Pembrokeshire Coast National Park Management Plan (2020-2024)

Background Paper 4:
Nature conservation

Pembrokeshire Coast National Park Authority
September 2018

About the UK's national parks

The purposes of UK National Park are set out in the Environment Act 1995. They are:
(a) conserving and enhancing the natural beauty, wildlife and cultural heritage of the area
(b) promoting opportunities for the understanding and enjoyment of the special qualities of those areas by the public

In the event of an irreconcilable conflict between the purposes, conservation has greater weight (the 'Sandford principle').

Pembrokeshire Coast National Park Authority is charged with delivering the purposes in Pembrokeshire Coast National Park and has a duty to seek to foster the social and economic wellbeing of National Park communities in its pursuit of the purposes.

Management Plan 2020-2024

Each National Park Authority is required to prepare a five-yearly National Park Management Plan "which formulates its policy for the management of the relevant Park and for the carrying out of its functions in relation to that Park" (Environment Act 1995, section 66). The Environment Act 1995 gives relevant authorities a legal duty to have regard to Park purposes and to the Sandford Principle[1].

A number of background papers have been compiled in preparation for the Pembrokeshire Coast National Park Management Plan 2020-2024. They cover:

1. Landscape, seascape, tranquillity and dark skies
2. Well-being, equality and livelihoods
3. Outdoor recreation and learning
4. Nature conservation
5. Culture and heritage
6. Climate and energy
7. Natural resources
8. Legislation and policy

The Well-being of Future Generations (Wales) Act 2015 and The Environment (Wales) Act 2016 add further statutory backing to National Park purposes and the need for participation and collaboration to achieve them. However there is a two-way relationship between National Park purposes and the legislation. The topic areas are intended to reflect this complementarity, to demonstrate the alignment of National Park policy with Wales' well-being, climate, natural resource and ecosystem resilience goals, and to help identify opportunities to add value between national and local policy areas. The South-west and Marine area statements prepared by Natural Resources Wales will also be an important component of management.

[1] "In exercising or performing any functions in relation to, or so as to affect, land in a National Park, any relevant authority shall have regard to the purposes […] and, if it appears that there is a conflict between those purposes, shall attach greater weight to the purpose of conserving and enhancing the natural beauty, wildlife and cultural heritage of the area comprised in the National Park." (Environment Act 1995, s.62)

The background papers set out the state of the National Park and provide a context for identifying opportunities and challenges that the Management Plan will need to address. The opportunities and challenges, and accompanying maps, are set out in an informal document for early engagement with partners and public.

The background papers are technical in nature. Where use of technical terms is unavoidable, they are explained in the text and/or in a glossary.

A place-based approach

While many natural resource issues are best considered at a landscape-scale, action locally should take account of local circumstances. It is proposed that the Management Plan 2020-2024 adopts a place-based approach to policy implementation, with five areas identified as follows:

- Preseli Hills and North Coast
- North-west Coast
- West Coast
- Daugleddau
- South Coast

Next steps

An outline timetable for Management Plan preparation was approved in the Authority's Corporate and Resources Plan 2018/19 (page 33). A more detailed timetable is given below. This was approved by the National Park Authority at its meeting of 20th June 2018.

Milestone	By whom/when
Draft preparation timetable, and methods of engagement	Leadership Team, external bodies. May 2018
Approve timetable and engagement proposals	National Park Authority. June 2018
Engage with key stakeholders: • Collate evidence (outcomes, issues, policy impact) • Draft / revise Plan and associated assessments (see "Requirements for impact assessments" below) • Prepare an action planning framework	July to December 2018
Member Workshops to discuss draft reports and assessments	Spring 2019
Authority approval of consultation draft documents (Management Plan, Sustainability Appraisal / Strategic Environmental Assessment, Habitats Regulations Assessment, Equality Impact Assessment)	National Park Authority June 2019
Translation and formatting	June/July 2019
Public consultation (12 weeks)	Park Direction Team August 2019 - October 2019
Report of consultations to Authority. Authority approval of amended documents.	National Park Authority December 2019

Milestone	By whom/when
Translation and formatting	Park Direction/Graphics Team December 2019/ January 2020
Feedback to consultees	December 2019
Publication of approved Management Plan and assessments; formal notification / adoption statements.	January 2020

Opportunities and challenges identified in this background paper

Achieving favourable condition on designated nature conservation sites and other high nature value sites.

Improving the connectivity, quality and extent of semi-natural habitat.

Working with farmers to promote sustainable agriculture, improve and improve the delivery of public goods on farmland.

Mitigating climate change risks.

Preventing and mitigating the impact of invasive non-native species, pests and pathogens.

Working with the fishing industry to promote sustainable fishing.

Reducing wildlife disturbance from recreation and commercial activity.

Reducing litter including littering by marine plastics and lost fishing materials.

See also Background Paper 7: Natural resources

1. State of Natural Resources Report 2016

1.1 In line with other published sources, evidence in the 2016 State of Natural Resources report demonstrates the continuing decline in biodiversity across Wales, the result of a wide range of factors operating on different geographical scales, different timescales, and in different combinations. Issues include habitat loss and fragmentation, over-exploitation, inappropriate management, and competition from invasive non-native species.

1.2 The report identifies that many of the issues are embedded in social and economic systems, and that partners should consider integrated place-based solutions that maximise contribution across Wales' well-being goals.

1.3 Broad habitat condition, extent and trend data includes the following in relation to Wales as a whole:

- Habitat fragmentation has resulted in poor connectivity for lowland examples of mountain, moorland and heath habitats (notably lowland heathland).
- There are climate change risks to natural carbon stores and carbon sequestration. Upland and lowland deep peat soils represent Wales' largest terrestrial store of carbon.
- Grassland makes up nearly two thirds of the land cover of Wales; the majority is agriculturally improved.
- All forms of European protected grassland occurring in Wales have an unfavourable conservation status in the UK. Semi-natural lowland grasslands have become highly fragmented in most areas greatly restricting movement of less mobile species between habitat patches.
- Enclosed farmland covers around 1 million hectares or 54% of agricultural land. It plays a major role in food production with resulting impacts on soil, water, biodiversity and greenhouse gas emissions.
- Arable-associated flora is the most threatened group of plants in the UK.
- *Chalara* (ash die-back) is a major threat to hedgerows. Welsh hedgerows contain a considerable quantity of ash, both in the shrub layer and as standard trees. As ash declines over the coming years, gaps will form in hedgerows and a significant proportion of the mature trees in our landscape will be lost. This is likely to have a major impact on other species dependent on both hedgerows and free-standing trees.
- Climate change related risks include water scarcity and flooding; pests, pathogens and invasive species; change in frequency and/or magnitude of extreme weather and wildfire events. Projected climate change may provide new cropping opportunities, but more agricultural land is likely to suffer from water deficits in summer and waterlogging in winter.
- The area of woodland in Wales has nearly tripled since the 1800s. However, Wales is one of the least wooded countries in Europe.
- While the overall conservation status of designated woodland habitats in Wales is regarded as unfavourable, favourable management is increasing with local recovery in response to targeted management actions.
- Fragmentation is a significant pressure affecting native woodland condition - there are nearly 22,000 woodlands identified as being smaller than 2 hectares.

- Woodland productivity and carbon sequestration rates are likely to be impacted by climate change.

2. The State of Wildlife in Pembrokeshire reports

2.1 The State of Wildlife in Pembrokeshire 2016 updates the 2011 report[2]. It assesses fourteen species (or species groups) and nine habitats (or habitat groups) for their current condition and likely trend over the last five years in Pembrokeshire. Features assessed as in good condition or with improving trend have all been the subject of sustained conservation effort. However, the majority of features assessed are in poor or moderate condition and the overall trend is still declining. Accurate assessment is hampered by a paucity of robust, long term data.

Feature	Condition	Trend
Heathland	Poor	Data deficient
Southern damselfly	Poor	Declining
Three-lobed water crowfoot	Moderate	Stable
Ponds and lakes	Moderate	Improving
Rivers, streams and 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

[2] https://www.pembrokeshire.gov.uk/biodiversity/pembrokeshire-nature-partnership-projects-and-reports

3. Management Area profiles

North Coast and Preseli Hills	Challenges	Opportunities
The Mynydd Preseli and Mynydd Carningli range of hills support a mosaic of priority habitats including extensive areas of dry heath, wet heath, wet flushes, fen and peat depressions. These areas represent the only upland habitat within the National Park with areas of the highest quality designated as part of the Mynydd Preseli SAC and Carn Ingli SSSI. Associated with this habitat are specialist species such as Southern Damselfly (a third of the UK population), Bog Orchid, and rare mosses and lichens. This area is also a stronghold for a range of common species; heathland and grassland birds such as Meadow Pipits, Skylarks, Linnets and Stonechats, butterflies such as Grayling and small heath and reptiles, in particular Adders and Common Lizards. The Gwaun and Nevern represent the two largest catchments within the National Park. These rivers support Atlantic salmon, Sea Trout and Brown Trout and Otters. Away from their source on the open moorland these valleys are most wooded areas of the park supporting large areas western acidic oak woodland, mixed lowland deciduous woodlands, bog woodland and wet woodland of which the Gwaun Valley woodlands, Ty Canol, and Pengelli are designated as the largest and richest examples. These woodlands are of high importance for lichens, dormice, woodland birds barbastelle bats and dormice. The valleys support a rich mosaic of small fields bounded by traditional hedgebanks and mature hedgerow trees, woodlands, wood pasture, purple-moor grass pasture, species rich grasslands and wetlands. Hedgebanks in particular make a	Lack of grazing/ Inappropriate grazing Inappropriate burning Isolation of populations through poor connectivity and habitat fragmentation Condition of habitats due to inappropriate grazing or lack of grazing. Direct loss of habitat through land management change. Water quality Invasive non-native species Edge effects on habitats from surrounding land management e.g. nitrogen deposition. Changes in the patterns of farming post Brexit.	Working in Partnership with Commoners, NRW and West Wales Fire and Rescue Service on fire management As above for grazing Management of flush habitat for Southern Damselfly. Catchment approach to invasive non-native species control Catchment approach to sustainable management of nutrients, soils and water. Habitat Creation, in particular woodlands, wood pasture and grasslands. Creation and management of connectivity features e.g. hedgebanks and cloddiau particularly on intensive farmland. The delivery of a public goods scheme post Brexit.

significant contribution to the woodland habitat as well critical features for woodland connectivity. This area is a stronghold for Dormouse in the National park with other species such as Greater horseshoe and lesser horseshoe bats reliant on the connectivity of this landscape and the foraging opportunities. Silver washed and Dark Green Fritillaries, Small pearl bordered and Marsh Fritillary. Away from the hills and valleys open windswept coastal plateau is dominated by more intensive farmland, field sizes are generally much larger with improved pasture as the dominant land use. Hedgebanks / cloddiau and small wooded watercourses are the main habitat features and provide strong ecological connectivity features through the landscape to the coast. Here, the wildlife of the area is entirely dependent upon the farmed environment. This area may be one of the last refuges for Brown Hare in Pembrokeshire. The seacliffs on this section of coast are the high, rugged and dramatic with coastal habitats such as coastal ledge vegetation, coastal grasslands small amounts of heath and generally squeezed into a narrow coastal belt. The coast supports Chough and other breeding seabirds such as guillemots and razorbills. Inaccessible rocky shores and cobble beaches provide breeding sites for Atlantic grey seals. The rare Newport Centuary can also be found along this section of coastline.		

The North-west Coast	**Challenges**	**Opportunities**
This area represents some of oldest geology in Park and the iconic volcanic outcrops at Carn Llidi – Penberi and Strumble Head are	Lack of grazing / Inappropriate grazing. Abandonment of	High cover of National Trust ownership of both inland commons

particularly prominent in the landscape. The northwest coast comprises dramatic rugged cliffs with a highly indented coastline which, along with Ramsey Island supports a wide range of typical maritime influenced vegetation, ranging from rock-crevice communities on the most exposed cliff faces to maritime grassland, heath and scrub in the hinterland. Extensive acid soils support large areas of coastal heathland, for example at Pen Anglas and St. David's Head. The most significant sections of coastline are designated as part of the St. Davids SAC. Ramsey is a rugged island, nationally important for its grey seal breeding colony, the largest in south-west Britain, as well as significant populations of guillemots, razorbills, kittiwakes and chough. Ramsey has classic sea-cliff vegetation, extensive maritime heath and associated rare species. This is the best coastline in the Park for cetacean watching and dolphins, harbour porpoises and occasional Orca can be sighted off Strumble Head and in Ramsey sound. The coastal habitat mosaic supports a high concentration of range of important species, including a high density of nesting choughs and peregrine falcons, assemblages of scarce plants including pale heath violet and hairy greenweed and butterflies such as Small Pearl-Bordered and Dark Green Fritillary for which the coastal bracken slopes are one of the last strongholds in the Park. Inland, on poorly draining soils overlain by peat substantial areas of common land supports an expanse of wet heath and marshy grassland	grazing and traditional management on the coastal belt (in particular loss of resources for supporting farmers to manage the coast). Condition of habitats due to inappropriate grazing or lack of grazing. (e.g. the local extinction of Marsh Fritillary from this area). Direct loss of habitat through land management change. Poor water quality affecting wetland habitats. Invasive Non-native species e.g. *Crassula*. Edge effects on habitats from surrounding land management e.g. nitrogen deposition. Changes in the patterns of farming post Brexit. Isolation of populations through poor connectivity and habitat fragmentation.	and coastal sites. Protect high existing habitat connectivity. Working in Partnership with Commoners to achieve good condition of habitats. Supporting farmers to manage the coastal belt. Using the Pembrokeshire Grazing animals project to supply suitable grazing animals to landowners. Catchment approach to invasive non-native species control. Catchment approach to sustainable management of nutrients and water.

dotted with a network of pools. St. Davids Airfield and Dowrog are the largest of these. Once part of the Cathedral lands and now owned by the National Trust these commons provide a significant wildlife resource away from the rich coastal belt. Associated with these commons are species such as small red damselfly, slender yellow centaury, pillwort , wavy St. John's-wort, chamomile, pale heath violet and three-lobed water crowfoot. St. Davids military history has also left a wildlife legacy. The former Airfields of St Davids and Brawdy escaped agricultural intensification and with some of the most extensive areas of species-rich neutral grasslands and skylark nesting habitat in the county of Pembrokeshire. Small field systems can still be found in some areas such as Strumble, Pencaer and St. Davids Head. Poorer soils and difficult access along small lanes appears to have hindered the arrival of intensive agriculture and beef farms with traditional Welsh Black herds and mixed farming can still be found supporting farmland wildlife for example farmland birds and arable flora. Together the coast and inland heaths are of exceptional botanical interest recognised by their designation as an Important Plant Area (IPA) along with their recent recognition as Important Invertebrate Areas (IAA). Steep coastal valley carved glacial meltwaters containing rich habitats including woodland, fens and marshy grasslands provide a strong connectivity feature along the coastline. The River Solva is the largest example. These valleys contain a mixture of woodland, marshy grassland, flush and swamp communities and provide an		

important refuge for birds such as reed bunting and grasshopper warbler. Otters use these waterways as conduits to feeding areas on the open coast. Cloddiau are an important connectivity feature in the landscape, as you move inland they may be topped with gorse and isolated veteran hawthorns, becoming hedgebanks moving away from the coastal plateau into rolling farmland. Abandoned agricultural reservoirs dot the area, providing additional connectivity for the wetland landscape.		

The West Coast	**Challenges**	**Opportunities**
Skokholm, Skomer and Middleholm are three islands off the westernmost tip of the Pembrokeshire coastline and are home to a seabird assemblage of international importance. These islands regularly support in excess of 65,000 individual seabirds, in particular petrels, gulls and auks. Especially notable is the high proportion (over half) of the world population of Manx Shearwater that nest here. The nesting seabirds using the site feed outside the Special Protection Area in surrounding marine areas, as well as more distantly Chough also breed on Skomer and Skokholm and the islands provide roosting opportunities for larger flocks of Choughs during the winter. The arable fields adjacent to the Deerpark have provided an important 'last bite' before winter roosting in recent years. The Deerpark also represents the best area of heath and maritime grassland along this stretch of coastline. The north facing cliffs at Goultrop roads are sheltered enough to allow the development of a hanging oak woodland in the steep sea cliffs, a rare habitat on the coast and host to	Lack of grazing / Inappropriate grazing. Abandonment of grazing and traditional management on the coastal belt (in particular loss of resources for supporting farmers to manage the coast). Condition of habitats due to inappropriate grazing or lack of grazing. (e.g. the local extinction of Marsh Fritillary from this area). Direct loss of habitat through land management change. Edge effects on habitats from surrounding land	High cover of National Trust, Wildlife Trust South and West Wales and Natural Resources Wales ownership / management. Protect high existing habitat connectivity. Working in Partnership with Commoners to achieve good condition of habitats. Supporting farmers to manage the coastal belt. Using the Pembrokeshire Grazing animals project to supply suitable grazing animals to landowners. Catchment approach to invasive non-native

a variety of scarce bryophtyes. The soils in this area of coastline are good for agriculture and with exception of steep wooded valleys and inlets at Dale and Sandy Haven the majority of semi-natural habitat including coastal heath, coastal grassland is restricted to a thin belt around the coastline and this area probably displays the greatest truncation of coastal zonation anywhere in the park. However habitat creation projects on farmland show the potential for restoring and strengthening the coastal habitats on a productive farm. On this penninsula Dale Airfield is a relatively large area of semi-improved grassland and an important site for chamomile in Wales. The section of land adjacent to South Hook LNG Terminal Company Ltd land is managed as a nature reserve as part of a section 106 agreement also comprises a substantial area of specie-rich grassland, flushes and pools. The area supports a thriving colony of silver studded blue butterflies and is an important area for wintering wildfowl. Dale Peninsula important for arable plants with remnant populations generally close to the coastal belt where soils are poorer. This area also includes two inlets which are part of the Milford Haven waterway, Sandy Haven and the Gann Estuary Pickleridge is a man-made saline lagoon in the Gann estuary. Water depth does not exceed 1.5m and it has one of the largest population of lagoon cockle in Wales.	management e.g. nitrogen deposition. Changes in the patterns of farming post Brexit. Isolation of populations through poor connectivity and habitat fragmentation.	species control. Catchment approach to sustainable management of nutrients and water.

The Daugleddau	Challenges	Opportunities
Saltmarsh, the Waterway, Waders, Wildfowl, Woodland, Roosts, Reedbed, Veteran trees, lichens parkland, Brown Hairstreak, Marsh Frit, Meadows, Coniferous Forestry, Bats, Greater and Lesser Horseshoe. Coastal Lagoon. This area forms a unique area within the National Park encompassing the sheltered upper parts of the drowned glacial valley of the Cleddau river. The ria and its contributing estuaries wind their way from the very heart of the county towards the sea at Milford Haven. The Milford Haven Waterway is designated as an SSSI and forms part of the Pembrokeshire Marine SAC. The main channel has extensive rocky shores, with large sandy beaches in embayments near the entrance, and mudflats in sheltered areas higher up the channel and in muddy creeks (pills) at intervals along the length of the inlet. The foreshore supports a variety of intertidal marine habitats including muddy gravels, sheltered mud, moderately exposed sand, and sheltered rock and saltmarsh. In some areas there is a transition to areas of reedbed such as those at Slebech and Minwear which support significant starling and hirundine roosts in the autumn and winter months. The saltmarsh and mudflats within the Haven support significant numbers of over-wintering wildfowl and waders such as include little grebe, shelduck, wigeon, teal, dunlin, and curlew. This number rises during particularly hard winters, when the mild Pembrokeshire climate results in	Lack of grazing/ In-appropriate grazing Isolation of populations through poor connectivity and habitat fragmentation Condition of habitats due to inappropriate grazing or lack of grazing. Direct loss of habitat through land management change. Water Quality Invasive Non-native species Edge effects on habitats from surrounding land management e.g. nitrogen deposition. Changes in the patterns of farming post Brexit Loss of veteran trees and lack of replacements. Intensive hedgerow management or lack of management reducing suitability of hedgerows for Brown Hairstreak. *Chalara* Ash Dieback reducing availability of 'master' trees for brown hairstreak. Planted Ancient Woodland Site Historic pollution of sediments in the Waterway.	Supporting landowners to instigate conservation grazing Management of flush habitat for Southern Damselfly. Catchment approach to invasive non-native species control. Catchment approach to sustainable management of nutrients, soils and water. Habitat Creation, in particular woodlands, wood pasture and grasslands. Creation and management of connectivity features e.g. hedgebanks and cloddiau particularly on intensive farmland. The delivery of a public goods scheme post Brexit. Supporting good hedgerow

populations becoming augmented by wildfowl and waders coming in from other estuaries to the east that have become frozen. Species of special interest within the Haven include little grebe, shelduck , wigeon, teal, dunlin and curlew. The Haven makes up the lower part of the Cleddau catchment, an area recognised as being one of the most important places in southern Britain for the otter. Ancient woodland, dominated by oak, fringes the banks of much of the channel, becoming more extensive in places, for example at Lawrenny and Hook, where relicts of past more extensive oak woods have survived. These woods have a rich ground flora and support uncommon species such as wild service tree. The wooded landscape surrounding the Daugleddau is also of national Importance for lichens. Within the vicinity of the Haven are important bat breeding sites, supporting internationally important populations of greater horseshoe bats, as well as nationally important numbers of lesser horseshoe bats. Broadleaved woodland and scrub, along with estuarine and grassland habitats, that border the main channel and its various embayments and inlets, provide essential feeding grounds for the bats, as well as flight paths between sites. The horseshoe bats and other bat species also roost in buildings and caves (adjacent to and within the site) during the year. These roosts are used by bats as daytime roosts, night-feeding roosts, or as winter hibernacula. The farmland surrounding the water has a wooded character with		management. Identifying important veteran trees and good management of veteran trees. Promoting hedgerow and in-field trees. Promoting restoration of Planted Ancient Woodland Sites among private landowners. Using the Pembrokeshire Grazing Animals project to supply suitable grazing animals to landowners.

established hedgerows, small woodlands and commercial non-native forestry plantations. In some places there are high frequencies of veteran trees, specimen and parkland trees. Within smaller-scale field patterns on the banks of the Haven remnant species-rich dry and marshy grasslands can be found. The fringing scrub and woodland along with blackthorn-rich hedgerows typical of this area support the only known colony of the brown hairstreak butterfly in the National Park. The core of this population is the Wildlife Trust reserve at West Williamston. To the east, just outside of the Park boundary, are a series of 11 moors scattered through the parishes of Martletwy, Lawrenny and Yerbeston. Mainly marshy grassland, these sites are designated for Marsh Fritillary Butterfly.		

The South Coast	**Challenges**	**Opportunities**
Sand dunes, Soft Cliff, Limestone, Choughs, the Range, Angle / Manorbier small farmland landscapes, large bays Bosherston, Bats, Otters. Shrill carder bee. Largest population of Marsh Fritillary, invertebrates associated with soft cliff, dunes and coastal seepages and flushes. This coastline has a remarkable richness of habitats and species in a relatively small area which is probably unrivalled anywhere else in the Park, largely attributable to the diversity of coastal landforms and geology. The cliffs comprise a mix of limestone, marls, sandstone and shale with the majority of the coastal cliffs form part of a number of SSSIs	Truncated coastal zonation. Lack of grazing. In-appropriate grazing. Abandonment of grazing and traditional management on the coastal belt (in particular loss of resources for supporting farmers to manage the coast). Condition of	Supporting landowners to instigate conservation grazing Catchment approach to INNS control. Catchment approach to sustainable management of nutrients, soils and water. Habitat Creation, in particular woodlands, wood pasture and grasslands. Creation and management of connectivity features

and the imposing limestone section of this coastline forms part of the Limestone Coast of South and West Wales SAC. The resultant rich mosaic of habitats includes calcareous grassland, maritime grassland, maritime heath, ledge vegetation and coastal heath along with scrub, gorse and bracken. East of Tenby the coast becomes more sheltered in nature and scrub and woodland become more prominent in the coastal landscape. Harder rocks stand out as headlands with softer rocks eroded to form bays with sand and shingle beaches, in some places backed by wind-blown dunes such as those at Broomhill, Brownslade and LInney Burrows which form extensive calcareous dune meadows reaching far inland. These are along with Stackpole are the most extensive examples with smaller systems at Barafundle, Freshwater East, Manorbier and Tenby. Valley Fens and mires which are remnants of much larger wetlands which were drained for agricultural production, most notably the Ritec Valley fen and Castlemartin Corse. This area has been highlighted as a key locality for rare and scarce higher plants including small restharrow, rock sea lavender, Tenby sea lavender wild asparagus, petalwort, Portland spurge, golden samphire and tree mallow to name but a few. The coastline also supports base-rich lichen assemblages on rocks and at bird perches such as those at Lydstep. The most recognisable scarce lichen is the golden hair lichen. The sea-cliffs around Castlemartin	habitats due to inappropriate grazing or lack of grazing. Direct loss of habitat through land management change. Poor water quality affecting bathing waters and wetland habitats. Invasive non-native species e.g. *Crassula*, Himalayan balsam. Edge effects on habitats from surrounding land management e.g. nitrogen deposition. Changes in the patterns of farming post Brexit. Isolation of populations through poor connectivity and habitat fragmentation. Intensive hedgerow management.	e.g. hedgebanks and cloddiau particularly on intensive farmland. The delivery of a public goods scheme post Brexit. Supporting good hedgerow management. Identifying important veteran trees and good management of veteran trees. Promoting hedgerow and in-field trees. High cover of National Trust ownership. High cover of Ministry of Defence ownership. Protect high existing habitat connectivity.

support the largest concentration of breeding seabirds on the Pembrokeshire mainland, including large and easily viewable colonies of guillemots, razorbills and kittiwakes at Stack Rocks. Around 4% of the UK chough population nests on the coast here. The coastline is rich in invertebrates, in particular for butterflies such as small blue, sliver studded blue, dark green fritillary and grayling. Seepages at Freshwater East host a rich abundance of scarce flies and a particularly large burrowing oil beetle colony has been noted from the cliffs at Manorbier. Part of the coastline is used for military training by the MOD at Castlemartin Range. The establishment of these ranges restrained the agricultural intensification of land resulting in an area which exhibits a complete coastal zonation of seacliff vegetation. This area is a hotspot for wildlife on the South Coast and it is here that the largest population of Marsh fritillaries in Pembrokeshire can be found. Also of particular note are the lakes at Bosherston which were created as part of the designed landscape through the damming of limestone valleys to create lakes which now continue rare stoneworts and supports breeding otters. Greater horseshoe and lesser horseshoe bats are also a feature of this locality. The coastal caves support one of the most important greater horseshoe bat winter roosts (hibernacula) in the UK and the Stackpole Estate a large maternity colony. The wider landscape is one of gently		

rolling scarp and vale characterised by hedges and small woodlands. Some areas are particularly important for farmland birds and arable flora especially those which retain the small scale field patterns and mixed farming, for example the Angle Peninsula.		

The following table sets out calculations of land use by area for the National Park. Note: areas of less than 1% are omitted.

Based on Phase 1 survey (hybrid original and remote sensed 2014)

Habitat	Proportion
Hedgerow	4.47%
Poor improved grassland	2.81%
Dense scrub	1.40%
Buildings	2.82%
Coastal grassland	1.83%
Semi improved neutral grassland	3.00%
Improved grassland	35.72%
Arable	21.39%
Bracken	1.89%
Marshy grassland	1.59%
Semi-Improved broadleaved woodland	8.00%
Planted coniferous woodland	2.07%
Unimproved acid grassland	1.11%
Wet heath	1.97%
Dry acid heath	2.88%

4. The state of designated conservation sites

4.1 The biodiversity importance of the National Park is reflected in the high number of designated conservation sites. The following lie wholly or partly within the National Park:

- 13 Special Areas of Conservation (Cardigan Bay, Carmarthen Bay and Estuaries, Cleddau Rivers, Gweunydd Blaencleddau, Limestone Coast of South West Wales, North Pembrokeshire Woodlands, North West Pembrokeshire Commons, Pembrokeshire Bat Sites and Bosherston Lakes, Pembrokeshire Marine, Preseli, River Teifi, St Davids, Yerbeston Tops)
- 5 Special Protection Areas (Ramsey and St Davids Peninsula Coast, Skokholm and Skomer, Grassholm, Castlemartin Coast, and Carmarthen Bay)
- 60 Sites of Special Scientific Interest

- 7 National Nature Reserves (Pengelli Forest, Ramsey, Skokholm, Skomer, Stackpole, Ty Canol, Grassholm)
- 1 Marine Conservation Zone (Skomer)
- 1 Local Nature Reserve (Freshwater East)

4.2 SSSIs are designated by Natural Resources Wales under the provisions of the Wildlife and Countryside Act 1981 (as amended). They represent the best examples of habitat (in some cases, all examples of a habitat) and sites of particular species significance. About 80% of the length of the National Park coastline is designated Site of Special Scientific Interest.

4.3 Special Areas of Conservation area designated under the EU Habitats and Species Directive 92/43/EEC (the “Habitats Directive”); Special Protection Areas are designated under the EU Directive on the Conservation of Wild Birds 2009/147/EC (the “Birds Directive”). They are collectively knowns as Natura 2000 sites. Within Natura 2000 sites, marine Special Areas of Conservation (SACs) and marine Special Protection Areas (SPAs) are known as European Marine Sites. The boundaries of three marine European Marine Sites overlap 75% of the National Park’s coastline, and account for about 60% of the inshore area.

4.4 Based on data collated by Natural Resources Wales, the status of Special Areas of Conservation lying wholly or partly within the National Park is estimated as follows (data range 2007-2013).

SAC feature[3] status	Number of features	Percentage
Favourable	28	31%
Unfavourable	54	60%
Not assessed	8	9%

4.5 Based on data collated by Natural Resources Wales, the status of Special Protection Areas lying wholly or partly within the National Park is estimated as follows (data range 2007-2013).

SPA feature status	Number of features	Percentage
Favourable	4	57%
Unfavourable	0	0%
Not assessed	3	43%

Note: the tables above do not reflect the indicative marine SAC feature condition assessments 2018.

4.6 Possible SACs have been identified for the Bristol Channel Approaches and West Wales Marine (both for harbour porpoise). Possible SACs must be treated as if they are designated.

4.7 The only area of water in Wales to be designated a Marine Conservation Zone (under the Marine and Coastal Access Act 2009) and managed by Natural Resources Wales. Skomer Island itself is a National Nature Reserve, famous for its seabird colonies and wildlife and managed by the Wildlife Trust of South and West Wales.

5. Unregulated activities

5.1 Natural Resources Wales and partner organisations have made (May 2018) an initial identification and prioritisation of 'unregulated' activities that have the greatest actual or potential adverse impact on the condition of features within Wales' Natura 2000 sites, with a view to implementing effective management to mitigate their impacts.

Prioritised activity	**Comments / justification**
Foot access - including access to activity (including dog walking)	• Some overlap in the following activities: Walking (recreational); Foot access (to conduct activity) and Dog Walking – considered sensible to table these activities of concern in combination.

[3] A 'feature' refers here to a habitat, species or natural process.

	• These activities identified as a pressure and / or threat and / or a noted activity (condition assessments) at multiple sites. • One or more habitats were identified as High or Medium sensitivity to these activities.
Recreational boating – anchoring mooring and launching	• Identified as pressure and / or threat at multiple sites • One or more habitats were identified as High or Medium sensitivity to these activities.
Bait digging and collection / hand gathering of living resources	• Bait digging (digging; tiles and tubes; and boulder turning) was identified as a pressure and / or threat and / or a Noted activity (condition assessments) at multiple sites. • Attendees at the workshop flagged the overlap of this activity with hand gathering of living marine resources - considered sensible to tackle these activities of concern in combination. • One or more habitats were identified as High or Medium sensitivity to these activities.
Angling	• Identified as a threat at multiple sites • Includes angling from the shore and from vessels • Some individual site work already underway but improved data on the distribution and impacts of angling would enable better informed management interventions.

6. Connectivity

6.1 Natural Resources Wales has made Priority Habitat Connectivity layers available, together with the following natural processes datasets: Floodplain Reconnection Potential, Floodplain Woodland Planting Potential, Riparian Woodland Potential, Wider Catchment Woodland Potential.

6.2 A land-use planning tool hosted by the West Wales Biodiversity Information Centre provides local network connectivity for specific species.

6.3 B-lines are a series of wildflower-rich habitat stepping stones being created across the UK by Buglife with partners.

6.4 These resources, together with local knowledge of opportunities, can be used to create a habitat network which is more connected for a variety of species. The National Park Authority has identified three key areas for biodiversity: the St Davids Peninsula, the Preseli Hills and the Castlemartin Peninsula. These large areas all possess good coverage and diversity of semi-natural habitat, high species diversity and good existing ecological connectivity.

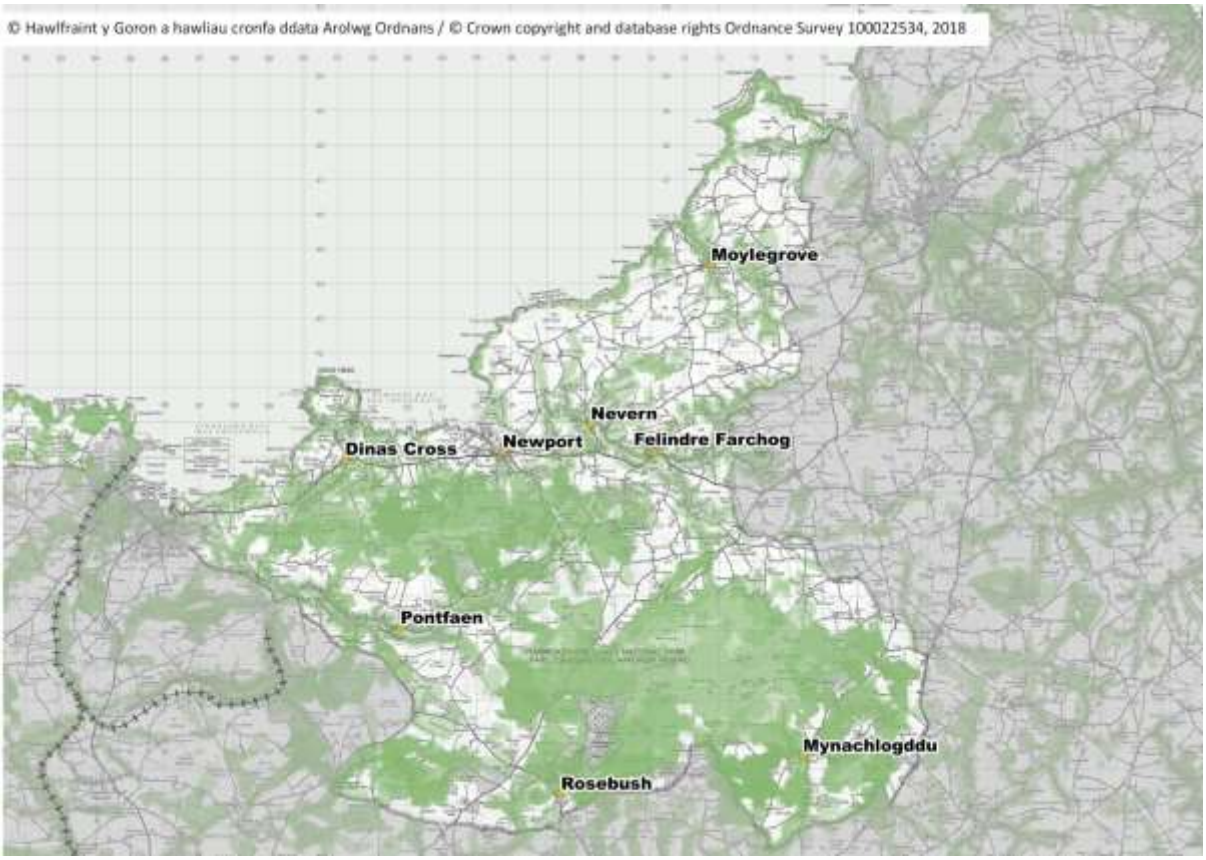
6.5 The National Park Authority has used amalgamated Natural Resources Wales focal connectivity networks (i.e. for bog, fen, grass, heath and woodland). Metadata on the "Habitat Networks" data is available for reference on Lle[4]. Areas which serve more than a single network appear darker.

6.6 The following notes and caveats apply:

- Connectivity means different things to different species. The National Park Authority has other connectivity resources to refer to, for example a land-use planning tool which has modelled suitability for a variety of species such as dormouse, bats and otters, and other, more detailed work including an adder habitat suitability model.
- Areas are modelled and represent areas of search where connectivity may potentially be improved. No information on the condition of habitats can be inferred.
- Ground-truthing and survey is always necessary.
- White areas may also have value for nature.

6.7 A range of management options may be possible on areas identified as potential corridors – there is no one solution. For areas of high existing habitat cover and connectivity, an indicative approach would be to maintain or restore habitat condition, buffer the areas by habitat creation, and protect and enhance ecological connections. For areas of low connectivity, an indicative approach would be to create habitat (stepping stones) and link them with small scale connections such as field boundaries. Areas of low connectivity will tend to be areas of more intensive farming, so a cost-effective approach would be to promote farming with nature in mind.

[4] http://lle.gov.wales/catalogue/item/HabitatNetworks/?lang=en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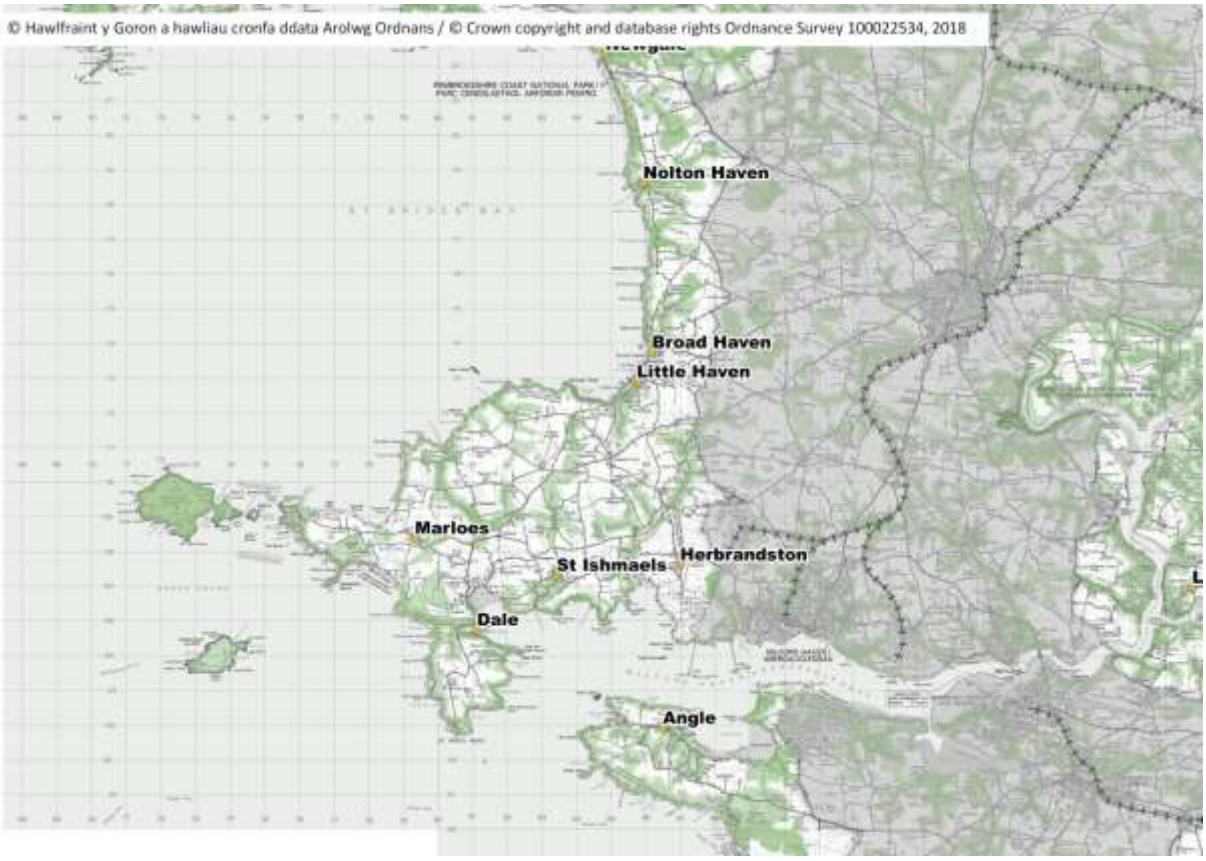
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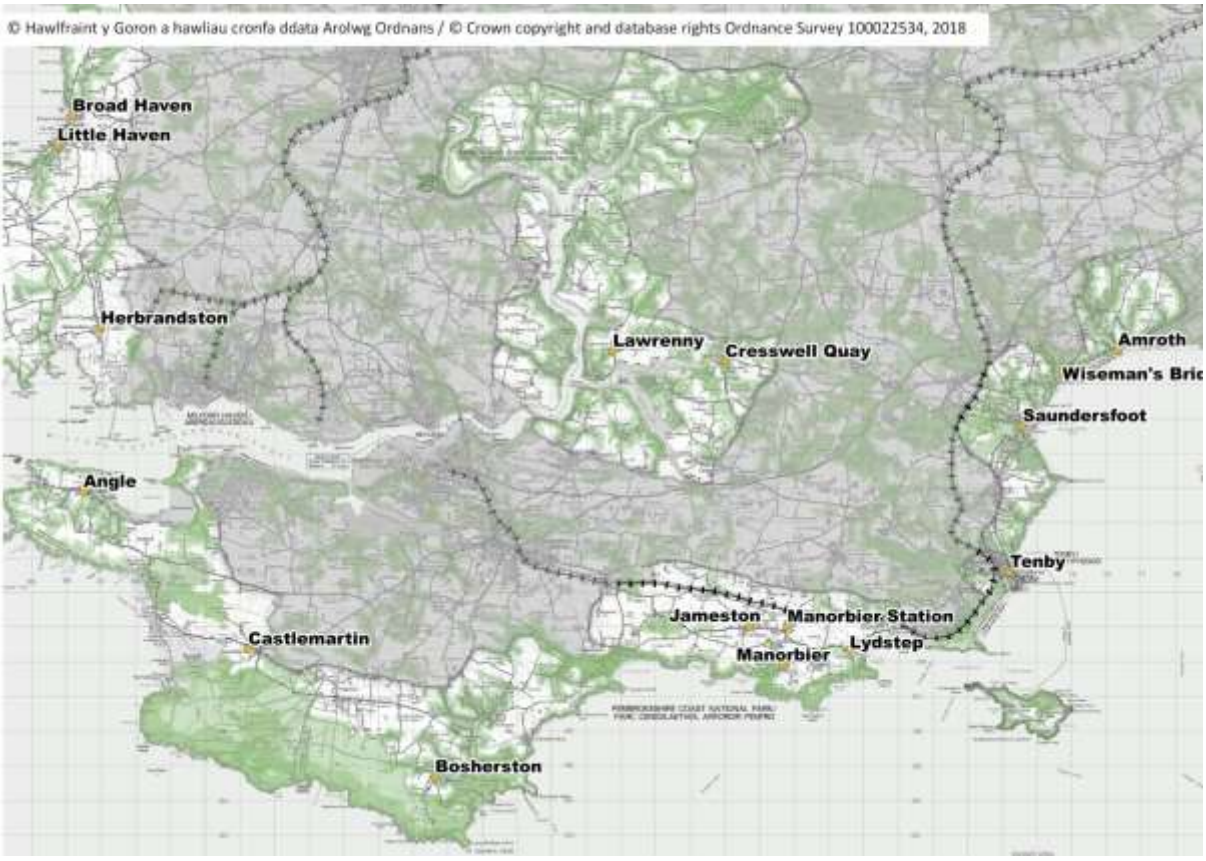
Broad Haven
Little Haven
Marloes
St Ishmaels
Herbrandston
Dale
Angle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Broad Haven
Little Haven
Herbrandston
Lawrenny
Cresswell Quay
Amroth
Saundersfoot
Angle
Tenby
Jameston
Manorbier Station
Lydstep
Manorbier
Castlemartin
Bosherston

7. Non-native invasive species, pests and pathogens

7.1 The Pembrokeshire Nature Partnership's Invasive Non-Native Species action plan sets out an integrated approach to management of invasive non-native and /or harmful species. Establish control strategies are in place for e.g. Japanese knotweed, Himalayan balsam, *Rhododendron* in key catchments e.g. Gwaun, Nevern, Ritec, E and W Cleddau.

7.2 *Phytophthora ramorum* is a fungus-like pathogen that causes extensive damage and kills a wide range of trees and other plants. Larch trees are particularly susceptible and large numbers have been affected.

7.3 Statutory notices[5] have been issued for sites in the South, Preseli Hills and North, and Daugleddau management areas.

7.4 Chalara ash dieback (also known as Chalara or dieback of ash) is a disease of ash trees caused by a fungus *Hymenoscyphus fraxineus*. The fungus was previously called *Chalara fraxinea*, hence the widely used common name of the disease. Chalara ash dieback is especially destructive to common or European ash (*Fraxinus excelsior*), including its 'Pendula' ornamental variety. Narrow-leaved ash (*Fraxinus angustifolia)* is also susceptible.

7.5 In Wales, ash makes up a significant proportion of woodland cover as well as contributing to a vast network of hedgerows.

7.6 Chalara Ash Dieback is present in the wider environment across the National Park[6].

[5] Distribution of Statutory Notices: https://naturalresources.wales/guidance-and-advice/environmental-topics/woodland-management/tree-health-and-biosecurity/phytophthora-ramorum/?lang=en

[6] Chalara Ash Dieback survey results: https://naturalresources.wales/guidance-and-advice/environmental-topics/woodland-management/tree-health-and-biosecurity/chalara/?lang=en