	<i>Merlangius merlangus</i>	Whiting
Bony Fish (marine)	<i>Merluccius merluccius</i>	European Hake
Bony Fish (marine)	<i>Molva molva</i>	Ling
Jawless Fish (marine)	<i>Petromyzon marinus</i>	Sea Lamprey
Bony Fish (marine)	<i>Pleuronectes platessa</i>	Plaice
Cartilagenous Fish (marine)	<i>Prionace glauca</i>	Blue Shark
Cartilagenous Fish (marine)	<i>Raja brachyura</i>	Blonde Ray
Cartilagenous Fish (marine)	<i>Raja clavata</i>	Thornback Ray
Cartilagenous Fish (marine)	<i>Raja undulata</i>	Undulate Ray
Cartilagenous Fish (marine)	<i>Rostroraja alba</i>	White or Bottlenose Skate
Bony Fish (marine)	<i>Salmo salar</i>	Atlantic Salmon
Bony Fish (marine)	<i>Salmo trutta</i>	Brown/Sea Trout
Bony Fish (marine)	<i>Scomber scombrus</i>	Mackerel
Bony Fish (marine)	<i>Solea solea</i>	Sole
Cartilagenous Fish (marine)	<i>Squalus acanthias</i>	Spiny Dogfish
Cartilagenous Fish (marine)	<i>Squatina squatina</i>	Angel Shark
Bony Fish (marine)	<i>Trachurus trachurus</i>	Scad (Horse Mackerel)
Flowering Plant		
Flowering Plant	<i>Asparagus prostratus</i>	Wild Asparagus
Flowering Plant	<i>Centaurea cyanus</i>	Cornflower
Flowering Plant	<i>Centaureum scilloides</i>	Perennial Centaury
Flowering Plant	<i>Chamaemelum nobile</i>	Chamomile
Flowering Plant	<i>Cicendia filiformis</i>	Yellow Centaury
Flowering Plant	<i>Coeloglossum viride</i>	Frog Orchid
Flowering Plant	<i>Euphrasia officinalis subsp. anglica</i>	Small-flowered Sticky Eyebright
Flowering Plant	<i>Euphrasia officinalis subsp. pratensis</i>	Eyebright
Flowering Plant	<i>Fumaria purpurea</i>	Purple Ramping-fumitory
Flowering Plant	<i>Galeopsis angustifolia</i>	Red Hemp-nettle
Flowering Plant	<i>Galeopsis speciosa</i>	Large-flowered Hemp-nettle
Flowering Plant	<i>Gentianella anglica</i>	Early Gentian
Flowering Plant	<i>Gentianella campestris</i>	Field Gentian
Flowering Plant	<i>Gentianella uliginosa</i>	Dune Gentian
Flowering Plant	<i>Gymnadenia conopsea</i>	Fragrant Orchid
Flowering Plant	<i>Liparis loeselii</i>	Fen Orchid
Flowering Plant	<i>Luronium natans</i>	Floating Water-plantain
Flowering Plant	<i>Matthiola sinuata</i>	Sea Stock
Flowering Plant	<i>Melittis melissophyllum</i>	Bastard Balm
Flowering Plant	<i>Mentha pulegium</i>	Pennyroyal
Flowering Plant	<i>Oenanthe fistulosa</i>	Tubular Water-dropwort
Flowering Plant	<i>Platanthera bifolia</i>	Lesser Butterfly-orchid

Flowering Plant	<i>Ranunculus tripartitus</i>	Three-lobed Crowfoot
Flowering Plant	<i>Rumex rupestris</i>	Shore Dock
Flowering Plant	<i>Salsola kali subsp. kali</i>	Prickly Saltwort
Flowering Plant	<i>Silene gallica</i>	Small-flowered Catchfly
Flowering Plant	<i>Stellaria palustris</i>	Marsh Stitchwort
Flowering Plant	<i>Vicia orobus</i>	Wood Bitter-vetch
Flowering Plant	<i>Viola lactea</i>	Pale Dog-violet
Fungus		
Fungus	<i>Amanita friabilis</i>	Fragile Amanita
Fungus	<i>Clavaria zollingeri</i>	Violet Coral
Fungus	<i>Cotylidia pannosa</i>	Woolly Rosette
Fungus	<i>Entoloma bloxamii</i>	Big Blue Pinkgill
Fungus	<i>Geoglossum atropurpureum</i>	Dark-purple Earthtongue
Fungus	<i>Hydnellum conrescens</i>	Zoned Tooth
Fungus	<i>Hydnellum spongiosipes</i>	Velvet Tooth
Fungus	<i>Hygrocybe spadicea</i>	Date-Coloured Waxcap
Fungus	<i>Hypocreopsis rhododendri</i>	Hazel Gloves
Fungus	<i>Microglossum olivaceum</i>	Earth Tongue
Insect		
Insect - moth	<i>Acronicta psi</i>	Grey Dagger
Insect - moth	<i>Acronicta rumicis</i>	Knot Grass
Insect - moth	<i>Agrochola helvola</i>	Flounced Chestnut
Insect - moth	<i>Agrochola litura</i>	Brown-spot Pinion
Insect - moth	<i>Agrochola lychnidis</i>	Beaded Chestnut
Insect - moth	<i>Allophyes oxyacanthae</i>	Green-brindled Crescent
Insect - moth	<i>Amphipoea oculea</i>	Ear Moth
Insect - moth	<i>Amphipyra tragopoginis</i>	Mouse Moth
Insect - moth	<i>Anania funebris</i>	White-spotted Sable
Insect - hymenopteran	<i>Andrena (Poliandrena) tarsata</i>	Tormentil Mining Bee
Insect - moth	<i>Apamea anceps</i>	Large Nutmeg
Insect - moth	<i>Apamea remissa</i>	Dusky Brocade
Insect - moth	<i>Aporophyla lutulenta</i>	Deep-brown Dart
Insect - moth	<i>Arctia caja</i>	Garden Tiger
Insect - butterfly	<i>Argynnis adippe</i>	High Brown Fritillary
Insect - true fly (Diptera)	<i>Asilus crabroniformis</i>	Hornet Robberfly
Insect - moth	<i>Asteroscopus sphinx</i>	Sprawler
Insect - moth	<i>Atethmia centrigo</i>	Centre-barred Sallow
Insect - butterfly	<i>Boloria euphrosyne</i>	Pearl-bordered Fritillary
Insect - butterfly	<i>Boloria selene</i>	Small Pearl-bordered Fritillary
Insect - hymenopteran	<i>Bombus (Megabombus) ruderatus</i>	Large Garden (Ruderal) Bumblebee
Insect - hymenopteran	<i>Bombus (Thoracobombus) humilis</i>	Brown-banded Carder-bee
Insect - hymenopteran	<i>Bombus (Thoracobombus) muscorum</i>	Moss Carder-bee
Insect - hymenopteran	<i>Bombus (Thoracobombus) ruderarius</i>	Red-shanked Carder-bee

Insect - hymenopteran	<i>Bombus (Thoracobombus) sylvarum</i>	Shrill Carder Bee
Insect - moth	<i>Brachylomia viminalis</i>	Minor Shoulder-knot
Insect - beetle (Coleoptera)	<i>Carabus (Morphocarabus) monilis</i>	Necklace Ground Beetle
Insect - moth	<i>Caradrina morpheus</i>	Mottled Rustic
Insect - moth	<i>Celaena haworthii</i>	Haworth's Minor
Insect - moth	<i>Celaena leucostigma</i>	Crescent
Insect - moth	<i>Ceramica pisi</i>	Broom Moth
Insect - moth	<i>Chiasmia clathrata</i>	Latticed Heath
Insect - moth	<i>Cirrhia icteritia</i>	Sallow
Insect - dragonfly (Odonata)	<i>Coenagrion mercuriale</i>	Southern Damselfly
Insect - butterfly	<i>Coenonympha pamphilus</i>	Small Heath
Insect - butterfly	<i>Cupido minimus</i>	Small Blue
Insect - moth	<i>Dasypolia templi</i>	Brindled Ochre
Insect - moth	<i>Diarsia rubi</i>	Small Square-spot
Insect - moth	<i>Diloba caeruleocephala</i>	Figure of Eight
Insect - moth	<i>Ecliptopera silaceata</i>	Small Phoenix
Insect - moth	<i>Ennomos erosaria</i>	September Thorn
Insect - moth	<i>Ennomos fuscantaria</i>	Dusky Thorn
Insect - moth	<i>Ennomos quercinaria</i>	August Thorn
Insect - moth	<i>Epirrhoe galiata</i>	Galium Carpet
Insect - butterfly	<i>Erynnis tages</i>	Dingy Skipper
Insect - hymenopteran	<i>Eucera (Eucera) longicornis</i>	Long-horned Bee
Insect - moth	<i>Eugnorisma glareosa</i>	Autumnal Rustic
Insect - moth	<i>Eulithis mellinata</i>	Spinach
Insect - butterfly	<i>Euphydryas aurinia</i>	Marsh Fritillary
Insect - moth	<i>Euxoa nigricans</i>	Garden Dart
Insect - moth	<i>Euxoa tritici</i>	White-line Dart
Insect - moth	<i>Graphiphora augur</i>	Double Dart
Insect - beetle (Coleoptera)	<i>Harpalus (Cryptophonus) melancholicus</i>	Harpalus (Cryptophonus) melancholicus
Insect - moth	<i>Hemistola chrysoprasaria</i>	Small Emerald
Insect - moth	<i>Hepialus humuli</i>	Ghost Moth
Insect - butterfly	<i>Hipparchia semele</i>	Grayling
Insect - moth	<i>Hoplodrina blanda</i>	Rustic
Insect - moth	<i>Hydraecia micacea</i>	Rosy Rustic
Insect - butterfly	<i>Lasiommata megera</i>	Wall
Insect - moth	<i>Leucania comma</i>	Shoulder-striped Wainscot
Insect - true fly (Diptera)	<i>Lipsothrix nervosa</i>	Southern Yellow Splinter
Insect - moth	<i>Litologia literosa</i>	Rosy Minor
Insect - moth	<i>Lycia hirtaria</i>	Brindled Beauty
Insect - moth	<i>Macaria wauaria</i>	V-moth
Insect - moth	<i>Malacosoma neustria</i>	Lackey
Insect - moth	<i>Melanchra persicariae</i>	Dot Moth
Insect - moth	<i>Melanthia procellata</i>	Pretty Chalk Carpet

Insect - beetle (Coleoptera)	<i>Meloe proscarabaeus</i>	Black Oil-beetle
Insect - moth	<i>Mniotype adusta</i>	Dark Brocade
Insect - beetle (Coleoptera)	<i>Ochthebius (Hymenodes) poweri</i>	Rockface Beetle
Insect - moth	<i>Orthonama vittata</i>	Oblique Carpet
Insect - moth	<i>Orthosia gracilis</i>	Powdered Quaker
Insect - moth	<i>Pelurga comitata</i>	Dark Spinach
Insect - moth	<i>Perizoma albulata</i>	Grass Rivulet
Insect - butterfly	<i>Plebejus argus</i>	Silver-studded Blue
Insect - butterfly	<i>Plebejus argus subsp. argus</i>	Silver-studded Blue
Insect - butterfly	<i>Pyrgus malvae</i>	Grizzled Skipper
Insect - moth	<i>Rheumaptera hastata</i>	Argent & Sable
Insect - moth	<i>Rhizedra lutosa</i>	Large Wainscot
Insect - butterfly	<i>Satyrium w-album</i>	White-letter Hairstreak
Insect - moth	<i>Scopula marginepunctata</i>	Mullein Wave
Insect - moth	<i>Scotopteryx bipunctaria</i>	Chalk Carpet
Insect - moth	<i>Scotopteryx bipunctaria subsp. cretata</i>	Chalk Carpet
Insect - moth	<i>Scotopteryx chenopodiata</i>	Shaded Broad-bar
Insect - moth	<i>Spilosoma lubricipeda</i>	White Ermine
Insect - moth	<i>Spilosoma lutea</i>	Buff Ermine
Insect - moth	<i>Stilbia anomala</i>	Anomalous
Insect - butterfly	<i>Thecla betulae</i>	Brown Hairstreak
Insect - moth	<i>Tholera cespitis</i>	Hedge Rustic
Insect - moth	<i>Tholera decimalis</i>	Feathered Gothic
Insect - moth	<i>Timandra comae</i>	Blood-Vein
Insect - moth	<i>Trichiura crataegi</i>	Pale Eggar
Insect - moth	<i>Tyria jacobaeae</i>	Cinnabar
Insect - moth	<i>Watsonalla binaria</i>	Oak Hook-tip
Insect - moth	<i>Xanthorhoe ferrugata</i>	Dark-barred Twin-spot Carpet
Insect - moth	<i>Xestia agathina</i>	Heath Rustic
Insect - moth	<i>Xestia castanea</i>	Neglected Rustic
Insect - moth	<i>Xylena exsoleta</i>	Sword-grass
Lichen		
Lichen	<i>Anaptychia ciliaris subsp. ciliaris</i>	Eagle's claws
Lichen	<i>Arthonia atlantica</i>	Arthonia atlantica
Lichen	<i>Bacidia incompta</i>	a lichen
Lichen	<i>Cladonia peziziformis</i>	a lichen
Lichen	<i>Collema fragile</i>	Collema fragile
Lichen	<i>Cryptolechia carneolutea</i>	Cryptolechia carneolutea
Lichen	<i>Gyalecta flotovii</i>	Gyalecta flotovii
Lichen	<i>Gyalolechia fulgens</i>	Gyalolechia fulgens
Lichen	<i>Heterodermia leucomelos</i>	Ciliate Strap-Lichen
Lichen	<i>Lecania chlorotiza</i>	Lecania chlorotiza
Lichen	<i>Lecanora sublivescens</i>	Lecanora sublivescens
Lichen	<i>Megalospora tuberculosa</i>	Megalospora tuberculosa
Lichen	<i>Physcia tribacioides</i>	Southern grey physcia
Lichen	<i>Pyrenula nitida</i>	Pyrenula nitida
Lichen	<i>Ramonia chrysophaea</i>	Ramonia chrysophaea

Lichen	<i>Teloschistes flavicans</i>	Golden hair-lichen
Lichen	<i>Toninia sedifolia</i>	Toninia sedifolia
Lichen	<i>Usnea articulata</i>	Usnea articulata
Lichen	<i>Usnea florida</i>	Usnea florida
Lichen	<i>Varicellaria hemisphaerica</i>	Varicellaria hemisphaerica
Lichen	<i>Wadeana dendrographa</i>	Wadeana dendrographa
Lichen	<i>Zwackhia prosodea</i>	Zwackhia prosodea
Liverwort		
Liverwort	<i>Cephaloziella calyculata</i>	Entire Threadwort
Liverwort	<i>Fossombronia fimbriata</i>	Fragile Frillwort
Liverwort	<i>Fossombronia foveolata</i>	Pitted Frillwort
Liverwort	<i>Pallavicinia lyellii</i>	Ribbonwort
Liverwort	<i>Petalophyllum ralfsii</i>	Petalwort
Mammal		
Mammal	<i>Arvicola amphibius</i>	European Water Vole
Mammal (marine)	<i>Balaenoptera acutorostrata</i>	Minke whale
Mammal	<i>Barbastella</i>	Barbastelle Bat species
Mammal	<i>Barbastella barbastellus</i>	Western Barbastelle
Mammal	<i>Chiroptera</i>	Bats
Mammal (marine)	<i>Delphinus delphis</i>	Common Dolphin
Mammal	<i>Erinaceus europaeus</i>	West European Hedgehog
Mammal (marine)	<i>Globicephala melas</i>	Long-finned Pilot Whale
Mammal (marine)	<i>Grampus griseus</i>	Risso's dolphin
Mammal (marine)	<i>Lagenorhynchus acutus</i>	Atlantic white-sided dolphin
Mammal (marine)	<i>Lagenorhynchus albirostris</i>	White-beaked dolphin
Mammal	<i>Lepus europaeus</i>	Brown Hare
Mammal	<i>Lutra lutra</i>	European Otter
Mammal (marine)	<i>Megaptera novaeangliae</i>	Humpback whale
Mammal	<i>Micromys minutus</i>	Harvest Mouse
Mammal	<i>Muscardinus avellanarius</i>	Hazel Dormouse
Mammal	<i>Mustela putorius</i>	Polecat
Mammal	<i>Myotis bechsteinii</i>	Bechstein's Bat
Mammal	<i>Nyctalus noctula</i>	Noctule Bat
Mammal (marine)	<i>Orcinus orca</i>	Killer whale
Mammal (marine)	<i>Phocoena phocoena</i>	Common Porpoise
Mammal	<i>Pipistrellus pipistrellus</i>	Common Pipistrelle
Mammal	<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle
Mammal	<i>Plecotus auritus</i>	Brown Long-eared Bat
Mammal	<i>Rhinolophus</i>	Horseshoe Bat species
Mammal	<i>Rhinolophus ferrumequinum</i>	Greater Horseshoe Bat
Mammal	<i>Rhinolophus hipposideros</i>	Lesser Horseshoe Bat
Mammal	<i>Sciurus vulgaris</i>	Eurasian Red Squirrel
Mammal (marine)	<i>Tursiops truncatus</i>	Bottlenose dolphin
Mammal (marine)	<i>Ziphius cavirostris</i>	Cuvier's beaked whale
Mollusc		
Mollusc (marine)	<i>Arctica islandica</i>	Icelandic cyprine
Mollusc (marine)	<i>Atrina fragilis</i>	Fan mussel
Mollusc	<i>Margaritifera (Margaritifera) margaritifera</i>	Freshwater Pearl Mussel
Mollusc	<i>Omphiscola glabra</i>	Mud Snail

Mollusc (marine)	<i>Ostrea edulis</i>	Native oyster
Moss		
Moss	<i>Cryphaea lamyana</i>	Multi-fruited Cryphaea
Moss	<i>Didymodon tomaculosus</i>	Sausage Beard-moss
Moss	<i>Ditrichum subulatum</i>	Awl-leaved Ditrichum
Moss	<i>Funaria pulchella</i>	Pretty Cord-moss
Moss	<i>Leptodon smithii</i>	Prince-of-Wales Feather-moss
Moss	<i>Pseudocalliergon lycopodioides</i>	Large Hook-moss
Moss	<i>Rhytidiadelphus subpinnatus</i>	Scarce Turf-moss
Moss	<i>Tortula wilsonii</i>	Wilson's Pottia
Moss	<i>Weissia squarrosa</i>	Spreading-leaved Beardless-moss
Reptile		
Reptile	<i>Anguis fragilis</i>	Slow-worm
Reptile (marine)	<i>Caretta caretta</i>	Loggerhead turtle
Reptile (marine)	<i>Dermochelys coriacea</i>	Leatherback turtle
Reptile	<i>Natrix natrix</i>	Grass Snake
Reptile	<i>Vipera berus</i>	Adder
Reptile	<i>Zootoca vivipara</i>	Common Lizard
Spider		
Spider	<i>Monocephalus castaneipes</i>	Broad Groove-head Spider
Spider	<i>Saaristoa firma</i>	Triangle Hammock-spider

Appendix 3: Section 7 Habitats

NB. This is an interim list. For the most recent version, see:

<https://www.biodiversitywales.org.uk/Environment-Wales-Bill>

Habitats	Priority Habitats
Terrestrial, coastal & freshwater	
Broadleaved, mixed and yew woodland	Traditional orchards
	Wood pasture & parkland
	Upland oak woodland
	Lowland beech and yew woodland*
	Upland mixed ash woodland
	Wet woodland
	Lowland mixed deciduous woodland
Boundary and linear features	Hedgerows
Arable and horticultural	Arable field margins
Improved grassland	Coastal and floodplain grazing marsh
Neutral grassland	Lowland meadows
Calcareous grassland	Lowland calcareous grassland
	Upland calcareous grassland*
Acid grassland	Lowland dry acid grassland
Dwarf shrub heath	Lowland heathland
	Upland heathland
Fen, marsh and swamp	Upland flushes, fens and swamps
	Lowland fens
	Purple moorgrass and rush pastures
	Reedbeds
Bogs	Lowland raised bog
	Blanket bog
Montane Habitats	Mountain heaths and willow scrub*
Rivers and Streams	Rivers
Standing open waters and canals	Oligotrophic and dystrophic lakes
	Ponds
	Mesotrophic lakes
	Eutrophic standing waters
	Aquifer-fed naturally fluctuating water bodies
Inland rock	Inland rock outcrop and scree habitats
	Calaminarian grasslands*
	Open mosaic habitats on previously developed land
	Limestone pavement
Supralittoral rock	Maritime cliff and slopes
Supralittoral sediment	Coastal sand dunes
	Coastal vegetated shingle

Habitats	Priority Habitats
Marine	
Littoral Rock	Intertidal boulder communities
	<i>Sabellaria alveolata</i> reefs
	Estuarine rocky habitats
Littoral sediment	Coastal saltmarsh
	Intertidal mudflats
	Seagrass beds
	Sheltered muddy gravels
	Peat and clay exposures
Sublittoral rock	Tidal swept channels
	Fragile sponge & anthozoan communities on subtidal rocky habitats
	Carbonate reefs*
Sublittoral sediment	Subtidal sands and gravels
	Subtidal mixed muddy sediments
	Mud habitats in deep water*
	<i>Musculus discors</i> beds
	Blue mussel beds
	Horse mussel beds*
	Maerl beds
	Saline lagoons
*Not known to occur in Pembrokeshire	

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