

Pembrokeshire Coast National Park Management Plan (2020-2024)

Background Paper: the State of the Park

Pembrokeshire Coast National Park Authority
June 2019

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Landscape, seascape, tranquillity and dark skies

1. Pembrokeshire Coast National Park special qualities

1.1 National Park purposes refer to enjoyment and understanding of the area's "special qualities" by the public. The National Park Authority sought residents' and visitors' views on special qualities in 2006, as part of the preparation for the Local Development Plan and Management Plan at that time. Consultants also identified special qualities as part of a Landscape Character Assessment, in 2007, largely based on the format and information contained within LANDMAP, the Welsh landscape appraisal tool. The Landscape Character Assessment was adopted as Supplementary Planning Guidance on Landscape Character Areas to the Local Development Plan in June 2011.

1.2 The special qualities identified by people reflect their perception of the National Park, and their own understanding of what is special about it. The special qualities are:

- Coastal Splendour
- Diverse Geology
- Diversity of Landscape
- Distinctive Settlement Character
- Rich Archaeology
- Cultural Heritage
- Richness of Habitats and Biodiversity
- Islands
- Accessing the Park
- Space to Breathe
- Remoteness, Tranquillity and Wildness
- Diversity and Combination of Special Qualities

1.3 The Landscape Character Assessment Supplementary Planning Guidance is largely based on the format and information contained within LANDMAP, the Welsh landscape appraisal tool. Updates to the National Park aspect areas for the Visual and Sensory layer were released in March 2015, although these were not considered significant enough to warrant a review of the Authority's adopted Landscape Character Assessment Supplementary Planning Guidance.

2. National Landscape Character Areas (Wales)

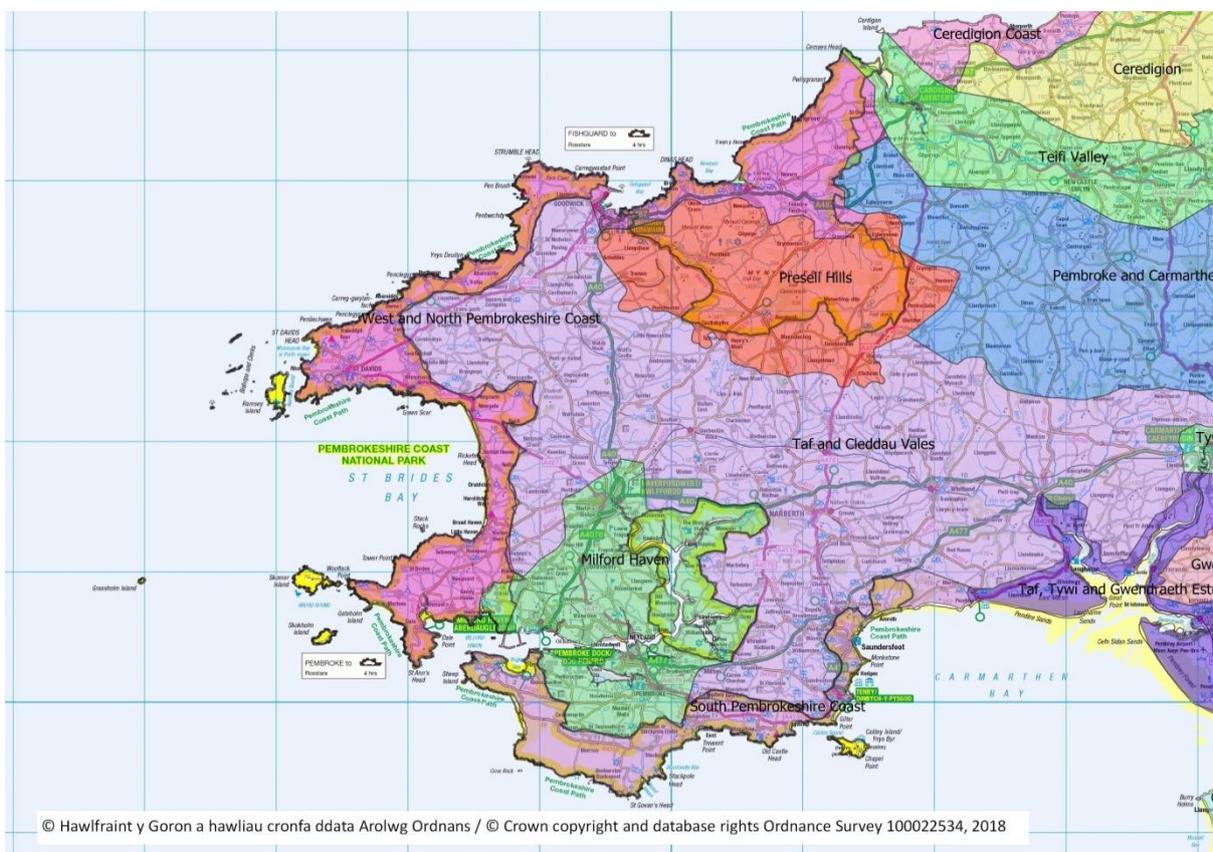
2.1 Natural Resources Wales has defined National Landscape Character Areas throughout Wales. These are regions with distinct natural, cultural and perceptual characteristics.

2.2 Many natural resource issues are best addressed at a landscape-scale. National Landscape Character Area descriptions are intended to contribute to development of national and regional policy, strategy or guidelines.

2.3 The National Park boundary includes the following National Landscape Character Areas:

- [NLCA 40 Teifi Valley](#) (small intersection)
- [NLCA 42 Pembroke and Carmarthen foothills](#) (small intersection)
- [NLCA 43 West and North Pembrokeshire](#) (including islands). This is equivalent to the North-west and West management areas.
- [NLCA 44 Taf and Cleddau Vales](#) (minor intersections)
- [NLCA 46 Preseli Hills](#) (equivalent to the North management area)
- [NLCA 47 South Pembrokeshire Coast](#) (includes the South management area identified below)
- [NLCA 48 Milford Haven](#) (includes the Daugleddau management area)

2.4 The linked documents provide a summary description and detailed profiles of each area.



3. South-West Wales Area Statement

3.1 Area Statements are a requirement of the Environment (Wales) Act 2016. They are prepared and published by Natural Resources Wales in support of Welsh Government's Natural Resources Policy. Area Statements identify the public bodies which may help address the priorities, risks and opportunities for sustainable management of natural resources in their areas, as identified in State of Natural Resources (SoNaRR) reports.

4. Landscape Character Areas

4.1 A Landscape Character Assessment Study¹ was commissioned by the Pembrokeshire Coast National Park Authority in October 2006 and adopted as Supplementary Planning Guidance in 2011.

4.2 Baseline LANDMAP data was reviewed in detail and supplemented by further field work, resulting in the identification of 28 Landscape Character Areas within the National Park (and in many cases extending over the National Park's landward boundary) and preparation of management guidance for each.

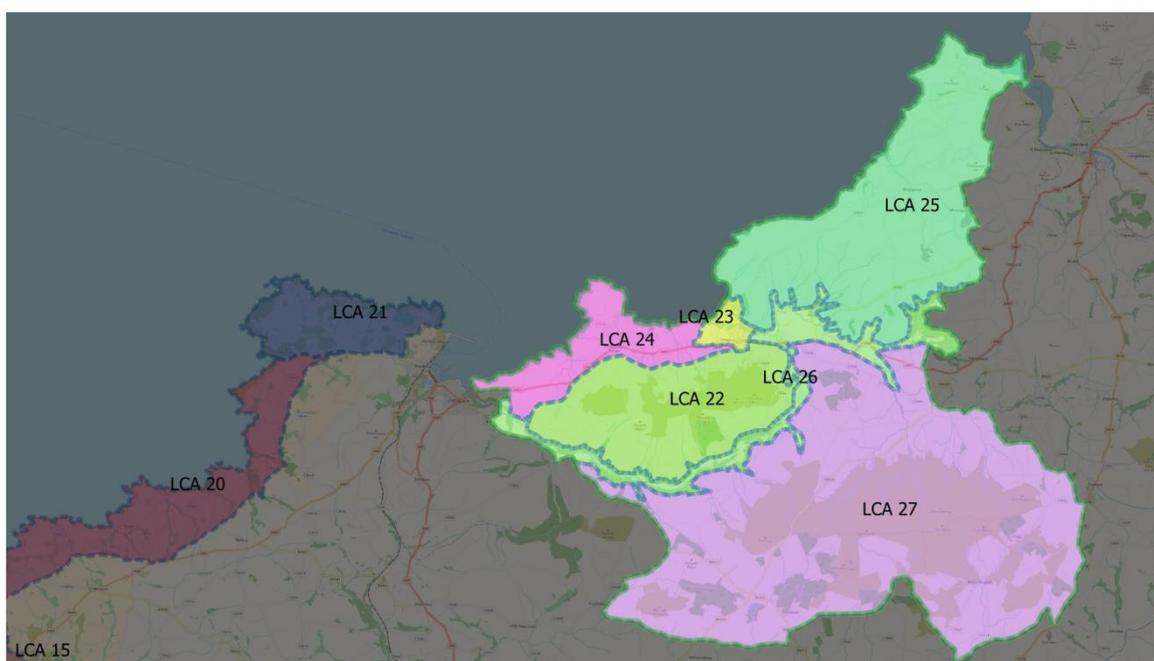
4.3 Some management guidance, for example protection of designated nature conservation and heritage sites, is common to all Landscape Character Areas. There are also more distinct landscape characteristics and sensitivities; these have been grouped for the five management areas as follows:

Characteristics and sensitivities	Management Area
The intricate, complex, rugged, indented natural coasts with dramatic headlands and islands e.g. St Davids Head, Skomer, Ramsey Island, Strumble Head, Stackpole Head.	Preseli Hills and North North West West South Daugleddau
Important focal points along the coast and out to sea including islands, islets, headlands and distinctive sweeping beaches such as Whitesands Bay, Freshwater West and Newport Bay.	Preseli Hills and North North West West South
Unspoilt hills and backdrops which contribute to seascape character e.g. Carn Llidi, Mynydd Carningli and the Preselis.	Preseli Hills and North North West
Views from key places such as headlands, coastal hills and the Coast Path.	Preseli Hills and North North West West South Daugleddau
Tranquil seascapes where there is little disturbance and	Preseli Hills and North

¹ <http://www.pembrokeshirecoast.wales/default.asp?PID=249>

signs of development; dark skies.	North West West South
Remote undeveloped seascapes with wild, highly natural, elemental character such as the islands, north coast south west of Strumble Head and Castlemartin peninsula.	Preseli Hills and North North West West South
Secluded and tranquil, well-treed character of the Daugleddau estuary.	Daugleddau
Small scale, traditional historic coastal settlements such as Solva, Abercastle, Porthgain and Newport, and harbours such as Porthclais and Stackpole Quay.	Preseli Hills and North North West West South
Other coastal conservation areas with dramatic settlement features, such as the skyline and harbour of Georgian Tenby.	Preseli Hills and North North West West South
Presence of coastal and island historic features such as peninsula forts, castles, chapels, other buildings and structures and other heritage features which have a strong relationship with the coast and sea visually, physically and culturally.	Preseli Hills and North North West West South
Presence of coastal edge and island habitats with high biodiversity e.g. Skomer Marine Conservation Zone, National Nature Reserves including Ramsey Island, Special Areas of Conservation covering the majority of the coast and inshore waters, Sites of Special Scientific Interest.	Preseli Hills and North North West West South

Preseli Hills and North Coast

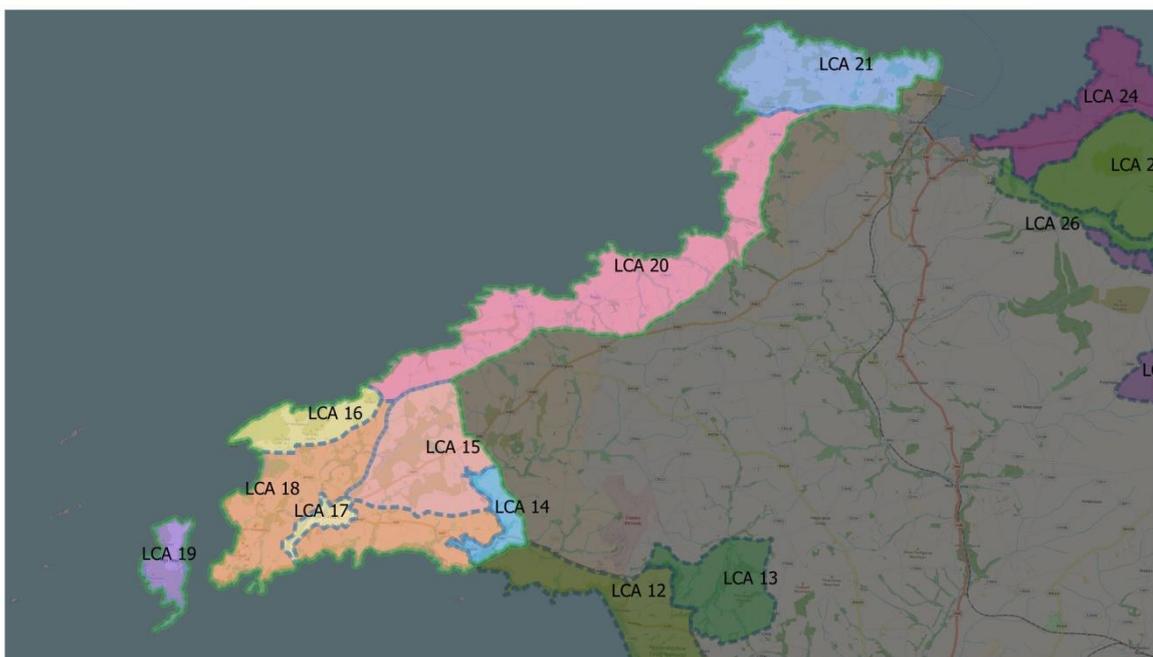


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Landscape Character Area	Example qualities (from the Landscape Character Assessment)	Example management guidance (from the Landscape Character Assessment)
LCA 22 Mynydd Carningli	Remoteness, openness, tranquillity, historic landscape, geology and geomorphology.	Conserve open heathland and moorland. Encourage participation in agri-environment measures. Conserve / enhance historic boundaries. Protect archaeological sites and their settings. Protect significant geological and geomorphological sites.
LCA 23 Newport	Historic settlement character, natural setting.	Conserve and enhance the outstanding historical character of the town and its setting.
LCA 24 Dinas Head	Focal headland, patchwork of enclosures.	Conserve and enhance traditional field boundaries.
LCA 25 Cemaes	Remoteness, sparse	Conserve the scale and character of

Head	settlements, traditional buildings, traditional field boundaries.	dwelling and settlements.
LCA 26 Cwm Gwaun/Afon Nyfer	Secluded, tranquil river valley, cultural distinctiveness, ancient woodland, historic buildings.	Conserve and enhance upland heath and native woodland. Conserve and enhance traditional boundaries. Conserve and enhance archaeological sites.
LCA 27 Mynydd Preseli	Highly distinctive ridges and outcrops, remoteness, openness, wildness, tranquillity, historic landscape.	Conserve open heathland and moorland. Encourage participation in agri-environment measures. Conserve / enhance historic boundaries. Protect archaeological sites and their settings. Protect significant geological and geomorphological sites. Conserve and enhance traditional field boundaries.

North-west Coast

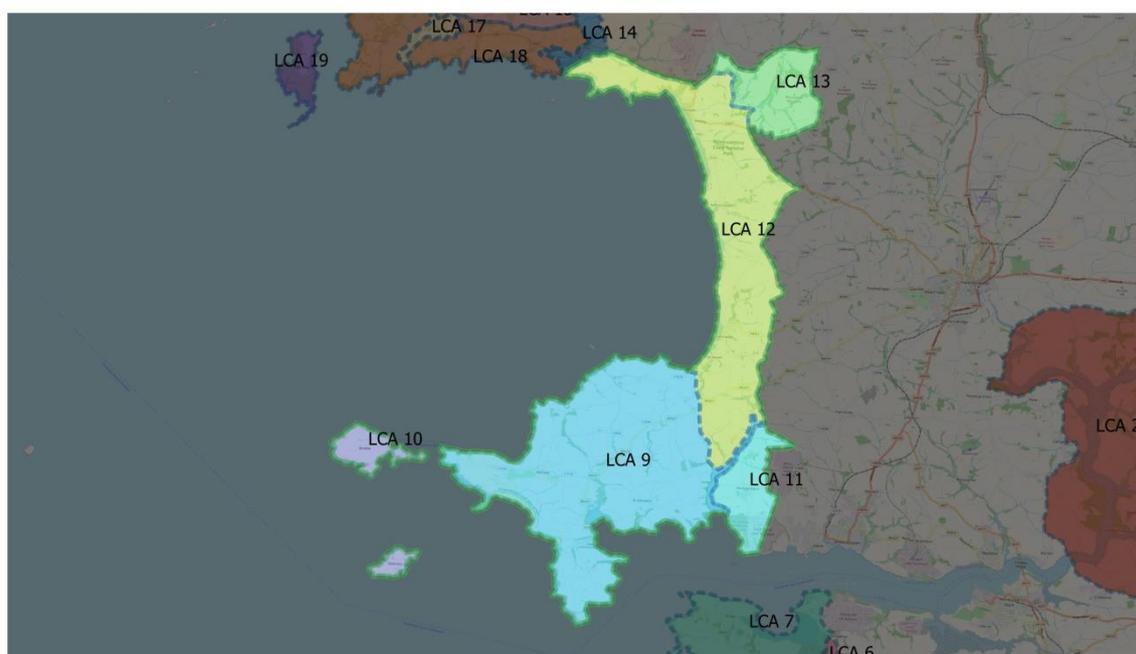


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Landscape Character Area	Example qualities (from the Landscape Character Assessment)	Example management guidance (from the Landscape Character Assessment)
LCA 14 Solva Valley	Historic buildings, Solva, harbour, wooded valley.	Conserve settlement character. Encourage participation in agri-environment measures. Conserve and enhance traditional field boundaries.
LCA 15 Dowrog and Tretio Common	Openness, traditional buildings, Caerfarchell, grassland, heath	Conserve and enhance moorland and semi-natural grassland. Conserve and enhance traditional field boundaries. Protect archaeological sites and their settings.
LCA 16 Carn Llidi	Distinctive, prominent outcrops, historic landscape, heath	Encourage participation in agri-environment measures. Conserve and enhance moorland and semi-natural grassland. Conserve and enhance traditional field boundaries. Protect archaeological sites and their settings.
LCA 17 St Davids	St. Davids	Maintain the integrity of historic buildings and archaeological sites, with particular emphasis on their visual setting. Conserve the local vernacular.
LCA 18 St Davids Headland	Openness, tranquillity, coastal grassland, heath, historic landscape.	Conserve and enhance semi-natural habitat and traditional field boundaries.
LCA 19 Ramsey Island	Ramsey Island, wildness	Conserve the features and character of this designated site.
LCA 20 Trefin	Historic landscape, historic buildings, industrial heritage, traditional field boundaries,	Protect extensive views. Conserve and enhance semi-natural habitat. Conserve and enhance traditional field boundaries. Protect archaeological sites and their settings. Protect significant geological and geomorphological sites.
LCA 21 Pencaer/Strumble	Wildness, openness, historic landscape,	Protect extensive views. Conserve and enhance semi-natural habitat.

Head	remoteness, scattered settlement.	Conserve and enhance traditional field boundaries. Protect archaeological sites and their settings. Protect significant geological and geomorphological sites.
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West Coast

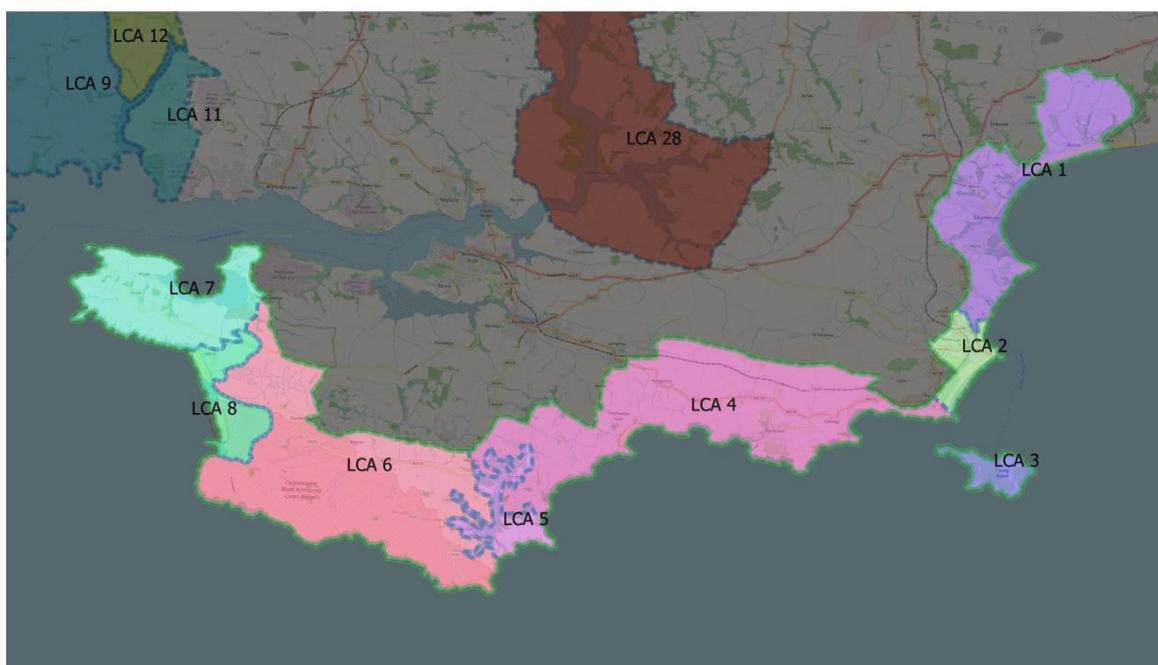


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Landscape Character Area	Example qualities (from the Landscape Character Assessment)	Example management guidance (from the Landscape Character Assessment)
LCA 9 Marloes Peninsula	Open farmland, woodland, coastal habitats, historic landscape, island views.	Protect extensive views. Conserve and enhance semi-natural habitat mosaic. Conserve and enhance traditional field boundaries. Protect archaeological sites and their settings.
LCA 10 Skomer & Skokholm	Remoteness, wildness, outstanding ecological significance.	Conserve the features and character of the reserve and conservation zone. Protect archaeological sites and

		their settings.
LCA 11 Herbrandston	Historic landscape, industrial setting.	Conserve and enhance semi-natural habitat. Conserve and enhance traditional field boundaries. Protect archaeological sites and their settings.
LCA 12 St Brides Bay	Open, exposed, scattered settlement.	Protect extensive views. Conserve and enhance semi-natural habitat. Encourage participation in agri-environment measures. Conserve and enhance traditional field boundaries. Protect archaeological sites and their settings. Protect significant geological and geomorphological sites.
LCA 13 Brandy Brook	Tranquillity, woodland.	Conserve and enhance semi-natural habitat. Encourage participation in agri-environment measures. Conserve and enhance traditional field boundaries. Protect archaeological sites and their settings. Protect significant geological and geomorphological sites.

South Coast

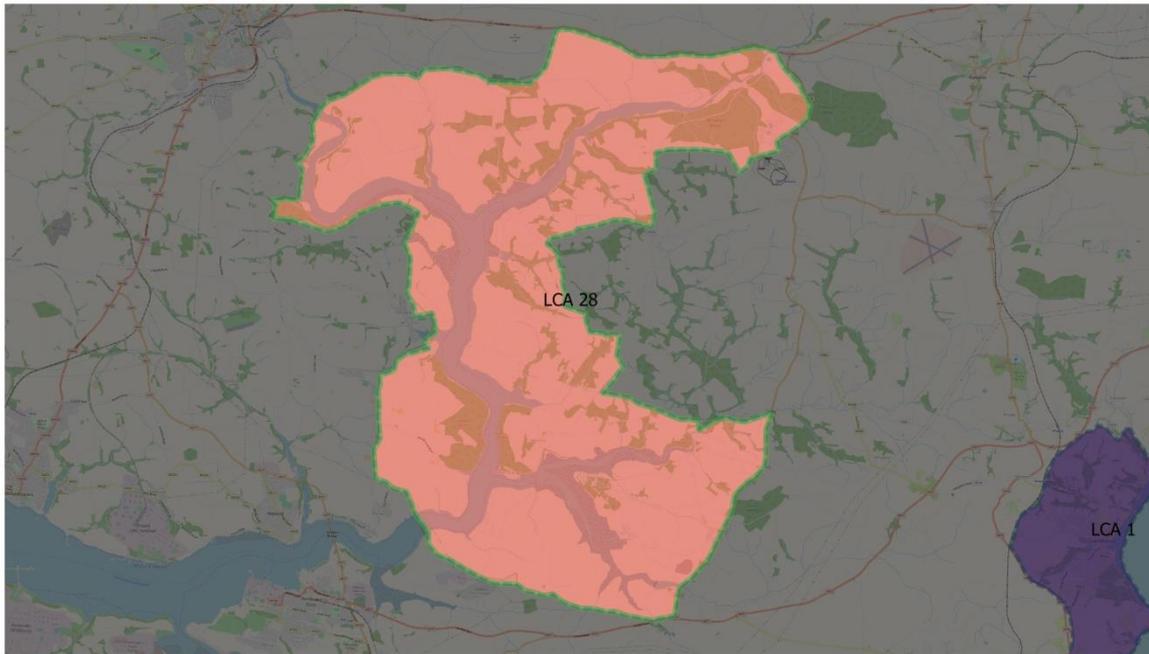


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Landscape Character Area	Example qualities (from the Landscape Character Assessment)	Example management guidance (from the Landscape Character Assessment)
LCA 1 Saundersfoot Settled Coast	Rolling landform, small river valleys, parkland, industrial heritage.	Conserve and enhance parkland and industrial character / heritage. Encourage participation in agri-environment measures. Conserve and enhance traditional field boundaries.
LCA 2 Tenby	Tenby historic town character.	Conserve and enhance traditional town character.
LCA 3 Caldey Island	Caldey monastic heritage, tranquillity,	Conserve island tranquillity and character. Protect archaeological heritage.
LCA 4 Manorbier/Freshwater East	Historic landscape, medieval field system.	Conserve and enhance habitat mosaic. Encourage participation in agri-environment measures. Conserve and enhance traditional field boundaries. Protect archaeological sites and their settings.

LCA 5 Stackpole	Parkland, historic landscape, lakes, bays.	Conserve and enhance parkland woodland character / heritage and the lakes system. Protect archaeological sites and their settings.
LCA 6 Castlemartin/Merrion Ranges	Openness, tracts of grassland and coastal heath, military presence, prominent churches.	Conserve and enhance semi-natural habitat. Conserve and enhance listed building complexes. Protect archaeological sites and their settings. Protect significant geological and geomorphological sites.
LCA 7 Angle Peninsula	Historic settlement pattern, surviving field system, Angle, defensive landscape, historic landscape, maritime heritage.	Conserve and enhance the historic character of the village and setting. Conserve and enhance traditional field boundaries. Protect archaeological sites and their settings.
LCA 8 Freshwater West/Brownside Burrows	Exposed, wildness, extensive sand dunes, broad, shallow valley.	Protect sense of remoteness. Conserve and enhance dune and grassland habitats, manage the wider catchment. Protect archaeological sites and their settings.

Daugleddau



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Landscape Character Area	Example qualities (from the Landscape Character Assessment)	Example management guidance (from the Landscape Character Assessment)
LCA 28 Daugleddau	Tranquil estuary, rivers and creeks, historic landscape, parkland, woodland, industrial heritage.	Maintain parkland character. Conserve and enhance semi-natural / ancient woodland. Conserve the tranquillity of the estuary. Encourage participation in agri-environment measures. Protect archaeological sites and their settings.

5. Marine Character Areas (Wales)

5.1 Seascape characterisation describes the links between people, culture, places and natural resources. An understanding of this sense of place is important when, for example, planning tourism and recreational activities and in visitor promotion.

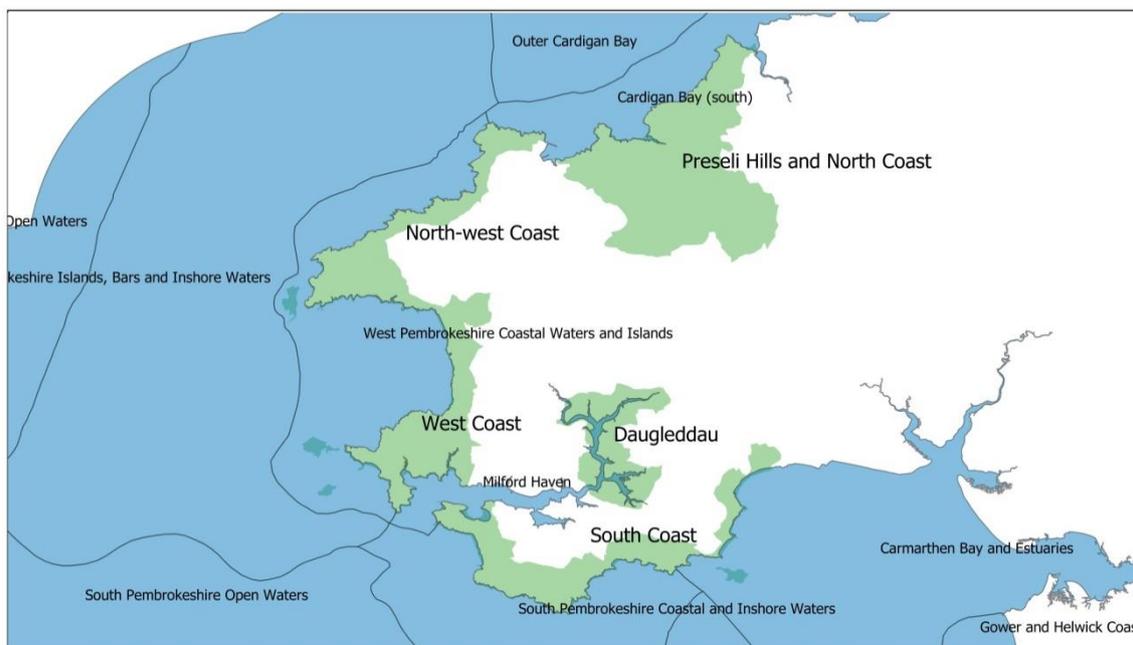
5.2 Natural Resources Wales has identified and described Marine Character Areas in Wales. The descriptions list the areas' key characteristics, including their natural, cultural and perceptual influences, and land/sea inter-visibility maps.

5.3 The following Marine Character Areas overlap or are adjacent to the National Park mainland:

- [MCA 16 Cardigan Bay \(south\)](#)
- [MCA 18 West Pembrokeshire Coastal Waters and Islands](#)
- [MCA 21 Milford Haven](#)
- [MCA 22 South Pembrokeshire Coastal and Inshore Waters](#)
- [MCA 24 Carmarthen Bay and Estuaries](#)

5.4 The following Marine Character Areas lie further offshore:

- [MCA 17 Outer Cardigan Bay](#)
- [MCA 19 West Pembrokeshire Islands Bars and Inshore Waters](#)
- [MCA 20 Irish Sea Offshore](#)
- [MCA 23 South Pembrokeshire Open Waters](#)



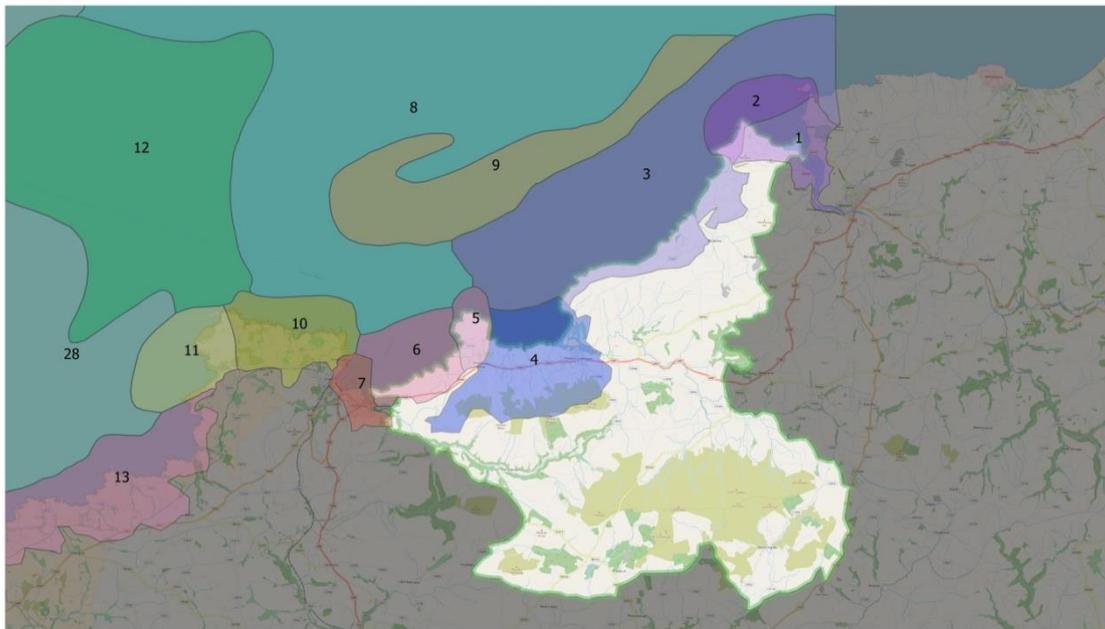
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6. Pembrokeshire Coast Seascape Character Assessment

6.1 Local detailing of the Marine Character Areas is provided by Pembrokeshire Coast National Park Authority's Supplementary Planning Guidance on Seascape Character Assessment² (adopted 11th December 2013). The guidance includes descriptions of 44 identified local Seascape Character Areas, together their sensitivities and the forces for change (e.g. natural processes, visitor pressure, development pressure, land management change) that would potentially impact on their special qualities.

6.2 The inshore Seascape Character Areas most closely associated with the management areas are shown below.

Preseli Hills and North Coast

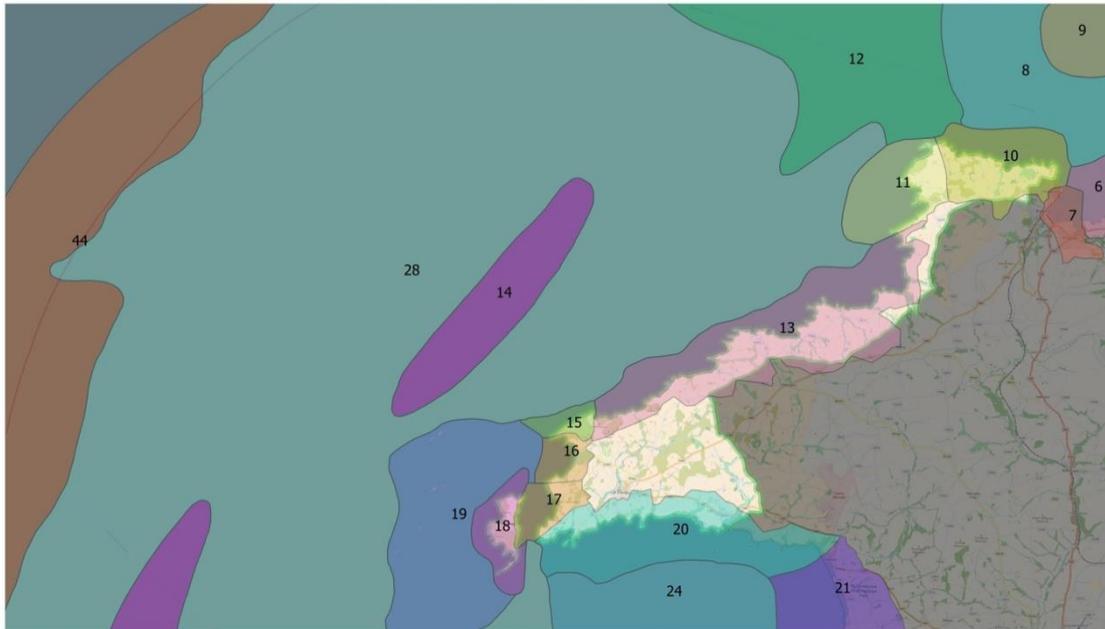


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- [SCA1 Teifi Estuary](#)
- [SCA2 Cardigan Island to Cemaes Head](#)
- [SCA3 Pen y Afr to Pen y Bal](#)
- [SCA4 Newport Bay](#)
- [SCA5 Dinas Island](#)
- [SCA6 Fishguard Bay East](#)
- [SCA7 Fishguard Harbours](#)

² <http://www.pembrokeshirecoast.wales/default.asp?PID=614>

North-west Coast



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[SCA10 Crincoed Point and Strumble Head](#)

[SCA11 Strumble Head to Penbwchdy](#)

[SCA13 Penbwchdy to Penllechwen](#)

[SCA15 St Davids Head](#)

[SCA16 Whitesands Bay](#)

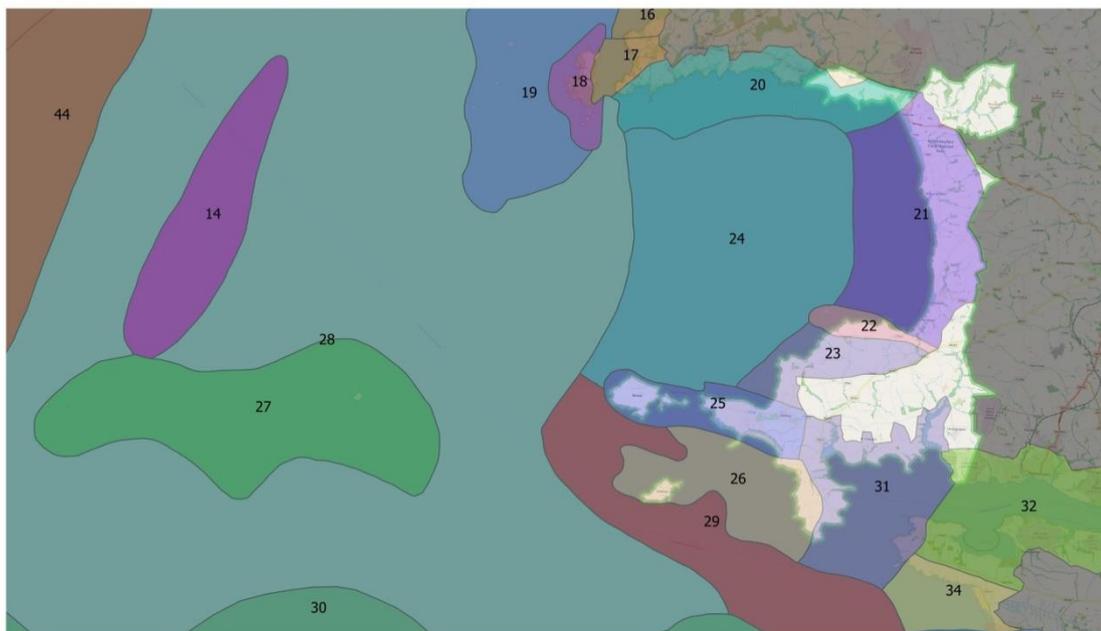
[SCA17 Ramsey Sound](#)

[SCA18 Ramsey Island Coastal Waters](#)

[SCA19 Bishop and Clerks](#)

[SCA20 St Brides Bay Coastal Waters North](#)

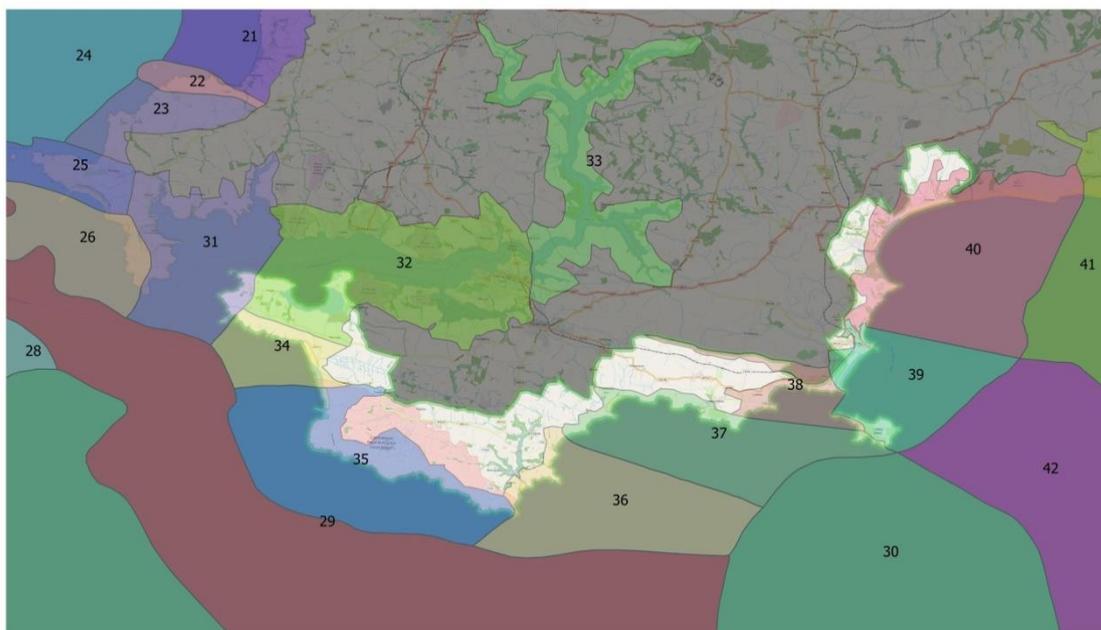
West Coast



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- [SCA21 St Brides Bay Coastal Waters East](#)
- [SCA22 St Brides Bay Coastal Waters South Borough Head](#)
- [SCA23 St Brides Bay Coastal Waters South Nab Head](#)
- [SCA25 Skomer Island and Marloes peninsula](#)
- [SCA26 Skokholm and Gateholm coastal waters](#)
- [SCA27 Grassholm and the Smalls](#)
- [SCA31 Outer Milford Haven](#)

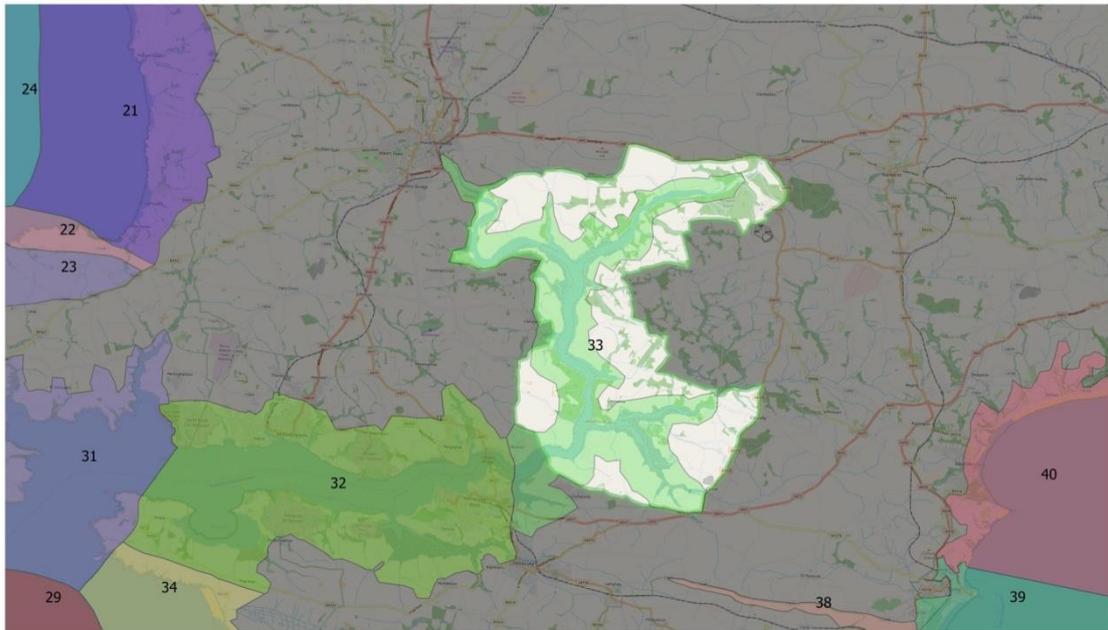
South



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- [SCA32 Inner Milford Haven](#)
- [SCA34 Freshwater West](#)
- [SCA35 Castlemartin Coastal Waters](#)
- [SCA36 Stackpole Coastal Waters](#)
- [SCA37 Freshwater East and Manorbier](#)
- [SCA38 Lydstep Haven Coastal Waters](#)
- [SCA39 Tenby and Caldey Island](#)
- [SCA40 Carmarthen Bay West](#)

Daugleddau



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[SCA33 Daugleddau](#)

7. Designated earth heritage sites

7.1 The Pembrokeshire Coast National Park contains 51 Geological Conservation Review (GCR) sites, covering about 40% of the Pembrokeshire Coastline (excluding the Milford Haven waterway and Daugleddau). All GCR sites are protected by SSSI status. The following table lists GCR sites in Pembrokeshire, and their condition (note: condition for geological sites is dependent on accessibility, visibility and usability, i.e. on the value of the site for research and education).

Condition of GCR site features³

<i>Condition</i>	<i>Count</i>	<i>Percentage</i>
Favourable*	50 (9 in decline)	77% (14% in decline)
Unfavourable	8	12%
Unknown	7	11%

* This category includes sites classed as 'Favourable no significant change', 'Favourable unknown' and 'Favourable improved'. Many of these Geological Conservation Review sites cover long stretches of coastline, so in some cases there are small pockets where the feature condition is not favourable.

7.2 In addition to the GCR sites listed above 66 candidate Regionally Important Geological Sites (RIGS) have been identified in the National Park.

7.3 Although the table above suggests good management, most of the work in maintaining geological exposure is done by natural processes (e.g. marine erosion). Some erosion is generally necessary to maintain coastal rock exposures, and erosion is a process of interest in itself. However geological features should be recorded before they are lost and natural processes documented as they happen. This record would also help inform civil engineering schemes, such as coastal protection projects.

7.4 In many inland areas there have been losses of key geological exposures since the last detailed mapping phase in the early 1900s due to, for example, development, dumping of waste materials and encroachment by vegetation.

8. Tranquillity

8.1 Landscape Institute and Institute of Environmental Management and Assessment guidelines describe tranquillity as "a state of calm and quietude associated with peace, considered to be a significant asset of a landscape"⁴. Tranquillity suggests an absence of detracting forces (e.g. intrusive noise) and is enhanced by the presence of natural features and processes.

8.2 A significant area of the National Park is tranquil by most definitions. Noise from vehicles and watercraft can affect peace and quiet in otherwise-tranquil areas.

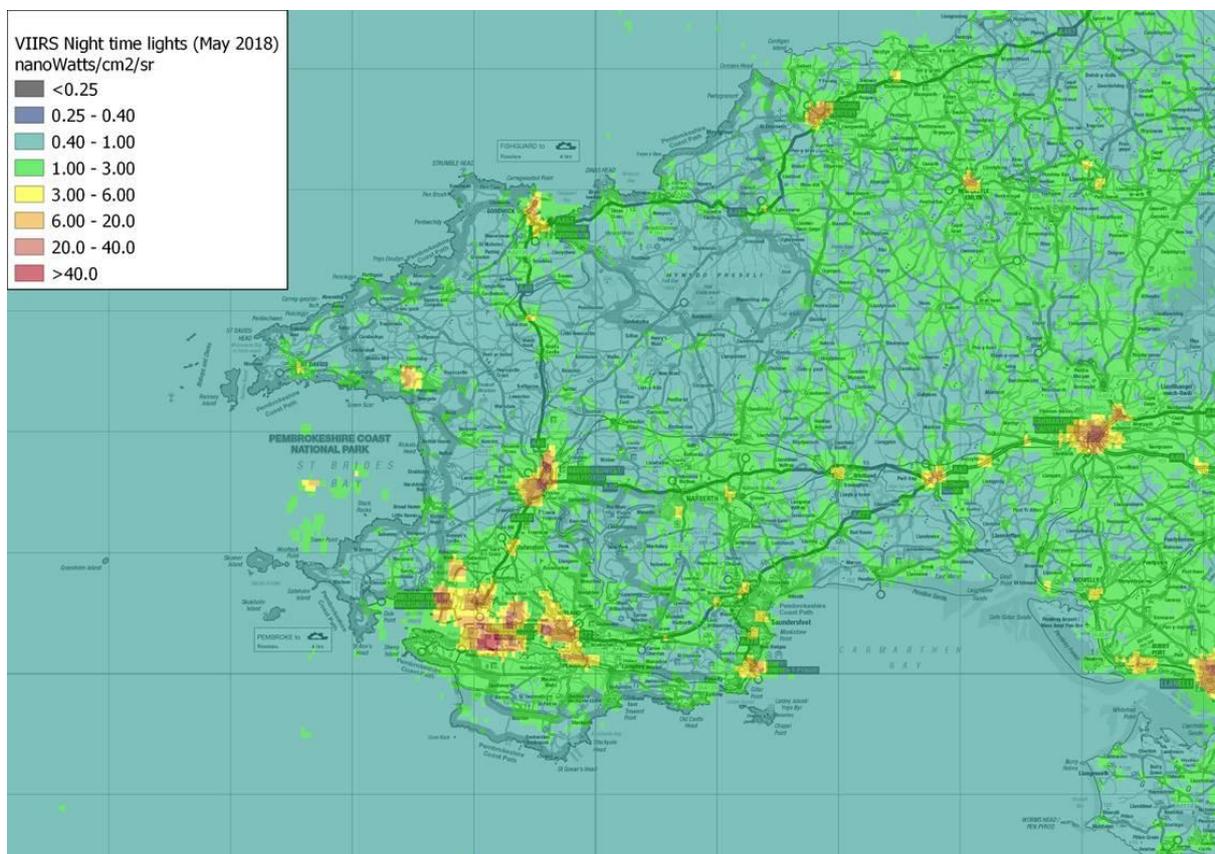
³ A 'feature' refers here to an earth heritage object or natural process.

⁴ Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for landscape and Visual Impact Assessment (3rd Edition), p158.

Military activity at the ranges at Penally, Manorbier and Castlemartin can create an intermittent noise issue. Where energy, electrical or telecommunications infrastructure is sited prominently in the landscape and/or in remote areas, it may detract from the semi-natural aspect or perceived wildness of the area.

9. Dark skies

9.1 The Campaign to Protect Rural England has produced a light pollution map for the UK mainland.⁵ It shows the main settlement, industrial, business, defence and agricultural light sources in and outside the Park. The National Park Authority has recreated this from the Visible Infrared Imaging Radiometer Suite night time lights data from the National Oceanic and Atmospheric Administration⁶, re-classifying the data to fit with the ranges used by the Campaign to Protect Rural England.

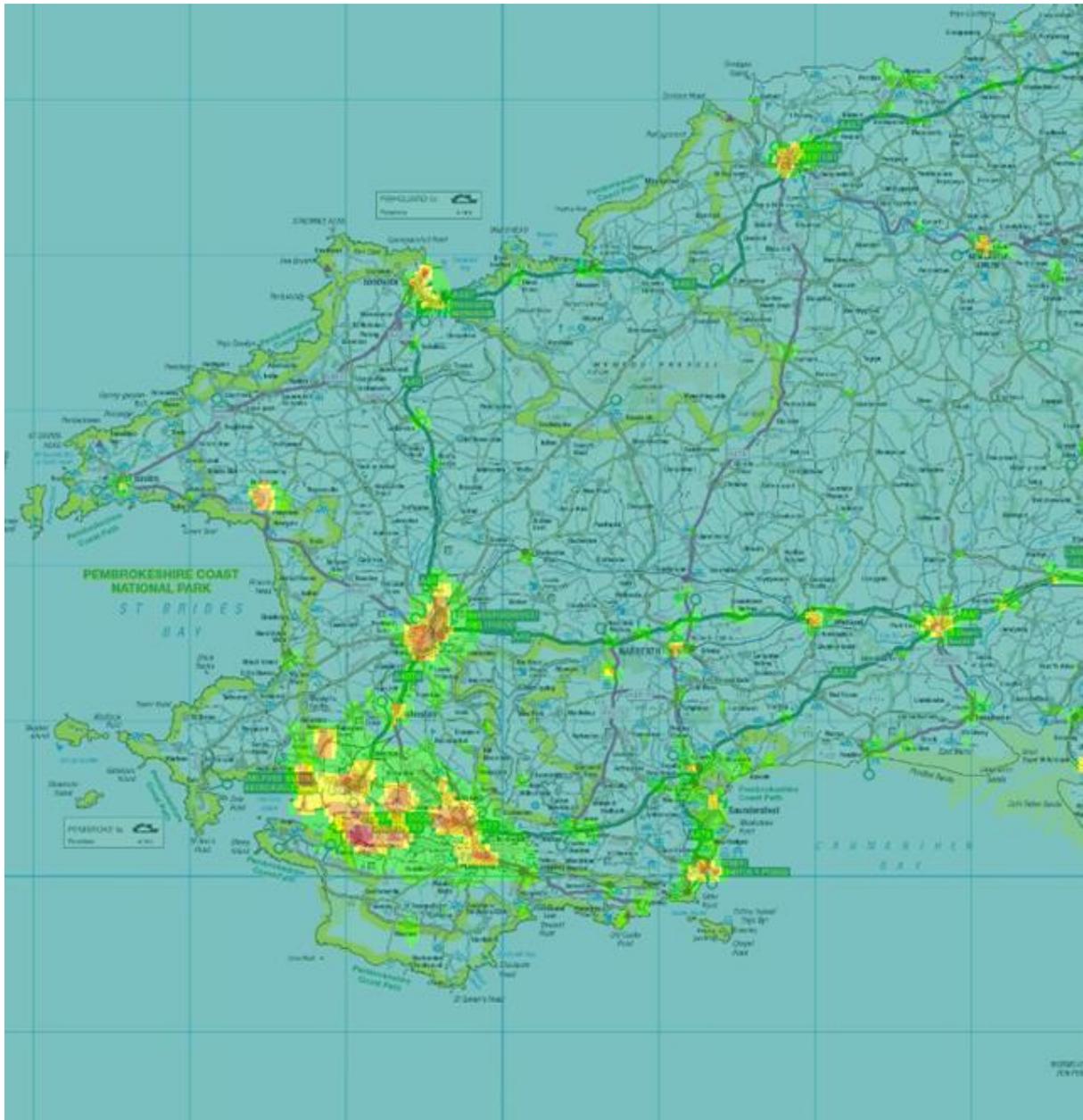


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⁵ <http://www.nightblight.cpre.org.uk/maps/>

⁶ https://ngdc.noaa.gov/eog/viirs/download_dnb_composites.html

Annual cloudless radiance averages from the Visible Infrared Imaging Radiometer Suite (VIIRS) Day/Night Band, reclassified to fit the CPRE bandings.



DN	Banding nanoWatts / cm ² / sr	Banding colour	Area (Ha) (National Park only)
3	0.40-1.00	Blue/Green	57412.455
4	1.00-3.00	Bright Green	3394.357
5	3.00-6.00	Yellow	360.233
6	6.00-20.00	Orange	124.688
7	20.00-40.00	Orange/Red	13.853

9.2 Some settlement light sources may appear on the map principally because of street lighting and impacts may reduce considerably during Pembrokeshire County Council's street-lighting switch-off periods. The map does not necessarily show the relatively minor light sources which nevertheless have a local effect.

9.3 For luminance experienced on the ground, factors such as topography and vegetation cover have to be considered; for this reason it is desirable to model or otherwise source a ground-truthed light map.

9.4 Dark Sky Discovery Sites are small, accessible observation sites with good night sky quality, approved by the UK Dark Sky Discovery partnership. Accessibility and safety are key considerations in site selection. On cloudless, moonless nights, Dark Sky Discovery sites should provide enjoy clear views of the night sky, with the Milky Way visible after dark.

9.5 Sites in the National Park are:

- Skrinkle Haven National Park Authority car park
- Newgale beach (accessed from National Park Authority car park, adjacent Pebbles café)
- Poppit Sands beach (accessed from National Park Authority car park)
- Sychpant National Park Authority Picnic Site
- Garn Fawr National Trust car park
- Kete National Trust car park
- Martin's Haven National Trust car park

9.6 Recommendations of the Pembrokeshire Coast National Park Sky Quality Survey, 2015 are:

- Dark Sky Discovery site nomination (see next heading)
- Promoting the sites
- Reducing light pollution generally
- Reducing light pollution at key locations
- Avoiding future light pollution through planning guidance
- Avoiding future light pollution through voluntary initiatives
- Generating local support
- Evidencing benefits to the local economy
- Making links to other dark sky areas

Well-being, equality and livelihoods

10. The Well-being Assessment and Well-being Plan for Pembrokeshire

10.1 The Well-being of Future Generations (Wales) Act requires public bodies in each local authority area to work together to improve the economic, environmental, social and cultural well-being of its area and the communities which comprise the area.

10.2 The Pembrokeshire Public Service Board⁷ has assessed the state of well-being in Pembrokeshire and published a local Well-being Plan.

10.3 The Well-being Assessment for Pembrokeshire was informed by extensive engagement and survey work with citizens and stakeholders, existing data, evidence and research, and was approved by the Public Service Board in April 2017. It takes a definition of well-being derived from three broad issues which cut across all responses when people were asked about what is important to them:

1. Good health
2. Enough money for essentials
3. Good relationships

10.4 Headline themes from the Assessment include the following:

- The natural environment of Pembrokeshire is very much loved and appreciated, and can also provide opportunities for interaction, engagement and learning, building social cohesion and improving emotional and physical well-being.
- Pembrokeshire's rurality can mean limited access to services, housing, transport, and digital connectedness. New technologies and models of service delivery may provide opportunities to enable many.
- Current (and future) economic / cultural (e.g. agriculture) and social (e.g. transport) pressures have a significant effect on the environment. Action is required to harness the positive and mitigate the negative and longer-term effects of climate change; improving physical, community and psychological resilience.
- Those in the more Welsh-speaking north of Pembrokeshire identify the positive effects on their well-being of speaking Welsh.

⁷ The Public Services Board provides the collaborative partnership. It consists of representatives from the following organisations: Pembrokeshire County Council; Hywel Dda University Health Board; Mid and West Wales Fire and Rescue Service; Natural Resources Wales; Dyfed-Powys Police; Police and Crime Commissioner; Pembrokeshire Coast National Park Authority; Pembrokeshire Association of Voluntary Services; Pembrokeshire College; Port of Milford Haven; Public Health Wales; PLANED; Job Centre Plus; National Probation Service; Welsh Government.

10.5 The Assessment also highlights people’s concerns at different life stages. They include:

Childhood	<ul style="list-style-type: none"> • Pembrokeshire has one of the highest rates of overweight or obese children in Wales, yet this is not necessarily explained by traditional theories around links between obesity and deprivation. Learning about healthy eating and providing opportunities for active play may have big roles in changing behaviour for future generations. • Adverse childhood experiences are hugely detrimental, and have effects that can last through life. Social, emotional and behavioural support across the County can counteract the worst effects and long-term damage. It is especially important that those experiencing challenges such as being looked after or caring for others are supported across a range of areas or settings.
Youth	<ul style="list-style-type: none"> • With houses so expensive in Pembrokeshire, young people looking for independence from their parental home are dependent on renting. This is often poor in condition and quality. • Equipping young people with the right skills and mind set to enter the world of work during this life stage is essential to their future well-being. • This life stage is rarely an easy time. With multiple and varied practical, social and emotional challenges to contend with, adequate support during this period is crucial.
Young people / Adults	<ul style="list-style-type: none"> • Employment that merely meets financial needs is not necessarily enough for well-being; there is also a significant psychological element. Developing new and exciting employment opportunities to ensure that citizens can thrive and succeed, and eradicating inequalities of pay and opportunity will enhance both of these important aspects of well-being. • Many adults in Pembrokeshire report understanding about the behaviours and habits required for a healthy lifestyle but the statistics around our health do not reflect this. Tackling this disconnect is crucial for well-being of current and future generations. • There are many opportunities to celebrate the heritage, history, Welsh language and traditions of Pembrokeshire. In the main these are well-used and enjoyed. It is important to ensure that access to such activities and events is available to all. • With the average house price in Pembrokeshire 14% higher than the national average and nearly 6 times the median salary, getting onto the housing ladder is challenging. Furthermore, the alternative of rented accommodation is often unsuitable and of poor quality.
Older people	<ul style="list-style-type: none"> • Social connectedness is crucial to aging well. Employment, volunteering and socialising in community groups can give older people opportunities to pass on knowledge, wisdom and traditions; to keep physically and psychologically active; and to nurture self-esteem and a sense of empowerment. • Ensuring suitable housing and infrastructure systems will ensure that our older people continue to thrive and be of great benefit to the

	<p>communities within which they live.</p> <ul style="list-style-type: none"> • Caring for others at any age can adversely impact on an individual's well-being. Already high numbers of older people care for their family and friends, and as the number of older people increases in Pembrokeshire, more and more people may find themselves entering older age caring for others. • Dementia sufferers often require significantly more support and resources than services can currently provide. If current trends continue, there will be 3110 dementia sufferers in the County by 2030 which added to other health needs and conditions, means a more sustainable model of support and care will need to be developed.
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From The Well-being Assessment for Pembrokeshire, 2017

10.6 The Well-being Plan for Pembrokeshire was published in May 2018. It contains eight integrated projects:

- Recruitment and Employment Transformation Framework
- Environmental and Climate Change Risk Assessment
- Becoming a Carbon Neutral County
- Doing things Differently
- Celebrating the Great Outdoors
- Community Participation
- Understanding our Communities
- Meaningful Community Engagement

11. Pembrokeshire Coast National Park - Demographic Forecasts (2018)

11.1 The National Park Authority commissioned Edge Analytics to provide a range of alternative demographic and dwelling-led scenarios, for comparison with Welsh Government's 2014-based population projection. Demographic statistics are derived from Unitary Authority and Census Output Area statistics.

11.2 The latest 2014-based population projections from Welsh Government were considered, alongside three demographic scenarios based on various migration assumptions, and four dwelling-led scenarios in which population change is determined by annual dwelling growth trajectories.

11.3 Population growth ranges from -13.7% under the Welsh Government 2014-based projection to +6.2% under the Dwelling-led (90) scenario.

11.4 The dwelling-led scenarios indicate more of a youthful population profile for the National Park compared to the demographic scenarios, but a significant growth in older age-groups remains a feature of all scenarios.

12. Employment⁸ and workplace zones

12.1 Pembrokeshire's economy reflects its peripheral location. While there are a small number of large employers in the energy and service sectors, Pembrokeshire relies on small and medium-sized enterprises to drive its economy, with over 94% of registered businesses employing fewer than 10 people. 12% of the workforce is self-employed.

12.2 The nature of employment in National Parks tends to be rural business, with sectors linked to tourism being prominent (the economic contribution of tourism in Pembrokeshire Coast National Park is significant). The 2013 ARUP report, *Valuing Wales' National Parks*, reported that more than 3,500 jobs are dependent on the National Park environment, that the environment sector has a turnover of over £200m with Gross Value Added of £95m. The report notes that these figures significantly underestimate the total economic contribution of the National Parks because it excludes some of the wider effects of the spending of visitors influenced by the National Parks but spending outside the Park boundary and fails to account for the more subtle economic benefits conferred by the quality of the environment and its effect on quality of life.

12.3 The economy is diverse with significant self-employment including lifestyle businesses. Pembrokeshire County Council's *Economic Development Strategy and Action Plan*⁹ covers the period 2017-2022 with a vision to:

- Improve the quality of life and economic circumstances for all people living, working and visiting Pembrokeshire.
- Make the County an economically competitive, productive and prosperous place with a sustainable economy supporting incomes and employment and economic growth underpinned by successful new enterprises, existing businesses and those attracted to the County.

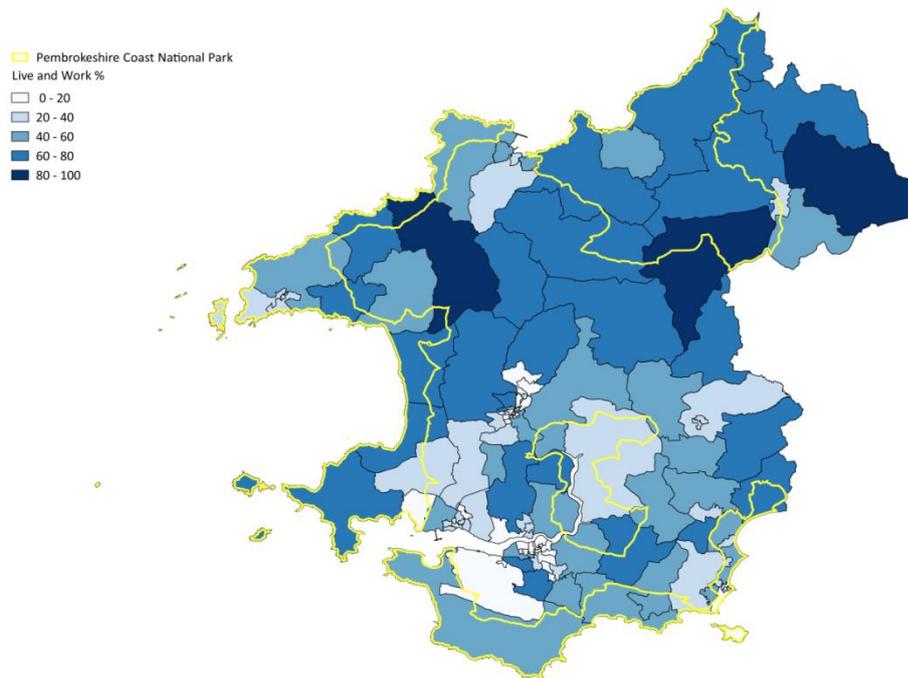
12.4 Most of the people who work in Pembrokeshire also live in Pembrokeshire and this correlation is particularly strong within the National Park.

12.5 Workplace zones were introduced for the 2011 census to supplement the census output areas. Workplace zones are designed to contain consistent numbers of workers based on where people work, while Output Areas are designed to contain consistent numbers of people based on where they live. The map shows the workplace zones in Pembrokeshire with a colour gradation indicating the proportion of the persons working in each zone (aged 16+) that also live within that zone.

⁸ A background paper on employment has been prepared for the Local Development Plan: 2

<https://www.pembrokeshirecoast.wales/Files/files/Dev%20Plans/LDP2/background%20papers/Employment%20Background%20Paper%20March%202018.pdf>

⁹<http://mgenglish.pembrokeshire.gov.uk/documents/s38151/Appendix%20Atodiad%2002.pdf?LLL=0>



(c) Crown Copyright and database rights Ordnance Survey 100022534 2018

12.6 The largest employers attracting people living outside of the immediate areas are located outside the National Park and mostly centred around the Milford Haven Waterway and Haverfordwest. 5% of people who travel to work commute to Carmarthenshire and 4% of those who travel commute to Ceredigion. The number of people self-employed in Pembrokeshire is larger than the Wales average and UK average.

12.7 In line with the Wales Spatial Plan¹⁰, strategic employment provision in Pembrokeshire lies in Pembrokeshire County Council's planning jurisdiction where strategic sites in the Council's Local Development Plan, in particular on the Haven Waterway, provide opportunities for employment growth close to the main centres of population.

12.8 Small employment land allocations in the National Park Authority's planning jurisdiction have not been delivered (viability and lack of developer interest are the two main issues) in the first Local Development Plan and the intention through revision is to respond to uncertainty by considering a more flexible approach through a criteria based policy approach.¹¹

12.9 In terms of accommodating business in Pembrokeshire as a whole, demand is for ready-built premises, rather than land. There is a need to ensure a sufficient supply of smaller industrial units of up to 1,750 sq ft for start-ups and small firms and

¹⁰ <https://gov.wales/docs/desh/publications/130701wales-spatial-plan-2008-update-en.pdf>

¹¹ <https://www.pembrokeshirecoast.wales/Files/files/Dev%20Plans/LDP2/background%20papers/Employment%20Background%20Paper%20March%202018.pdf>

larger inward investors (c. 10,000). Locations identified are Haverfordwest, the Haven and Fishguard and north Pembrokeshire.¹² It is acknowledged that public sector provision of business premises has ceased and therefore ensuring a sufficient supply of office and business premises will now rely on engagement with the private sector to identify sites and opportunities (Spatial Strategy for Employment as at July 2018).

13. Housing

13.1 Issues identified in Annual Monitoring Reports¹³ for the Pembrokeshire Coast National Park Local Development Plan, where Management Plan policy could complement policies contained in the Local Development Plan, include available housing land supply and affordable housing and housing delivery.

13.2 The starting population and migrant population tend to be older in the Pembrokeshire Coast National Park than elsewhere in Pembrokeshire.

Welsh Government Population Projections – taken from Demographic Forecasts January 2018

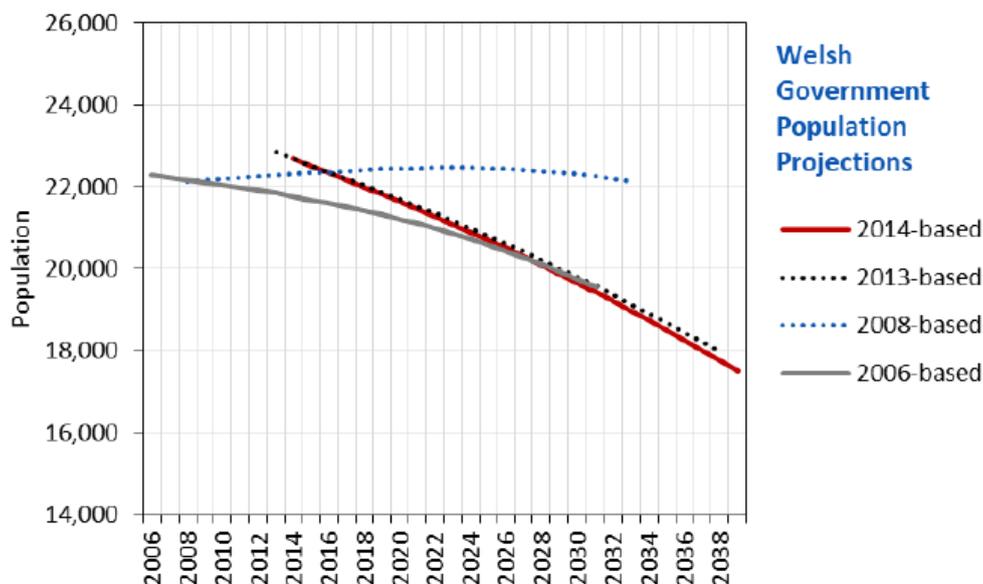


Figure 8: Welsh Government Population Projections for Pembrokeshire Coast National Park (Source: StatsWales)

13.3 Welsh Government household projection figures would suggest that there is little justification to make a housing provision.

13.4 Population and household projections prepared for the Authority¹⁴ provides a range of alternative demographic and dwelling-led scenarios, for comparison with the Welsh Government's 2014-based population projections.

¹² page 46, Pembrokeshire County Council Economic Development Strategy and Action Plan 2017- 2022.

¹³ <http://www.pembrokeshirecoast.wales/default.asp?PID=536>

¹⁴ Local Development Plan Background Paper: Demographic Forecasts Jan 2018

13.5 In terms of growth outcomes considered for the preparation of the Authority's Replacement Local Development Plan, those that are dwelling-led, reflect a reversal in future trends estimated under demographic led scenarios. Dwelling-led scenarios retain a more youthful population profile but a significant growth in the older age-groups remains a feature of all scenarios.

13.6 Affordable housing need as set out in the Local Housing Market Assessment for Pembrokeshire¹⁵ is substantial both inside and outside the National Park. The need is greater than any historic dwelling completion rate for the National Park.

14. EU Exit Scenario Planning Workshops

14.1 The *Summary of EU Exit Scenario Planning Workshops. Paper from the Energy, Planning and Rural Affairs' Evidence and Scenarios Roundtable Sub-Working Group, 2018* found that:

- Opportunities arise for some sectors in some scenarios, but not in all.
- Food prices increase, influenced by import tariffs, non-tariff barriers and higher labour costs.
- The potential impacts for Welsh fishing vary from collapse under World Trade Organisation tariffs to no change if the trading arrangements with the EU remain unchanged.
- The importance of investing in 'added value' is a theme across all scenarios and with all sectors.
- The sheep sector faces severe challenges as it relies on export
- The dairy and poultry sectors are most robust because of their focus on UK internal markets
- Beef remains viable with a buoyant dairy industry to supply calves and a lower dependency on export.
- The Welsh environment sector remains a potential growth area in term of eco-tourism through landscapes and seascape. It is rich in natural capital but investment is needed to develop new markets and to develop the skills the sector needs.
- Government funding significantly impacts the rate of change but not the eventual outcome.
- Without Government transitional support, in scenarios of big change, specific sectors may collapse quickly which will have wider consequences on community health and well-being.
- Farming and fishing businesses in Wales need to improve productivity and efficiency, and consider other income streams to stay viable. This will require improved business skills and investment in infrastructure.
- The challenges and opportunities of Brexit will be different for each agricultural, fishing, forestry or food business. Mechanisms to support businesses to make the right decisions need to be put in place.

¹⁵ Local Development Plan Background Paper: Local Housing Market Assessment.

15. Pembrokeshire Coast National Park Authority Strategic Equality Plan, 2016 - 2020

15.1 The Equality Plan sets out the National Park Authority's equality objectives and the actions it will carry out to meet them. The Plan was informed by the Equality and Human Rights Commission's 2015 publication *Is Wales Fairer? The State of Equality and Human Rights 2015* (Equality and Human Rights Commission) and a multi-agency consultation and survey involving most public bodies in south and west Wales.

15.2 Objectives are:

- To continue removing barriers that can be identified for people accessing National Park Authority services
- To promote greater levels of participation from communities and other stakeholders in the decision-making of the National Park Authority
- To develop a level of understanding of equality, fairness and justice issues among staff and members as befits a Welsh Public Sector Organisation
- To promote equality and diversity within the National Park Authority workforce

15.3 These objectives and associated actions will be considered in drafting the Management Plan, both in terms of the equality objectives themselves and in terms of the contribution that can be made through taking equality considerations into account when looking at achieving the other objectives.

15.4 Policy areas with distinct equality aspects include planning policy, promotion, health and wellbeing initiatives, volunteering opportunities, access to rights of way, skills development and visitor experiences and participation.

15.5 Themes arising from the multi-agency consultation in relation to protected groups were:

- Disabled people appear to have the worst overall experiences across the ten domains, though particularly in relation to access to transport, social, leisure and countryside access and employment.

15.6 The following can be summarised in relation to the ten domains:

- Health: older, transgender and disabled people are the groups considered to have the worst experiences. Lesbian, gay, bisexual and transgender people self-report worse experiences than public perceptions.
- Respondents with caring responsibilities thought both disabled and older people had worse experiences than the overall results suggested.
- Education: disabled, older, transgender, lesbian, gay, bisexual and Black and Minority Ethnic people reported worse experiences than the perception of other respondents. Comments suggest issues with prejudice, and access barriers.
- Housing: younger and single people are considered to have the worst experiences. When considering self-reported experiences, those for disabled and lesbian, gay and bisexual people are significantly worse, suggesting poor experiences for housing for these two groups.

- Access to transport: disabled (in particular) and older people are thought to have poorer experiences. Carers believe that older, and disabled people have worse experiences than respondents as a whole.
- Crime and access to justice: a number of the protected characteristics are thought to have worse experiences; in particular, younger, Black and Minority Ethnic and transgender people. In terms of self-reported experiences, the results for Black and Minority Ethnic, disabled, lesbian, gay, bisexual and transgender people are all worse than the perceptions of respondents taken as a whole.
- Influencing decisions: younger, disabled, transgender and Black and Minority Ethnic people are thought to have worse experiences of influencing decisions. Considering self-reported experiences, the position for disabled, lesbian, gay, bisexual and transgender people, is worse than the perception of respondents taken as a whole.
- Social, leisure and countryside access: Disabled and, to a lesser extent, older people are seen to have worse experiences.
- Access to care and support: older people were considered to have worse experiences, with pregnant women or those with young children having better experiences. The self-reported results showed variance in some cases, with much worse experiences reported by disabled, lesbian, gay, bisexual and transgender people. Carers were much more likely to think disabled and older people had worse experiences.
- Employment: the results show a number of groups may have poorer experiences – with disabled, older, and those pregnant / with small children faring the worst. Considering self-reported results, Black and Minority Ethnic, disabled, lesbian, gay, bisexual, younger people, women and transgender people all have worse experiences than the perception of respondents as a whole.
- Getting along together in the community: Black and Minority Ethnic, disabled, transgender and lesbian, gay, bisexual people are all thought to have worse experiences. This is also true of the self-reported results for these groups. Key themes included: unwillingness to mix and fear of difference; access issues; and communication difficulties arising from language (including competence in English and Welsh, and British Sign Language).

15.7 The seven key challenges set out in *Is Wales Fairer?* are summarised below.

<i>Close attainment gaps in education.</i>	Close attainment gaps by raising standards of children receiving Free School Meals, children with Special Educational Needs, looked-after children and Gypsy and Traveller children. Reduce exclusions from school and reduce bullying.
<i>Encourage fair recruitment, development and reward in employment.</i>	Increase the employment rates of young people, disabled people, ethnic minority people and Muslim people. Close pay gaps focusing on young people, ethnic minority people and

	women.
<i>Improve living conditions in cohesive communities.</i>	Reduce poverty especially amongst children, disabled people and ethnic minority people. Improve access to care for older people and children. Reduce homelessness, especially for people fleeing domestic abuse and people with poor mental health or learning disabilities.
<i>Increase access to justice and encourage democratic participation.</i>	Ensure equal and effective access to civil justice for everyone. Improve political and civil participation and increase diversity in public life.
<i>Improve access to mental health services and support to people experiencing poor mental health.</i>	Improve access to mental health services. Reduce the rate of suicide especially amongst men.
<i>Prevent abuse, neglect and ill-treatment in care and detention.</i>	Prevent abuse, neglect and ill-treatment of children and older people in hospitals and care homes. Protect human rights of people held in detention.
<i>Eliminate violence, abuse and harassment in the community.</i>	Eliminate the incidence of violence, abuse and harassment particularly against women, disabled people, ethnic minority people, Muslim people and lesbian, gay, bisexual and transgender people.

Outdoor recreation and learning

16. Enjoying the Pembrokeshire Coast National Park 2011

<https://www.pembrokeshirecoast.wales/Files/files/PCNPA%20Recreation%20Plan%202011%20Low%20Res.pdf>

16.1 *Enjoying the Pembrokeshire Coast National Park. A Plan to provide and manage opportunities for Sustainable Recreation in the National Park (2011)* uses the special qualities of the National Park to place the environment at the heart of recreation management, and show that conservation and public enjoyment, the two statutory purposes of National Parks in the UK are not only compatible but can be complementary. Recreation has the ability to connect people to the environment and it is this goal of long-term sustainable recreation, achieved by raising environmental awareness and responsibility, which this Plan aims to realise.

16.2 The Plan sets out a vision and principles to guide the development of outdoor recreation within and around the National Park. The Plan takes a pro-active approach to encouraging recreation in suitable locations, based around the special qualities of the area and the capacity of a particular place to accommodate any given mix of recreational activities.

16.3 Issues and challenges identified in the plan are: capacity and congestion; noise and wildlife disturbance; litter; user conflicts; future demand, and climate change.

17. Beaches

17.1 The coastal scenery and beach and inshore recreation are the basis of the tourism product of Pembrokeshire. There are more than 50 clearly identifiable beaches in the National Park; on most of them the foreshore is leased by the NPA from The Crown Estate, with beaches east of Giltar Point leased by Pembrokeshire County Council. Many of the beachheads are in public ownership and most beach management functions are provided by Pembrokeshire County Council, working closely with Natural Resources Wales, The National Trust, the Royal National Lifeboat Institution, the NPA and others.

17.2 Water quality at designated bathing water sites in Wales is assessed by Natural Resources Wales. From May to September, regular assessments measure current water quality, and at a number of sites daily pollution risk forecasts are issued. Annual ratings classify each site as excellent, good, sufficient or poor, based on measurements taken over a four year period.

Bathing Water Quality Classification Scale:

Excellent	★ ★ ★
Good	★ ★
Sufficient	★
Poor	—

Location Year	2011	2012	2013	2014	2015	2016	2017	2018
Abereidid	No classification	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Abermawr	No classification	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Amroth Central	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Barafundle	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Broad Haven (Central)	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★	★ ★
Broad Haven (South)	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Caerfai	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Castle Beach, Tenby	★ ★ ★	★ ★ ★	★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Coppet Hall	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Dale	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Druidston Haven	No classification	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Freshwater East	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Freshwater West	No classification	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Little Haven	No classification	★ ★ ★	★ ★ ★	★ ★	★ ★	★ ★	★ ★	★ ★
Lydstep	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Manorbier	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Marloes Sands	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Newgale	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Newport North	★ ★	★ ★	★ ★	★ ★ ★	★ ★	★ ★ ★	★ ★	★ ★
Nolton Haven	No classification	★	★ ★ ★	★ ★	★ ★	★	★	★ ★
Penally	No classification	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Poppit West	★ ★ ★	★ ★	★ ★	★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Sandy Haven	No classification	★ ★	★ ★	★ ★	★ ★	★	★	★ ★
Saundersfoot	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Tenby North	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Tenby South	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
West Angle	★ ★ ★	★ ★	★ ★	★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Whitesands	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★
Wiseman's Bridge	No classification	★	★	★ ★	★ ★	★ ★	★ ★	★ ★ ★

18. Welsh Outdoor Recreation Survey, 2016

18.1 Challenges identified by the Welsh Outdoor Recreation Survey, Key Facts for Policy and Practice: Summary Report December 2016 include:

- Increasing the frequency of people's participation in outdoor recreation (linked to a decline in the number of local visits)
- Understanding older people's recreational activities and preferences, and barriers in order to target interventions and support participation. Of those who never take part in outdoor recreation, barriers are a combination of old age, disability and poor health.
- Supporting women with children – life-stages are a key factor in participation; visits by women with children are made with distinct motivations and accompanied by particular needs.
- Flexible provision for different activities – changes in activity preferences are dynamic and hard to predict, requiring recreation provision to be flexible and where possible to accommodate a diversity of activities on locally.
- Balancing health and economic benefit – health benefits are particularly associated with frequent, local participation, while spend is associated with days out or longer stays to the coast and hills.

19. National Parks Wales - Together for Health and Wellbeing

19.1 Public health and social care sectors in Wales are moving to tackle some of the root causes of ill health and look to deliver health and social care beyond the traditional service models.

19.2 Evidence shows that accessing national parks can have a positive impact on health promotion generally and particular benefits for individuals living with and managing long term conditions such as heart disease, dementia, diabetes and mental health conditions.

19.3 In this context, the NPA plays two vital roles:

- Managing the National Park as a setting for activities promoting good health and well-being, including active benefits such as walking and ‘passive’ benefits like those derived from tranquillity and inspirational scenery.
- National parks support good quality environments and a flourishing, diverse ecosystem essential to maintaining clean air, drinking water and land.

19.4 Acting as National Parks Wales, Wales’ three national park authorities have set out the following priority actions for health and well-being:

- Raise awareness of the health and well-being benefits opportunities of National Parks.
- Continue to develop evidence-based policy and practice in relation to health and wellbeing and the natural environment and landscape features.
- Maximise opportunities for all people in Wales to access the health and well-being benefits of the natural environment and landscape features of National Parks.

19.5 National Parks Wales has adopted a set of five evidence-based messages aimed at improving the mental health and overall wellbeing of the whole population.¹⁶

Connect	Feeling close to and valued by other people is a fundamental human need and one that contributes to functioning well in the world. Social relationships are critical for promoting wellbeing and for acting as a buffer against mental ill health for people of all ages.
Be Active	Regular physical activity is good for physical health on a wide range of factors and is proven to have a positive impact upon mental health including preventing dementia and depression. Physical activity is also a great way for people to connect with others.
Take notice	Being aware of what is taking place in the present directly enhances well-being and savouring ‘the moment’ can help to reaffirm people’s life priorities. Heightened awareness also enhances people’s self-understanding and allows them to make positive choices based on their own values and motivation.
Keep learning	Continued learning through life enhances self-esteem and encourages social interaction and a more active life. Evidence shows that the opportunity to engage in work or educational activities particularly

¹⁶ New Economics Foundation 2011: The 5 ways to well-being model

	helps to lift people out of depression. The practice of setting goals, which is related to adult learning in particular, has been strongly associated with higher levels of wellbeing.
Give	Participation in social and community life has attracted a lot of attention in the field of wellbeing research. Individuals who report a greater interest in helping others are more likely to rate themselves as happy. Research into actions for promoting happiness has shown that committing an act of kindness once a week over a six-week period is associated with an increase in wellbeing.

20. Recreational Audit for Disabled Access in Pembrokeshire

20.1 Recommendations in the Recreational Audit for Disabled Access in Pembrokeshire: Potential Solutions to Barriers Report (July 2017) include the following:

- Creating inclusive marketing materials and provide access to good quality imagery of disabled individuals taking part in activities.
- Creating a central resource on activities for varying abilities, easing the complexity of finding an appropriate activity and provider.
- Introduce participants to activities through bespoke taster sessions, with signposting to opportunities for regular participation.
- Creating a single place to provide suggestions for physical access improvements would be beneficial so they can be prioritised and easily referenced when needed.
- Obtaining specifically designed or modified equipment to provide high quality safe adventure outdoor recreation experiences and share this between activity providers.
- Providing training for staff to improve understanding of users' needs.

21. Outdoor learning

21.1 Physical activity outdoors helps improve people's health and wellbeing, and can reduce antisocial behaviour and health inequalities. Outdoor experiences also help people, especially children, to connect with the rest of nature and become more interested in the state of their environment.

21.2 Welsh Government aims to help more people enjoy outdoor recreation. While Pembrokeshire has the highest participation rate in outdoor recreation in Wales, two thirds of residents are underactive. Barriers to participation include time, disability, health complaints and age.

21.3 Young people are a particularly important audience. Evidence suggests that, irrespective of their performance in conventional learning settings, young people derive major benefits from outdoor learning and practical work, in terms of learning

outcomes, health and wellbeing, and personal and social responsibility. Exposure to the natural environment, especially through active recreation and outdoor learning, can reduce stress and aggressive behaviour, increase attention span and improve mood and self-esteem.

21.4 However, there seems to be a progressive separation of children from the rest of nature, linked to screen-time, an impoverished environment (less attractive for exploration) and safety concerns. According to *Last Child in the Woods* (Louv, 2005) the roaming radius for children declined by 90% in thirty years. This has contributed to childhood weight issues, an increase in asthma, a decrease in cardiovascular fitness in children, nature deficit disorder and 'the extinction of experience'.

21.5 Lack of contact with nature is also partly implicated in an increase in behavioural and emotional problems. 10% of UK children between 5 and 16 have a clinically diagnosed mental health disorder - including a decline in emotional resilience and the ability to judge risk. The cost of physical inactivity to Wales has been estimated as £650m per year.

21.6 The NPA and partner organisations have been successful in working with primary schools, but a limitation on working with secondary schools is the availability of teachers during the day. This makes it more important to involve children through extra-curricular activities, giving scope to include young people who may fall outside the National Curriculum.

22. Public Rights of Way network

22.1 The core resource for recreational walking and access on foot to the countryside and coast is the Public Rights of Way network and the Pembrokeshire Coast Path National Trail. The National Trail covers 316km around the coast of Pembrokeshire. The nature of the rest of the Rights of Way network in the National Park is summarised in the following table.

22.2 Public Rights of Way Network in the National Park 2017

Right of way type¹⁷	Total Network	Accessible Network	% Accessible
<i>Footpath</i>	583.68 km	439.46 km	67.1%
<i>Bridleway</i>	177.85 km	165.53 km	93%
<i>Byway open to all traffic</i>	7.23 km	7.23 km	100%
<i>Restricted Byway</i>	1.1 km	1.1 km	100%
Total	769.86 km	613.32 km	79.67%

N.B. Public rights of way network only (Permissive Paths¹⁸ and Pembrokeshire Coast Path National Trail not included).

22.3 There is also a network of off-road shared use paths¹⁹ for cyclists and pedestrians in Pembrokeshire that has developed significantly during the course of the first Rights of Way Improvement Plan, being reinforced by legislation such as the Active Travel (Wales) Act 2013 and the Well-being of Future Generations (Wales) Act 2015. Shared use paths improve the safety of the Public Rights of Way network because users are able to exit paths onto the shared use path rather than directly onto the highway or verge. Some sections of this network of shared use paths form part of the National Cycle Network.

22.4 In addition to Public Rights of Way and shared use paths for cyclists and pedestrians, there are also many permissive paths in Pembrokeshire. These can

¹⁷ Footpath. A public right of way over which there is a right to pass on foot only. This does not include pavements and footways which run adjacent to the highway.

Bridleway. A public right of way over which there is a right to pass on foot, bicycle and riding or leading a horse.

Byway Open to All Traffic. A public right of way open to all types of user, including horse drawn carriages and motor vehicles. They are, however, used mainly for the same purposes as footpaths and bridleways.

Restricted byway. A public right of way which has bridleway rights of passage together with non-motorised vehicular rights of passage (horse drawn carriages).

They were formerly classified as Roads Used as Public Paths.

¹⁸In addition to Public Rights of Way and shared use paths for cyclists and pedestrians, there are also many permissive paths in Pembrokeshire. These can take two forms. The first arises where a landowner agrees to allow the public to pass along a defined route, which is not a Public Right of Way. The second is where a landowner allows higher rights to be exercised along a Public Right of Way than those legally attributed to the route, such as permitting horse riding and or cycling along a public footpath.

¹⁹ Shared Use Path. A dedicated route shared by cyclists and pedestrians and sometimes horse riders, often alongside roads but also extending into the countryside, where they may provide a safer means of access compared to a highway verge.

take two forms. The first arises where a landowner agrees to allow the public to pass along a defined route, which is not a Public Right of Way. The second is where a landowner allows higher rights to be exercised along a Public Right of Way than those legally attributed to the route. Some permissive paths have been created through the Glastir scheme.

22.5 There is a clear value to many permissive paths, as they provide additional links and circuits. In the National Park there are 117km of permissive paths which represents 10% of the network of Public Rights of Way. However, in the absence of a legally binding agreement, permission can be withdrawn at any time. For this reason, the National Park Authority and Pembrokeshire County Council believe that in general it is desirable to integrate such routes within the Public Rights of Way network and in the long-term seek dedication of such permissive paths as Public Rights of Way.

22.6 The Countryside and Rights of Way Act 2000 introduced a new right of access on foot to certain areas of open country (primarily areas defined as mountain / moor / heath / down) and to Common Land. These areas are collectively termed 'Access Land'. Access Land covers about 3.7% of the National Park. The rights of way network already provides access to many of these areas. When integrated with the Public Rights of Way network, access land provides valuable additional opportunities for countryside walking.

22.7 Other access opportunities in countryside areas are provided by organisations that open their land to the public, such as the National Trust, and on managed sites such as country parks. Pembrokeshire's many beaches are also used for outdoor recreation, for instance walking and horse-riding. Some sections of the Pembrokeshire Coast Path National Trail run across beaches.

22.8 Minor roads and unclassified roads in rural areas provide useful, at times essential, links between different parts of the Public Rights of Way network. They are often (although not invariably) lightly trafficked and with a degree of caution can be used safely by walkers, cyclists and equestrians. The network of such roads in Pembrokeshire is extensive.

23. Rights of Way Improvement Plan for Pembrokeshire

23.1 Public Rights of Way play an important role in Pembrokeshire, enabling access and connectivity within and between both rural and urban areas.

23.2 Public Rights of Way are highways maintainable at public expense. Under the Highways Act 1980 Pembrokeshire County Council as Highway Authority has a statutory duty to maintain public rights of way which account for a large network of over 2,350 km distributed across the county.

23.3 Within the National Park area the management of most of the Public Rights of Way network is delegated to the Pembrokeshire Coast National Park Authority. Under the delegation agreement, the National Park Authority acts as agent for

Pembrokeshire County Council and assumes maintenance responsibility for the rural element of the Public Rights of Way network of approximately 770km.

23.4 The most common classifications of public rights of way are public footpaths and bridleways. Public Rights of Way vary greatly in their character and use and range from promoted routes such as the Pembrokeshire Coast Path National Trail and the Landsker Trail to “parish paths” that provide numerous walking opportunities within local communities to urban paths providing non-recreational access within the towns. The minimum standard of maintenance of each type of right of way will depend on the public right of access dictated by its classification. Therefore footpaths should be maintained to a standard appropriate for pedestrian use, bridleways for equestrian traffic and byways for occasional vehicular use.

23.5 Pembrokeshire County Council and the Pembrokeshire Coast National Park Authority have jointly prepared a second Rights of Way Improvement Plan. Local authorities have a statutory obligation to prepare such a plan, which is the prime means by which local authorities identify, prioritise and plan for improvements to their local rights of way network. The Rights of Way Improvement Plan therefore aims to improve the network of public paths to meet the current and future needs of walkers, cyclists, horse riders and people with impaired mobility.

23.6 The Rights of Way Improvement Plan 2 assessments provide some useful information on the extent to which the current network meets the needs of existing users. The general conclusion seems to be that there is an improving network in Pembrokeshire, which is in most instances meeting the needs of users. However, there are several areas where there is clearly scope for further improvement and the provision for individual user groups is better in some cases than in others. For instance, there seem to be fewer opportunities for horse riders in comparison to walkers. Another key finding is that some residents do not make use of the network at all, often because they do not participate in any of the activities that the network facilitates because of lack of time, awareness, inclination or problems with transport.

23.7 The concerns raised by users include blocked and overgrown routes, a desire to see barriers (such as stiles) reduced, occurrence of litter and dog fouling, rutted and muddy paths, inadequate signage, a need for more information both online and in paper format, a scarcity of inland routes, a need for more routes catering for higher rights (such as horse riders) and a need for more routes suitable for those with impaired mobility.

23.8 The National Park Authority and Pembrokeshire County Council aspire to create a more inclusive network and this will require special attention to be given to broadening of opportunities for those with disabilities and carers. Very often, improvements to meet the needs of these users are beneficial to all network users.

24. Country Path User Survey 2015-16 (Pembrokeshire Coast National Park Authority, January 2017)

24.1 The majority of respondents (74%) were visitors to the county of Pembrokeshire, with the remainder (26%) being residents. 55% of respondents were female and 45% male. The 2,959 respondents accounted for a total of 6,330 walkers (5,471 adults and 859 children). 49% of adults were walking in pairs and 38% walking alone.

24.2 Respondents tended to be from older age groups. 49% were aged between 46 and 65 years, and 19% aged 66 years and over (with little variation between residents and visitors).

24.3 Residents are frequent users of country paths, with 60% walking paths at least once or twice a week with an average distance of 5.3 miles. This indicates the value of the wider network of public rights of way that are distributed widely, often more accessible to settlements and could be part of a regular walk.

24.4 Respondents were asked to select up to three reasons for their walk. Across all respondents, by far the most popular reason for walking was reported as being “to enjoy the natural landscape”. Other reasons often cited included; “to explore the area”, “to see wildlife” and “to get away from it all”. Residents also ranked dog walking and health improvement highly among the reasons for walking.

24.5 In response to the question “Did today’s walk meet your expectations?” 98% responded positively.

24.6 Respondents were asked to rate seven attributes of the Pembrokeshire Coast Path National Trail and country paths. Key indicators of path condition such as gates and stiles, surface, control of vegetation and signposting were rated good or excellent by over 95% of respondents.

24.7 Respondents were asked what the National Park Authority could do to encourage them to walk in the countryside more often (selecting as many options as applied). Improved signage, and walk promotion were frequently mentioned.

25. Pembrokeshire Coast Path National Trail

25.1 The Pembrokeshire Coast Path National Trail is 186 miles (300km) in length with an additional 30 km of managed alternative routes at tidal crossings and military firing ranges. The National Park Authority manages the Coast Path with funding from Natural Resources Wales. The coast path is now part of the 870 mile Wales Coast Path. It is a constant feature of the Pembrokeshire coastline and one of the main ways that visitors can explore and enjoy the coastline of the national park. It is therefore an intrinsic part of the national park offer and an attraction in its own right. In terms of usage, on the basis of information provided by visitor surveys it is estimated that 1 million people use the Coast Path each year, generating an estimated annual income of between £8 and £20 million. There are also seven concealed user counters situated along the route with a total of 154,000 users recorded for 2017, showing a steady increase of 15% over the last four years. Usage tends to fall into a seasonal pattern in common with the wider tourism industry of Wales.

25.2 It has been described as a mountain walk along the coast, with some remote rugged stretches. 110km of the coast path passes 82 beaches and coves, through sites of Special Scientific Interest and many Scheduled Monuments.

25.3 As well as providing opportunities for long distance walking, the Coast Path offers over 60 distinct circuit walks incorporating the wider network of public rights of way that link to the Coast Path, many of these walks are promoted on the National Park Authority website. Research shows that the majority of users walk short sections of the Trail.

25.4 The Coast Path also has its own dedicated website hosted by the Park Authority, with footage of the entire route on Google Streetview providing useful information on planning a walk. The Coast Path has an international profile: in 2012, National Geographic magazine voted Pembrokeshire as being the second best coastal destination in the world and the Pembrokeshire Coast Path was used as the model for the establishment of the Wales Coast Path which was completed in 2012.

25.5 Gradually the number of stiles has been reduced from 540 to 31 and the goal is to remove all of them. This notable achievement to improve accessibility was made possible by the close working relationship between the National Park Authority and the many landowners and farmers along the coast. At the last count there were in excess of 180 separate land holdings along the Coast Path.

25.6 At 2017 there were 475 gates, 536 Signposts, 158 waymarker posts, 149 footbridges, 115 culverts and 273 runs of steps with a total of 3,779 steps.

25.7 The key priority is to maintain the route and strike a reasonable balance between the safety of the walker and the quality of their walking experience. A Safety Statement guides the approach to risk assessment and improvements for the benefit of visitor safety. There is, however, always scope for improvement, even with such a well-established route. Improvements include re-grading and widening of path surfaces to remove narrow ruts, replacement of stiles with gates, distance and destination signage and realignments where the route is prone to coastal erosion.

25.8 A costed Action Plan identifying desirable improvements is kept updated and a National Trail Quality Standards report is also submitted each year to monitor performance.

25.9 Much of the Trail runs through marginal coastal slopes that are not grazed and the path verges require cutting up to three times in a season in places. Regular cutting is essential in many places to prevent fast growing verges from closing in and obstructing the Coast Path. This is achieved by six warden teams simultaneously cutting the Coast Path across the National Park. This makes considerable demands on the time of the warden teams (22% of Park Delivery warden time is spent maintaining the Coast Path with vegetation cutting accounting for over half of this time). The north and west coast in particular have many bracken covered slopes where regrowth can be rapid in between cuts in the damp and humid weather conditions that usually prevail. Cutting serves to not only make the path accessible and convenient to walk but also helps to define the path surface for safety on narrow sections in close proximity to cliff edges. The National Park Authority continues to adapt the Trail so that it can be cut by self-propelled pedestrian mowers to improve efficiency, however, due to the nature of the terrain much of the Coast Path is still cut manually with brushcutters and strimmers. Contractors are used to a limited degree to supplement the warden teams but the recruitment of additional seasonal labour has always been crucial to ensuring the Coast Path remains passable in the main summer season. Seasonal wardens supplement existing teams enabling them to operate more efficiently.

25.10 Coastal erosion is a continuous challenge both in reacting to sudden storm events and monitoring “at risk” sections of the Coast Path and taking proactive action to realign the path before instability requires its closure and realignment of a route. A proactive programme of realignment is generally resource reliant and classed as an improvement where not considered urgent. Considerable staff time is taken up in securing agreements with the affected landowners and occupiers regarding compensation for land take, boundary alteration works and the appropriate documentation by a Public Path Creation Agreement. The last few winters have resulted in a number of unexpected coastal landslips where the Coast Path has fallen away or become undermined, necessitating a prompt response from staff. Preserving the continuity of the Coast Path is of course a priority but the recent number of incidents has placed extra demands on staff time. The vast majority of landowners co-operate readily in the reinstatement of the route and for this the National Park Authority is grateful.

25.11 It has been observed in recent years that the number of competitive running events is increasing, together with the size of events, with 600 competitors entering one recent event. Even overnight endurance events are now being staged. Principally our concerns are for the safety and enjoyment of other Coast Path walkers during the event, where narrow cliff edge sections are used and the impact on the path surface, which is generally maintained in its natural state. Proactive liaison with organisers on the management of events is the key to ensuring that the events do not have adverse impacts. The timing of events, selection of routes and the need to brief their competitors on the potential dangers and the fact that other

people will be walking the route, are all important considerations. Many events take place without consultation with the National Park Authority so liaison with event organisers remains an important role of the National Trail Officer if we are to ensure that such activities are sustainable in the long term.

26. Access Land

26.1 The Countryside and Rights of Way Act 2000 normally gives a public right of access to land mapped as 'open country' (mountain, moor, heath and down) or registered common land. These areas are known as 'open access land'.

27. Other recreation opportunities

27.1 The National Park offers world-class opportunities for coastal walking, climbing and watersports. People appreciate the landscape and beaches in particular and are generally very satisfied with their experience of the National Park and the Pembrokeshire Coast Path, with a high percentage of visitors returning again and again.

27.2 There is latent demand amongst adults resident in Wales for walking and off-road cycling, and strong interest in paddlesports, coasteering, camping, foraging and bushcraft amongst young people in Pembrokeshire.

27.3 The coastal strip, Daugleddau and Eastern and Western Cleddau rivers form a key recreational interface in the National Park and the NPA and partner organisations work to promote and manage water-related activities, subject to the achievement of management policies for wildlife, landscape and heritage conservation, through the Milford Haven Waterway Recreation Plan 2016-2020, which includes an overview of use, demand and facilities for Waterway zones.

27.4 There are excellent opportunities for open-water swimming, surfing, bodyboarding, kayaking/canoeing, windsports and for otherwise enjoying the water, exploring the coast and discovering wildlife, with benefits to people's health, wellbeing and personal development, as well as providing income to the region.

27.5 Tides and topography limit navigation in inshore waters for some craft, and military ranges constrain access to sea danger areas off the south coast. Harbour access outside the Haven is heavily tide-dependent and this, added to the exposed nature of much of the coast, tidal rips, and sea danger areas, limits the potential for expansion of coastal cruising. There has however been a recent major increase in paddling and rowing use which have the advantages of sustainability, affordability and, particularly in the case of rowing, a strong community element.

27.6 A large number of slipways exist around the coast and on the Milford Haven Waterway, in numerous ownerships; most slipways are unsupervised and free. While this makes them popular it can also make it more difficult to fund their maintenance and to manage inappropriate activities if necessary. Many launch sites are in village or remote locations with narrow road access unsuitable for larger vehicle/trailer

combinations, while launching across small beaches can cause disruption and pose risks to other users.

27.7 Subject to tide and draught there is good upriver boat access on the Milford Haven Waterway to Haverfordwest and Canaston Bridge. While there are no rivers with navigation rights above the tidal limits in Pembrokeshire, opportunities for negotiated access may exist outside the National Park on the Eastern and Western Cleddau rivers. The only significant non-tidal rivers in the National Park are the Nevern and the Gwaun. Both are open for fishing use and offer riverside footpaths but potential for recreation on the water (subject to agreement) is limited to in-spate canoe use. Given the paddling opportunities on tidal stretches of the Waterway, non-tidal rivers are not a priority for negotiated access.

28. Recreational capacity

28.1 With the exception of relatively few locations, and a restricted range of (mainly motorised) activities, the National Park still has capacity for greater levels of recreational use, especially outside the summer holiday period.

28.2 The seasonality of tourism means that some opportunities are under-capacity off season, and over-used at other times. Activities which could in particular be accommodated in greater numbers with minimum additional management include walking, cycling, sea rowing, paddleboarding, canoeing, kayaking, sea-swimming, windsurfing, surfing, bodyboarding.

29.3 Competition for a limited recreational resource can bring different users into conflict. However, the negative impacts of recreation on the National Park special qualities, its communities or other users tend to be localised in space and in time. While they can present management challenges, they can also be solved, for example through voluntary agreements with user groups. However prevention is better than cure and awareness and promotion can help to stop issues developing.

29.4 More widely, there is concern over dog control issues and fouling. Littering is also a concern; litter on beaches is often seaborne and includes considerable quantities of netting and plastic particles. Other sites are littered above and below the tideline by lost angling gear and discarded bait.

29.5 There are wider impacts associated with recreation - for example increased traffic volumes may have site or area-specific implications but may also place an increased burden on infrastructure (e.g. water use and sewerage) and facilities.

29.6 The NPA's Recreation and Leisure Activities Supplementary Planning Guidance (December 2012) advises which recreational activities are likely to be considered appropriate for different recreational character areas within the National Park.

29. Potential recreational conflicts

29.1 As noted above, with the exception of a few locations and activities, the National Park has capacity for additional levels of recreational use, particularly outside the summer holiday period. Where potential conflicts exist, these can often be resolved through voluntary and agreed Codes of Conduct.

29.2 While the seasonality of tourism means that some opportunities are under-capacity off season, they may be over-used at other times. Competition for a limited recreational resource can bring different users into conflict and may include the following:

Activity	Potential conflicts	Example locations
Beach horse-riding	Rights of way users, beach users	Druidston, plus some other west and south coast locations
Boat launching and beach parking	Other beach and inshore users	Freshwater East and St Brides Haven (launching); Newport (beach parking)
Coasteering	Angling, other coast users	Abereiddi, Stackpole Quay, Ceibwr
Diving	Angling, boating	Martin's Haven
Kite sports	Other beach and inshore users	Broad Haven, Whitesands
Mountain biking (on stretches of path registered as footpath)	Footpath walkers	Pembrokeshire Coast Path National Trail, inland footpaths
Off-road vehicles	Other users, habitat damage, wildlife disturbance	Common land and dunes
Paragliding	Grazing and horse riding	Common land and dunes
Powered watercraft	Beach and inshore users	Tenby, Lydstep Haven, Newport, Whitesands, Freshwater East
Snow activities	Other users, land managers, stock	Preseli Hills
Unauthorised camping and caravanning	Other users, habitat damage, wildlife disturbance	Various sites, e.g. Freshwater West, Angle.

Nature conservation

30. State of Natural Resources Report 2016

30.1 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.

30.2 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.

30.3 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.

31. The State of Wildlife in Pembrokeshire reports

31.1 The State of Wildlife in Pembrokeshire 2016 updates the 2011 report²⁰. 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

²⁰ <https://www.pembrokeshire.gov.uk/biodiversity/pembrokeshire-nature-partnership-projects-and-reports>

32. Management Area profiles

North Coast and Preseli Hills	Challenges	Opportunities
<p>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.</p> <p>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.</p>	<p>Lack of grazing/ Inappropriate grazing</p> <p>Inappropriate burning</p> <p>Isolation of populations through poor connectivity and habitat fragmentation</p> <p>Condition of habitats due to inappropriate grazing or lack of grazing.</p> <p>Direct loss of habitat through land management change.</p> <p>Water quality</p> <p>Invasive non-native species</p> <p>Edge effects on habitats from surrounding land management e.g. nitrogen deposition.</p> <p>Changes in the patterns of farming post Brexit.</p>	<p>Working in Partnership with Commoners, NRW and West Wales Fire and Rescue Service on fire management</p> <p>As above for grazing</p> <p>Management of flush habitat for Southern Damselfly.</p> <p>Catchment approach to invasive non-native species control</p> <p>Catchment approach to sustainable management of nutrients, soils and water.</p> <p>Habitat Creation, in particular woodlands, wood pasture and grasslands.</p> <p>Creation and management of connectivity features e.g. hedgebanks and cloddiau particularly on intensive farmland.</p> <p>The delivery of a public goods scheme post Brexit.</p>

<p>Hedgebanks in particular make a 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.</p> <p>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.</p> <p>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.</p>		
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The North-west Coast	Challenges	Opportunities
This area represents some of oldest geology in Park and the iconic	Lack of grazing / Inappropriate grazing.	High cover of National Trust

<p>volcanic outcrops at Carn Llidi – Penberi and Strumble Head are 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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Inland, on poorly draining soils</p>	<p>Abandonment of grazing and traditional management on the coastal belt (in particular loss of resources for supporting farmers to manage the coast).</p> <p>Condition of habitats due to inappropriate grazing or lack of grazing. (e.g. the local extinction of Marsh Fritillary from this area).</p> <p>Direct loss of habitat through land management change.</p> <p>Poor water quality affecting wetland habitats.</p> <p>Invasive Non-native species e.g. <i>Crassula</i>.</p> <p>Edge effects on habitats from surrounding land management e.g. nitrogen deposition.</p> <p>Changes in the patterns of farming post Brexit.</p> <p>Isolation of populations through poor connectivity and habitat fragmentation.</p>	<p>ownership of both inland commons and coastal sites.</p> <p>Protect high existing habitat connectivity.</p> <p>Working in Partnership with Commoners to achieve good condition of habitats.</p> <p>Supporting farmers to manage the coastal belt.</p> <p>Using the Pembrokeshire Grazing animals project to supply suitable grazing animals to landowners.</p> <p>Catchment approach to invasive non-native species control.</p> <p>Catchment approach to sustainable management of nutrients and water.</p>
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<p>overlain by peat substantial areas of common land supports an expanse of wet heath and marshy grassland 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.</p> <p>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.</p> <p>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.</p> <p>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).</p> <p>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</p>		
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<p>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.</p> <p>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.</p>		
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The West Coast	Challenges	Opportunities
<p>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</p> <p>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</p>	<p>Lack of grazing / Inappropriate grazing.</p> <p>Abandonment of grazing and traditional management on the coastal belt (in particular loss of resources for supporting farmers to manage the coast).</p> <p>Condition of habitats due to inappropriate grazing or lack of grazing. (e.g. the local extinction of Marsh Fritillary from this area).</p> <p>Direct loss of habitat through land management</p>	<p>High cover of National Trust, Wildlife Trust South and West Wales and Natural Resources Wales ownership / management.</p> <p>Protect high existing habitat connectivity.</p> <p>Working in Partnership with Commoners to achieve good condition of habitats.</p> <p>Supporting farmers to manage the coastal belt.</p> <p>Using the Pembrokeshire Grazing animals project to supply suitable grazing</p>

<p>coastline. The north facing cliffs at Goulthrop 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 a variety of scarce bryophytes.</p> <p>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.</p> <p>On this peninsula 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.</p> <p>Dale Peninsula important for arable plants with remnant populations generally close to the coastal belt where soils are poorer.</p> <p>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</p>	<p>change.</p> <p>Edge effects on habitats from surrounding land management e.g. nitrogen deposition.</p> <p>Changes in the patterns of farming post Brexit.</p> <p>Isolation of populations through poor connectivity and habitat fragmentation.</p>	<p>animals to landowners.</p> <p>Catchment approach to invasive non-native species control.</p> <p>Catchment approach to sustainable management of nutrients and water.</p>
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exceed 1.5m and it has one of the largest population of lagoon cockle in Wales.		
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The Daugleddau	Challenges	Opportunities
<p>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.</p> <p>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.</p> <p>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.</p> <p>The saltmarsh and mudflats within the Haven support significant</p>	<p>Lack of grazing/ In-appropriate grazing</p> <p>Isolation of populations through poor connectivity and habitat fragmentation</p> <p>Condition of habitats due to inappropriate grazing or lack of grazing.</p> <p>Direct loss of habitat through land management change.</p> <p>Water Quality</p> <p>Invasive Non-native species</p> <p>Edge effects on habitats from surrounding land management e.g. nitrogen deposition.</p> <p>Changes in the patterns of farming post Brexit</p> <p>Loss of veteran trees and lack of replacements.</p> <p>Intensive hedgerow management or lack of management reducing suitability of hedgerows for Brown Hairstreak.</p> <p><i>Chalara</i> Ash Dieback reducing availability of 'master' trees for brown hairstreak.</p> <p>Planted Ancient Woodland</p>	<p>Supporting landowners to instigate conservation grazing</p> <p>Management of flush habitat for Southern Damselfly.</p> <p>Catchment approach to invasive non-native species control.</p> <p>Catchment approach to sustainable management of nutrients, soils and water.</p> <p>Habitat Creation, in particular woodlands, wood pasture and grasslands.</p> <p>Creation and management of connectivity features e.g. hedgebanks and cloddiau particularly on intensive farmland.</p>

<p>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 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.</p> <p>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.</p> <p>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.</p> <p>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</p>	<p>Site</p> <p>Historic pollution of sediments in the Waterway.</p>	<p>The delivery of a public goods scheme post Brexit.</p> <p>Supporting good hedgerow management.</p> <p>Identifying important veteran trees and good management of veteran trees.</p> <p>Promoting hedgerow and in-field trees.</p> <p>Promoting restoration of Planted Ancient Woodland Sites among private landowners.</p> <p>Using the Pembrokeshire Grazing Animals project to supply suitable grazing animals to landowners.</p>
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<p>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.</p> <p>The farmland surrounding the water has a wooded character with 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.</p> <p>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 Yerboston. Mainly marshy grassland, these sites are designated for Marsh Fritillary Butterfly.</p>		
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The South Coast	Challenges	Opportunities
<p>Sand dunes, Soft Cliff, Limestone, Choughs, the Range, Angle / Manorbier small farmland landscapes, large bays Bosherton, 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</p>	<p>Truncated coastal zonation.</p> <p>Lack of grazing.</p> <p>In-appropriate grazing.</p> <p>Abandonment of grazing and traditional management on the coastal belt (in</p>	<p>Supporting landowners to instigate conservation grazing</p> <p>Catchment approach to INNS control.</p> <p>Catchment approach to sustainable management of nutrients, soils and water.</p>

<p>probably unrivalled anywhere else in the Park, largely attributable to the diversity of coastal landforms and geology.</p> <p>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 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.</p> <p>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.</p> <p>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.</p> <p>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</p>	<p>particular loss of resources for supporting farmers to manage the coast).</p> <p>Condition of habitats due to inappropriate grazing or lack of grazing.</p> <p>Direct loss of habitat through land management change.</p> <p>Poor water quality affecting bathing waters and wetland habitats.</p> <p>Invasive non-native species e.g. <i>Crassula</i>, Himalayan balsam.</p> <p>Edge effects on habitats from surrounding land management e.g. nitrogen deposition.</p> <p>Changes in the patterns of farming post Brexit.</p> <p>Isolation of populations through poor connectivity and habitat fragmentation.</p> <p>Intensive hedgerow management.</p>	<p>Habitat Creation, in particular woodlands, wood pasture and grasslands.</p> <p>Creation and management of connectivity features e.g. hedgebanks and cloddiau particularly on intensive farmland.</p> <p>The delivery of a public goods scheme post Brexit.</p> <p>Supporting good hedgerow management.</p> <p>Identifying important veteran trees and good management of veteran trees.</p> <p>Promoting hedgerow and in-field trees.</p> <p>High cover of National Trust ownership.</p> <p>High cover of Ministry of Defence ownership.</p> <p>Protect high existing habitat connectivity.</p>
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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 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 Bosherton which were created as part of the designed landscape through the damming of limestone valleys to create lakes which now

<p>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.</p> <p>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.</p>		
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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%

33. The area and state of designated conservation sites

33.1 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:

- 15 Special Areas of Conservation (Bristol Channel Approaches, 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 Bosherton Lakes, Pembrokeshire Marine, Preseli, River Teifi, St Davids, West Wales Marine, Yrbeston 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)

33.2 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.

33.3 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 known as Natura 2000 sites.

33.4 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.

33.5 The area of the National Park covered by at least one designation (candidate SAC, SAC, SPA, SSSI, National Nature Reserve (NNR) and Local Nature Reserve (LNR), clipped to the National Park boundary, which ends at the Mean Low Water Mark) is 11,787.8 hectares.

33.6 The total area of the National Park is 61,422.3 hectares and therefore the proportion of the total area of the National Park that is covered by at least one designation is 19.2%

Coverage by designation (i.e. includes superimposed designations)

<i>Designation</i>	<i>Area (hectares)</i>
Candidate SAC	91.45 (mainly small islands)
SAC	5075.86
SPA	2401.85
SSSI	7566.99
NNR	367.03
LNR	41.40

Status of features of European designated sites

(includes 2018 indicative feature condition assessments²¹)

The percentage of features of Special Areas of Conservation lying wholly or partly within the National Park in favourable condition is 29% (25 out of 85 features).

The percentage of features of Special Protection Areas lying wholly or partly within the National Park in favourable condition is 78% (7 out of 9 features).

33.7 The figures in the table take into consideration the possible SACs identified for the Bristol Channel Approaches and West Wales Marine (both for harbour porpoise). Possible SACs must be treated as if they are designated.

33.8 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.

34. Unregulated activities

34.1 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)	<ul style="list-style-type: none"> 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. These activities identified as a pressure and / or threat and

²¹

<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>

	<p>/ or a noted activity (condition assessments) at multiple sites.</p> <ul style="list-style-type: none"> • One or more habitats were identified as High or Medium sensitivity to these activities.
Recreational boating – anchoring mooring and launching	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.

35. Connectivity

35.1 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.

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

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

35.4 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.

35.5 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 Lle²². Areas which serve more than a single network appear darker.

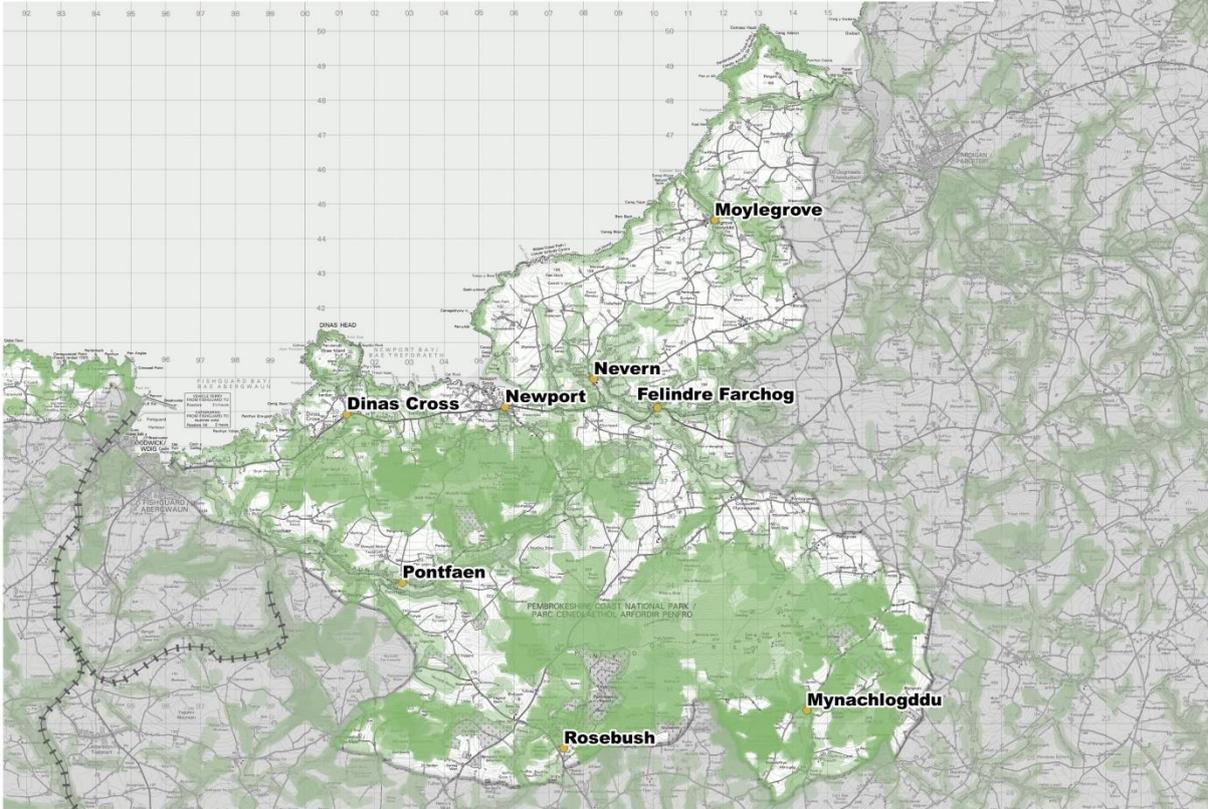
35.6 The following notes and caveats apply:

- 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.

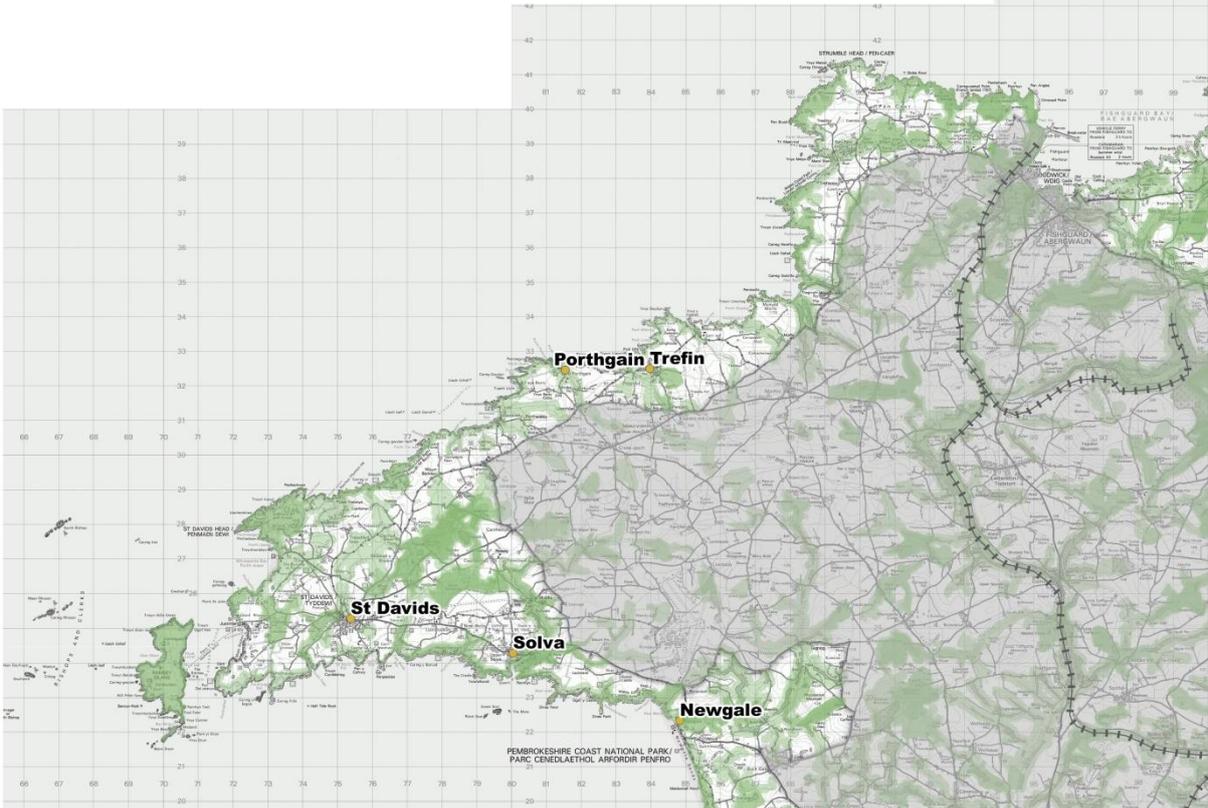
35.8 A range of management options may be possible on areas identified as potential corridors – there is no one solution. For areas of high existing habitat cover and connectivity, an indicative approach would be to maintain or restore habitat condition, buffer the areas by habitat creation, and protect 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.

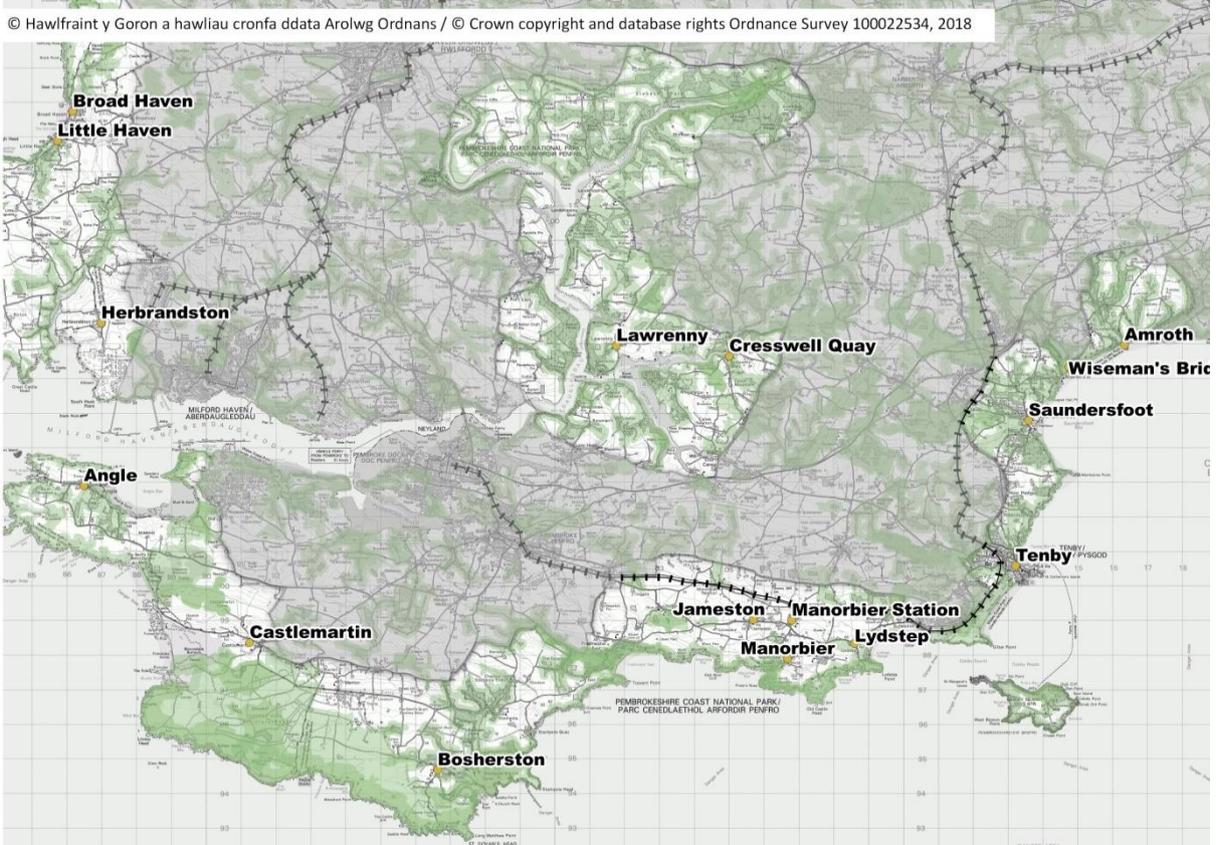
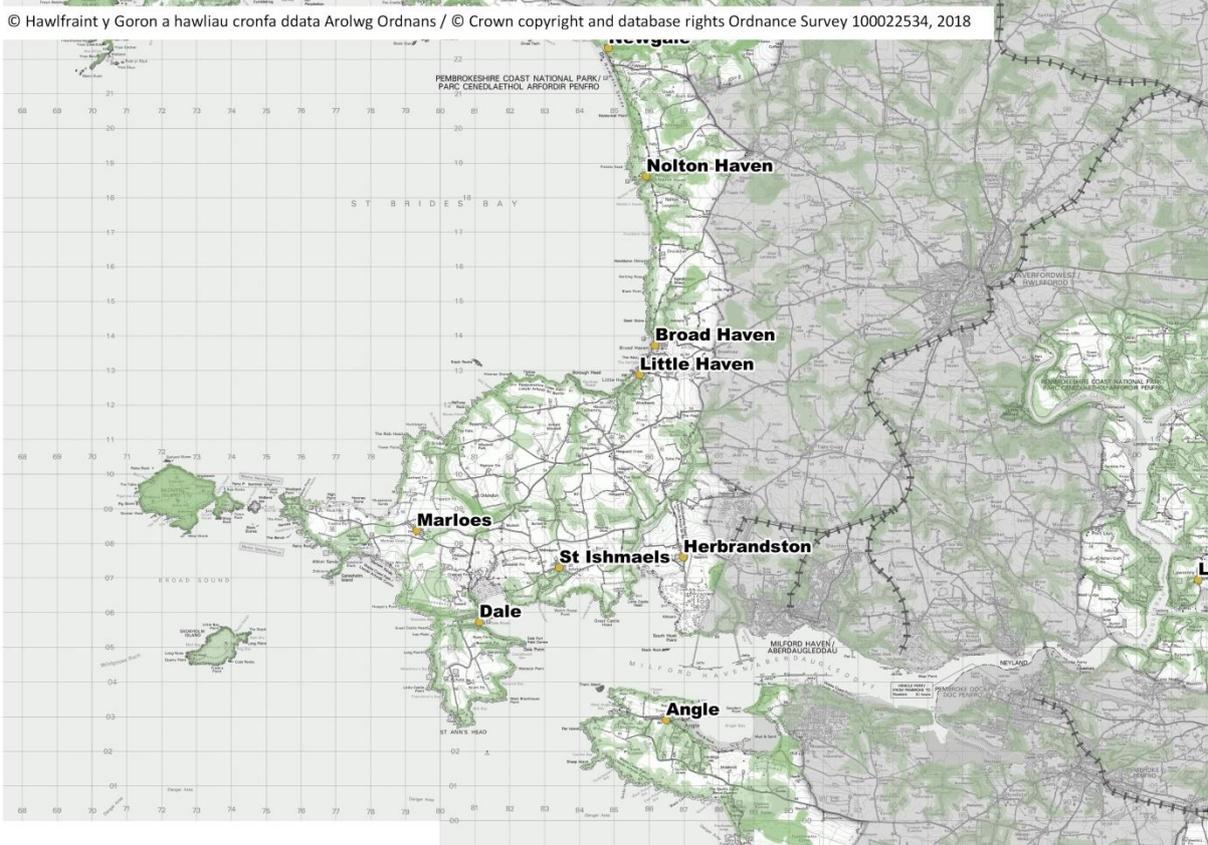
²² <http://lle.gov.wales/catalogue/item/HabitatNetworks/?lang=en>

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36. Non-native invasive species, pests and pathogens

36.1 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. Established 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.

36.2 *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.

36.3 Statutory notices²³ have been issued for sites in the South, Preseli Hills and North, and Daugleddau management areas.

36.4 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.

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

36.6 Chalara Ash Dieback is present in the wider environment across the National Park²⁴.

²³ Distribution of Statutory Notices:

<https://naturalresources.wales/guidance-and-advice/environmental-topics/woodland-management/tree-health-and-biosecurity/phytophthora-ramorum/?lang=en>

²⁴ Chalara Ash Dieback survey results:

<https://naturalresources.wales/guidance-and-advice/environmental-topics/woodland-management/tree-health-and-biosecurity/chalara/?lang=en>

Culture and heritage

37. Scheduled Monuments

37.1 The Ancient Monuments and Archaeological Areas Act 1979 (As Amended) is at the moment the primary legislation safeguarding archaeological features. Nationally-important sites and monuments are listed on a schedule by Cadw, the historic environment service of Welsh Government on behalf of Welsh Ministers, and the schedule is used to manage operations on and around the sites.

37.2 Scheduled Monuments represent an important cross-section of the known archaeological resource. The Historic Environment Record for the National Park area contains 284 Scheduled Monuments. Over time, more categories of monuments will be considered, and more sites will be scheduled.

37.3 Until 2010, Cadw operated a monitoring system which aimed to assess sites on a five-yearly basis, and to establish whether their condition is stable, improving or declining. A third round of Cadw monitoring of scheduled monuments took place between 2003 and 2010. During this round, 249 of the 284 Scheduled Monuments in the National Park were visited (88%) and their condition was found to be as follows.

37.4 There appears to be a relatively high percentage of Scheduled Monuments in moderately and severely worsened condition in the National Park, as compared to Wales as a whole. This is due in part to coastal erosion, which makes degradation and eventual loss of some Scheduled Monuments inevitable, and which may make interim management unsafe. Coastal erosion also leads to more frequent discovery of sites and monuments, which further inflates the figure. It may also be a function of how different monument recorders operate across Wales, including some variation in how condition (e.g. encroachment by vegetation) is assessed.

37.5 More recent data on the condition of Scheduled Monuments in the National Park has been provided by Cadw (July 2017). However, the data is not comprehensive and no trend data is currently available.

Summary of Scheduled Monument condition in Pembrokeshire Coast National Park:

Condition	Count	Percent
Greatly improved	6	2.42%
Improved	38	15.32%
Stable	115	46.37%
Worsened	88	35.48%
Very much worse	1	0.40%

37.6 There appears to be a high percentage of Scheduled Monuments in worsened condition. This is due in part to coastal erosion, which makes degradation and eventual loss of some Scheduled Monuments inevitable, and which may make interim management unsafe. Coastal erosion also leads to more frequent discovery of sites and monuments, which further inflates the figure.

38. Historic environment record

38.1 Information about known archaeological sites and features is contained within the Historic Environment Record. This includes Listed Buildings and Scheduled Monuments. The Historic Environment Record, which includes all of the area of the National Park, is held and maintained by Dyfed Archaeological Trust, and has been formally recognised and adopted by the NPA.

38.2 An additional source for historic environment information regarding known sites in the National Park is the National Monuments Record of Wales, part of the Royal Commission. This includes a database of records, some of which will not be held by the Historic Environment Record, together with a wider linked archive. A range of survey activities undertaken by the Royal Commission in the National Park, including regular aerial reconnaissance, limited remote sensing (Lidar) mapping and detailed ground survey continue to add to the National Monuments Record of Wales information archive. The Royal Commission also manages and regularly updates the Maritime Database for Wales which includes numerous offshore assets around the Pembrokeshire coast.

38.3 While Scheduled Monuments are protected by law, there are approximately 7,500 recorded sites in the National Park, and the vast majority of these are not. These records range from individual find sites to Iron Age forts and the numbers are increasing with the discovery of new sites. Their condition is in many cases unknown, and may be difficult to assess; some of the entries are only known from documentary sources or aerial photos, for example. This, coupled with the diversity of the features themselves, means that it is difficult to make a meaningful overall assessment of many of the records.

39. Maritime assets

39.1 The maritime assets spatial dataset (available from Welsh Government's Lle data-portal) was produced by the Royal Commission for the Ancient and Historical Monuments of Wales and consists of point data for all of the marine heritage assets that have been recorded within the National Monuments Record Wales by the Royal Commission for the Ancient and Historical Monuments of Wales. The dataset will be updated on a biannual basis.

40. Historic Landscapes

40.1 Significant historic landscapes, the elements that give them their historic character, and the landscape's risk status, are identified in two Registers.

40.2 The Register of Landscapes of Outstanding Historic Interest in Wales is maintained by Cadw, the International Council on Monuments and Sites and Natural Resources Wales. It lists four areas in the National Park: Preseli; St Davids Peninsula and Ramsey Island; Skomer Island, and the Milford Haven Waterway. The Register of Landscapes of Special Historic Interest in Wales lists five further National Park historic landscapes: Newport and Carningli; Pen Caer; Stackpole Warren; part of the Lower Teifi Valley, and Manorbier.

40.3 Registration does not afford any statutory protection, although it is taken into account in planning decisions and guidance. Cadw has however funded a programme of characterisation to improve understanding of the elements that make up registered landscapes, so that organisations can better protect them through existing statutory instruments. For example, the pattern and nature of field boundaries and vernacular buildings are key features of the National Park, and these have been taken into account in the NPA's Landscape Character Assessment and Sustainable Design guide. The Welsh landscape information system LANDMAP also includes a layer of historic landscape data, used in decision-making.

41. Conservation Areas

41.1 Areas of special architectural or historic interest are designated as Conservation Areas by the NPA. There are 14 within the National Park: Angle, Caerfarchell, Caldey Island, Little Haven, Manorbier, Newport and Newport Parrog, Portclew, Porthgain, Saundersfoot, Solva, St Davids, Tenby, Trevine.

41.2 A Conservation Area in Nevern is currently under consideration.

41.3 After designating Conservation Areas, the NPA has a statutory duty to produce Conservation Area Statements, and Proposals Documents. These have been drawn up in partnership with the Conservation Area Working Groups (elected through the relevant City/Town/Community Councils), with full public consultation. The Character Statements assess the importance of the Conservation Areas, together with their physical condition and risk factors. The Proposals Documents (adopted as supplementary planning guidance in 2011) set out how the character of each Conservation Area can be preserved and enhanced.

[Angle](#)

[Caerfarchell](#)

[Caldey Island](#)

[Little Haven](#)

[Manorbier](#)

[Newport and Newport Parrog](#)

[Portclew](#)

[Porthgain](#)

[Saundersfoot](#)

[Solva](#)

[St Davids](#)

[Trefin](#)

[Tenby](#)

42. Listed Buildings

42.1 Listed Buildings are buildings of special architectural and historic interest, group value, technical importance or association with important people/events. The number of Listed Buildings therefore reflects the significance and diversity of the historic built environment. Listed Buildings represent the best examples of the National Park's historic built resource and range from medieval churches and castles to milestones and telephone kiosks.

42.2 Cadw is responsible for designating Listed Buildings, and completed an all-Wales survey in 2005. Buildings can also be individually spot-listed. Listing covers not only the building itself, and its interior, but also its curtilage and buildings which pre-date 1948 within the curtilage. Listed Buildings are graded as I, II* and II according to their importance. There are 1,236 Listed Buildings in the National Park: 33 of Grade I; 77 of Grade II*, and 1126 of Grade II.

42.3 The NPA has a responsibility to ensure that historic buildings are conserved. Priorities are based on a Buildings At Risk Register, which was undertaken by the NPA and Cadw, to establish the condition of Listed Buildings within the National Park and prioritise those in need of urgent repairs.

42.4 The most recent Buildings At Risk survey was carried out in 2009. There are 65 buildings on the Buildings at Risk Register. Of these, 18 are 'buildings at extreme risk' (the highest level of concern), 2 are 'buildings at grave risk' and a further 45 are 'buildings at risk'.

43. Historic parks and gardens

43.1 Cadw, the International Council on Monuments and Sites and the former Countryside Council for Wales have compiled a Register of Parks and Gardens of Special Historic Interest in Wales. The Register identifies the importance of the listed parks and gardens, but currently does not give them statutory protection. Fifteen Historic Parks and Gardens lie wholly or partly within the National Park boundary. They are graded on a criteria basis and consist of 1 Grade I, 2 Grade II* and 12 Grade II sites. There is currently no condition or risk survey for Historic Parks and Gardens.

44. Local distinctiveness

44.1 The designated built environment accounts for less than 2% of the total historic built heritage of the National Park. However, non-designated buildings and boundaries contribute individually and cumulatively to the local distinctiveness of the built environment. There is currently no established way of assessing the state of features of local distinctiveness in the built environment but there have been examples where local built character has been lost through neglect and misrepair.

44.2 However, the Local Development Plan 2 for the National Park (to 2031) contains a policy on protecting buildings of local importance (Policy 15²⁵). This criteria-based policy offers owners scope to develop buildings of local importance while ensuring that important features of them are conserved.²⁶

Policy 15 protects these buildings of local importance, using the following criteria for selection:

- a) degree to which the building remains in its original integrity;
- b) quality of the individual building's architecture;
- c) position and influence on the townscape or landscape;
- d) association with an important local figure or event.

44.3 An Article 4 direction is a statement made under the Town and Country Planning (General Permitted Development) Order 1995. Article 4 directions remove some or all permitted development rights on a site, for example within a conservation area or curtilage of a listed building.

44.4 Article 4 directions are in place for St Davids, Newport, Tenby, Solva and Little Haven Conservation Areas, where planning permission is required for works including the alteration of doors and windows, the creation of hard-standings and the construction/demolition of boundaries/gates to dwellings fronting public highways.

²⁵ Policy 14 in Local Development Plan 1 (to 2021)

²⁶ Planning Policy Wales Edition 9 (November 2016) includes a revised Chapter 6 The Historic Environment. This chapter was revised in conjunction with Cadw following Royal Assent of the Historic Environment (Wales) Act 2016. Updates take into account Cadw's Conservation Principles for the sustainable management of the historic environment and how the historic environment contributes to the well-being goals set out in the Well-being of Future Generations (Wales) Act 2015. Further guidance has subsequently been provided in Technical Advice Note 24: The Historic Environment (May 2017), which replaces three Welsh Office Circulars on the Historic Environment. This new Technical Advice Note provides guidance on how the planning system considers the historic environment, with specific chapters on components such as Listed Buildings, Conservation Areas and Archaeological Remains.

Climate and energy

45. Global greenhouse gas emissions

45.1 Global greenhouse gas emissions trends put the world on course for global temperature change in excess of 1.5°C, the level considered to constitute dangerous climate change (IPCC report *Global Warming of 1.5°C*, 2018).

45.2 Due to past emissions, the UK and Pembrokeshire are expected to experience higher average summer temperatures, lower average precipitation in summer and higher average precipitation in winter. The UK Government produced a UK Climate Change Risk Assessment in 2017. A regional report is available for Wales (see below).

45.3 The Paris Agreement (2015) reflects international ambition to limit the rise in global mean surface temperature to well below 2°C above pre-industrial levels, with efforts to hold it to 1.5°C, based on the knowledge that temperature increases of more than 2°C will result in very costly adaptation measures, huge impacts on water availability, food security and ecosystems and unacceptably high risks of irreversible events, such as the melting of the Greenland ice sheet and associated rise in relative sea level (a 1 metre rise is already predicted over the next century).

45.4 The Environment (Wales) Act 2016 requires the Welsh Government to reduce emissions of greenhouse gases by at least 80% in 2050, against the 1990 baseline. May 2019 advice²⁷ from the UK Committee on Climate Change on meeting the goals in the Paris Agreement goes further, concluding that the UK should legislate for and reach a net-zero emissions goal by 2050. The goal for Wales is a 95% reduction on 1990 levels, due to its relatively lower potential for CO₂ storage and relatively high agricultural emissions.

45.5 Welsh Government's *Prosperity for All: A low-carbon Wales*²⁸ was published in 2019. This presents initial thoughts on how to reduce greenhouse gas emissions by 45% by 2030.

45.6 In April 2019, the Minister for Environment, Energy and Rural Affairs, Lesley Griffiths, declared a climate emergency in Wales.

46. UK Climate Change Risk Assessment 2017 Evidence Report Summary for Wales

46.1 The latest set of projected changes in climate for Wales comes from the 2009 UK Climate Projections. Under a medium emissions (A1B) scenario, regional summer mean temperatures are projected to increase by between 0.9 - 4.5°C by the 2050s compared to a 1961-1990 baseline. Regional winter precipitation totals are projected to vary between -2 - to +31% for the same scenario.

²⁷ <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/>

²⁸ <https://gweddill.gov.wales/topics/environmentcountryside/climatechange/emissions/prosperity-for-all-a-low-carbon-wales/?lang=en>

46.2 The average sea level for Cardiff is expected to increase by between 22.8 cm and 37.6 cm by 2090 compared to a 1990 baseline. Higher rates of sea level rise for the UK of up to 1.9 metres by 2100 have been modelled in a plausible high scenario, though this is considered highly unlikely to occur this century. However, sea levels are projected to continue to rise beyond 2100 even in lower emission scenarios and several meters of sea level rise within centuries is possible.

46.3 Climate change poses risks in Wales to soils, freshwater resources, natural carbon stores, marine ecosystems, farming, forestry, wildlife and habitats. More action is needed to manage these risks. More evidence is also needed to fully characterise other climate change risks that are likely to be important for the natural environment in Wales, including changes in agricultural and forestry productivity and land suitability, as well as the impacts to freshwater and marine species.

46.4 Example action areas:

- More action needed to reduce existing pressures, improve condition of habitats, restore degraded ecosystems, and deliver coherent ecological networks.
- More action to factor climate change into conservation planning and site management
- More action needed to deliver coherent ecological networks and to factor changes in species composition into site management.
- More action needed to reduce existing pressures on soils, increase uptake of soil conservation measures and restore degraded soils.
- More action needed to restore degraded carbon stores, particularly peatlands.
- Ensure climate change impacts on carbon stores are accounted for in the UK greenhouse gas inventory.
- More action needed to reduce pollution and over-abstraction and improve the ecological condition of water bodies
- Ensure decisions on use of water allow for necessary environmental flows and take account of climate change.
- Deliver wider uptake of natural flood management in high-risk catchments especially where there are likely to be carbon storage, water quality and biodiversity benefits.
- Continue to implement surveillance and bio-security measures.
- Continue to build resilience of ecosystems to drought, flood and fire
- Continue current efforts to manage and respond to wildfires.
- More action needed to deliver managed realignment of coastlines and create compensatory habitat.
- Monitor climate impacts on landscapes and ensure climate change is accounted for in future landscape character assessments.

46.5 Infrastructure across Wales is exposed to range of climate hazards. Impacts on some assets have the potential to cascade on to others as part of interdependent networks. Flooding poses the greatest long-term risk to infrastructure performance from climate change, but the growing risks from heat, water scarcity and slope instability caused by severe weather could be significant.

46.6 Example action areas:

- More action needed to manage increasing risk to existing infrastructure service networks (including flood and coastal erosion risk management infrastructure), from sea-level rise and increased rate of erosion.
- More action needed to deliver sustainable drainage systems, upgrade sewers where appropriate and tackle drivers of increasing surface runoff (e.g. impermeable surfacing in urban areas).
- New policies and stronger co-ordinated, cross-sector effort needed to deliver more ambitious reductions in water consumption and establish strategic planning of new water-supply infrastructure.
- Ensure appropriate siting of new infrastructure and use of cooling technologies.

46.7 The Climate Change Risk Assessment Evidence Report suggests that there are potential health benefits from warmer winters in Wales, but more action is needed to manage current risks to people from cold temperatures through addressing fuel poverty.

46.8 Example action areas:

- Policies do not exist at present to adapt homes or other buildings to higher temperatures projected for the future.
- Climate change is projected to reduce the health risks from cold, but the number of cold-related deaths is projected to decline only slightly due to the effects of an ageing population increasing the number of vulnerable people at risk. Further measures need to be taken in the next 5 years to tackle large numbers of cold homes and reduce cold effects on health, even with climate warming.
- Research is needed to better characterise the impacts from sea level rise on coastal communities, thresholds for viability, and what steps should be taken to engage and support affected communities.
- Climate-related hazards damage historic structures and sites now, but there is a lack of information on the scale of current and future risks, including for historic urban green spaces and gardens as well as structures.

46.9 Flooding and extreme weather events which damage assets and disrupt business operations pose the greatest risk to Welsh businesses now and in the future. This could be compounded by a lack of adaptive capacity. New regulations or other government intervention made necessary by climate change also poses an indirect risk to businesses.

46.10 Example action areas:

- Sustain current actions to create more flexible abstraction regimes and promote water efficiency among businesses.

46.11 Climate change will impact upon water security, agricultural production and economic resources around the world. These impacts can compound vulnerability in other countries, which can in turn exacerbate risks from conflict, migration, and humanitarian crises. The main risks arising for the UK from climate change overseas are through impacts on the food system, economic interests abroad, and increased demand for humanitarian aid.

46.12 Example action areas:

- At the present, there is no co-ordinated national approach to ensure the resilience of the UK food system. Coordinated approaches require broad participation across policy, industry and research.
- The UK may increase its comparative advantage in specific areas of agricultural production in the future.

47. Coastal risk

47.1 The main issues for landscape, recreation, conservation and settlement / infrastructure – policies in regard to National Park settlements are summarised below.

Location	0-20 years	20 – 50 years	50 – 100 years
Amroth	<p>The number of socio-economic assets at risk from coastal erosion and flooding along this frontage are unlikely to be sufficient to justify public coastal erosion and flood risk management funding to upgrade existing defences or to provide new defences.</p> <p>Hold the line by maintaining existing defences for as long as possible. The risk of coastal flooding to properties and assets will increase over time as a result of climate change/sea level rise. Alternative adaptation measures (such as improved flood warning systems, individual property /asset flood resilience/protection measures or relocation/abandonment of properties/assets) are likely to be required from the short-term.</p>		<p>Once the defences reach the end of their effective life and it is no longer technically or socio-economically viable to continue maintenance, the policy will change to no-active intervention which will allow the shoreline to naturally evolve and retreat.</p>
Wiseman's Bridge	<p>Hold the line for as long as possible by maintaining existing defences to continue to manage coastal erosion risk and allow time for consultation to be undertaken and an exit strategy to be developed which may involve relocation of assets, if possible. It will not be possible to obtain public funding to upgrade defences, in response to sea level rise and therefore coastal flood risk to properties and other assets will increase over this period.</p>	<p>Once the defences fail or are no longer viable, the policy will change to no active intervention, allowing the coastline to respond naturally.</p>	
Saundersfoot	Hold the line by	The medium term	Subject to

Location	0-20 years	20 – 50 years	50 – 100 years
	<p>maintaining existing defences. During this period flood and coastal erosion risk to properties, assets and infrastructure will increase. It is unlikely that public coastal erosion and flood risk management funding will be available to upgrade existing defences in response to future climate change/sea-level rise, due to the limited number of socio-economic assets at risk. Private funding could be used to maintain/upgrade existing defences or to implement adaptation measures, subject to obtaining the necessary consents, licences and approvals.</p> <p>Alternative adaptation measures are likely to be required from the short-term, such as improved flood warning systems, individual property/asset flood resilience/protection measures or relocation/abandonment of properties/assets. A detailed study is required to investigate alternative options for future coastal erosion and flood risk management (including surface water flooding) and</p>	<p>policy is to hold the line by maintaining existing defences (typically residual life 20-50 years and 50-100 years) to manage the risk of coastal erosion for as long as is sustainable and affordable. Flood and coastal erosion risk to properties, assets and infrastructure will continue to increase over time. It is unlikely that public coastal erosion and flood risk management funding will be available to upgrade existing defences in response to future climate change/sea-level rise, due to the limited number of socio-economic assets at risk. Private funding could be used to maintain/upgrade existing defences or to implement adaptation measures, subject to obtaining the necessary consents, licences and approvals.</p> <p>The policy is subject to further study to investigate the future risk under a range of future climate change/sea level rise scenario and the development and assessment of a range of alternative options for future coastal erosion and flood risk management (including</p>	<p>further detailed investigation, consultation and the future availability of long-term funding the long-term policy for Saundersfoot may be managed realignment which could involve the provision of flood resilience measures for properties, assets and infrastructure in the centre of Saundersfoot and properties assets in areas such as The Strand. Private funding could be used to maintain/upgrade existing defences, subject to obtaining the necessary consents, licences and approvals.</p>

Location	0-20 years	20 – 50 years	50 – 100 years
	<p>management of the amenity beach and facilities at Saundersfoot.</p>	<p>surface water flooding) management including adaptation measures such as Subject to further detailed investigation, consultation and the future availability of long-term funding the long-term policy for Saundersfoot may be managed realignment which could involve the provision of flood resilience measures for properties, assets and infrastructure in the centre of Saundersfoot and properties assets in areas such as The Strand. Private funding could be used to maintain/upgrade existing defences, subject to obtaining the necessary consents, licences and approvals. Improved flood warning systems, individual property / asset flood resilience/protection measures or relocation / abandonment of properties/assets and management of the amenity beach and facilities at Saundersfoot. The study should also include environmental assessment and socio-economic appraisal to investigate whether alternative funding is available for defence upgrading / improvement. Defence upgrading/improvement</p>	

Location	0-20 years	20 – 50 years	50 – 100 years
		<p>would be subject to obtaining the necessary consents, licences and approvals. It is unlikely that public coastal erosion and flood risk management funding will be available to upgrade existing defences in response to future climate change/sea-level rise, due to the limited number of socio-economic assets at risk.</p>	
North Beach, Tenby	<p>The policy is to hold the line through maintaining and upgrading defences to manage the risk of landslides and erosion to the cliff below The Norton and Crackwell Street. The undefended shore should be monitored to manage the risk of outflanking. It is assumed that the harbour structures will be maintained, which afford some shelter to the local shoreline. If required, flood resilience could be adopted for the harbour buildings. They may adapt by utilising the upper storey for storage and essentially abandoning the ground floors or finding a use which is unaffected by flooding.</p>		
South Beach, Tenby	<p>In order to continue to minimise the risk of erosion and flooding to hinterland assets, the policy is to manage the dunes as the primary defence, under a policy of managed realignment. This would enable the dune system to function naturally, but allow measures to be implemented to reduce the risk of a breach in the dunes.</p>		
Lydstep Haven	<p>It is not likely that continuing to reduce the risk of coastal erosion and flooding of this private frontage, comprising Lydstep Haven holiday village, would attract public funding. The short-term policy is to hold the line by maintaining existing defences as long as possible. This could enable alternative adaptation options to be considered, developed</p>	<p>Unless alternative funds are available, the policy will change to no active intervention, once defences are no longer viable. This would allow the coast to respond naturally.</p> <p>Private funding could be used to maintain/upgrade existing defences in the medium and long term, subject to obtaining necessary consents, licences and approvals. However, extension of these defences would not be permitted in order to conserve the conservation interests in the bay.</p>	

Location	0-20 years	20 – 50 years	50 – 100 years
	and implemented at the site such as the relocation of the holiday village assets.		
Freshwater East	Managed realignment to enable the dune system to function naturally, whilst allowing dune management, habitat management or to control recreational pressures to be undertaken, as required. The policy would not preclude maintenance of the isolated stretch of defences at the western end of the frontage, if alternative funds were available. However, any change in the defences would be subject to obtaining necessary consents, licences and approvals and may not be appropriate, given the SSSI and conservation interest within the bay.		
Angle Bay	No active intervention will allow the coast to evolve and retreat naturally with minimal interference. At Angle village due to the limited assets at risk, public coastal erosion and flood risk management funding is unlikely to be available to maintain/upgrade existing defences. It is recommended that suitable adaptation measures are implemented to reduce the risk of flooding to residential and non-residential properties and assets (such as improved flood warning, flood protection measures, flood resilience measures or the relocation of assets). Private landowners may wish to fund maintenance/improvement of existing defences or adaptation measures subject to obtaining the necessary consents, licences and approvals. This policy will allow maintenance or realignment of the access road to the lifeboat station, public house and properties, as required.		
Dale	Dale village includes residential and non-residential properties, tourist and amenity facilities, including a beach and sheltered bay which is used for various watersports. There may be opportunities to provide a more sustainable approach to managing coastal erosion and flood risk in this location whilst retaining the beach, which is likely to narrow as result of future climate change/sea-level rise and the existing defences. The policy is therefore to continue to hold the line by maintaining existing defences for as long as possible, whilst investigating managed realignment options, in consultation with the community. Due to the limited number of socio-economic assets at risk, upgrading of the existing defences is unlikely to attract public coastal erosion and flood risk management funding. There the risk of coastal erosion and flooding to existing properties and assets is likely to increase over time.	The long-term policy is to implement managed realignment through construction of a new set back defence, subject to consultation with the local community and further detailed studies and investigations including investigating potential funding sources.	
St. Brides	Policy of no active intervention. Maintaining the naturalness of this		

Location	0-20 years	20 – 50 years	50 – 100 years
	<p>area is the key driver. The management intent of the plan is, therefore not to intervene in the natural processes. There is the small community of St Brides, where there could be longer term risk to properties. This is seen as being manageable at a local scale. However, the plan recommends considering the removal of the wall along the back of this small bay to allow the development of a natural beach.</p>		
St Brides to Little Haven road	<p>No active intervention with a possible need to realign the road to Little Haven.</p>		
Settlands Road	<p>No active intervention. It is unlikely that defence of this frontage could be undertaken and continued over the long-term without significant impact of the nature conservation values of the area. Given that there is an alternative route between Broad Haven and Little Haven, works here are not felt to be justified. Throughout the period of the SMP there is a need to significantly rethink the road system throughout the area.</p>		
Little Haven	<p>Hold the line. Improvement to defences standard would be anticipated over the short and medium term. The use and structure of the lower village would need to be examined.</p> <p>The risk is that future defence would become unsustainable and may actually result in the loss of the important values of the village. At present there are a limited number of properties at risk, either directly from Still Water Level flooding or from wave overtopping. This number is not likely to increase substantially in the future. It will become increasingly difficult to maintain the existing line of defence without significantly separating the village from its important seafront and beach use. This situation depends critically on the rate of sea level rise.</p> <p>Higher defences would tend to restrict drainage from the stream and, taking account of the general findings of the CFMP that there is likely to be increased spate flooding from these streams, would exacerbate the problem. The policy for the frontage is therefore for continued management of the current defences over the first Epoch, but with the intent to allow realignment over the second and third Epochs.</p>	<p>Managed realignment. This is likely to result in loss of the existing road through the village and eventually loss due to erosion of possibly two properties along the frontage. Consideration would need to be given towards redesigning the lower part of the village to maintain its important aspect and foreshore use, together with the possible need to reconnect the two areas of the village by road. The main access to the village would be along Walton Hill.</p>	

Location	0-20 years	20 – 50 years	50 – 100 years
			<p>Whilst the intent would be to minimise and move back defences, this would not be a policy of No Active Intervention as there would need to be consideration of how existing defences, such as those to the northern side of the stream, could be maintained and how properties on the lower part of Strawberry Hill could continue to receive some form of defence.</p>
Broad Haven	<p>Hold the line. The main issues at Broad Haven are in relation to maintaining its seafront; maintaining access to the village; and reducing flood risk to the southern part of the village. It is probably possible to sustain the defences along the whole frontage over the first two Epochs. The main road to the village is the B4341 along Millmoor Way. This provides access to the centre of the village. To the south of the village, Walton Road is the main access road. This joins the coast road just south of the car park and is therefore at slight risk from erosion or land slip.</p> <p>Even during the second Epoch there is going to be increased pressure on the central advanced section of defence. However, this is seen as being quite a critical section in maintaining the general position of the shoreline, both to north and south; it already forms a slight headland along the frontage, although it is evidently not designed to fulfil this function.</p>		<p>Managed realignment. Protecting the whole frontage on its current line is not expected to be justified in the long term. The option outlined above, of: holding the centre and reinforcing this as a promontory; maintaining and improving defence to the south by the slipway, but also allowing retreat over the area</p>

Location	0-20 years	20 – 50 years	50 – 100 years
	<p>There is increased risk of flooding directly from sea levels and from the stream to the south of the main village. This might be better managed if there was the opportunity to set back this frontage, linking through to the valley behind. This creates the opportunity to maintain important shoreline width. Consideration would then have to be given to the feasibility of re-constructing the road with a new bridge. This area of realignment could then be held to the southern end, by reinforcing the protection of the corner by the slipway; this would maintain the defence to the access road.</p> <p>It is important to start considering overall adaptation measures now, such that further development of the village, could be in line with future change to a more sustainable position.</p>		<p>between, is seen as an opportunity to address this in a more sustainable manner.</p> <p>In a similar manner, to the north, maintaining the central section as a promontory, with its higher ground behind but allowing the retreat at Haroldston Bridge would both create a more sustainable area of beach and foreshore, while also minimise cost of defence. The road over this section would be difficult to maintain in to the future and it is unlikely that its continued defence would be justified..</p>
Nolton Haven	<p>Hold the line. There are existing flood issues with the road. However, this is quite a critical position in the road network, with four routes converging and with development of the small village along each of these. The shape and orientation of the bay means that</p>	<p>Managed realignment. It would also not be anticipated that defence was extended further along the soft earth bank section and indeed, maintaining the opportunity for this area to respond and erode naturally would be important in providing sediment to this enclosed bay. The overall intent would be to allow natural realignment but with the aim to encourage the build-up of the beach in front of the road; with the intent of not allowing loss of the road through erosion. The policies for the</p>	

Location	0-20 years	20 – 50 years	50 – 100 years
	<p>the southern corner gains a significant degree of shelter and that the main pressure for future erosion with Sea Level Rise is against the earth bank and dunes to the north of the bay. It is considered that even with Sea Level Rise of 2m over the next 100 years, it would be sustainable to manage the existing defences in the vicinity of the road. It would not preclude significantly more regular flooding in the longer term over periods of high water.</p>	<p>frontage would therefore be Managed Realignment.</p>	
Newgale south	<p>Managed realignment. Manage the realignment and loss to the road, while protecting access from the south. Maintaining the road across the valley is not seen as being a sustainable possibly much beyond the first Epoch. There may need to be some stabilisation works carried out to the southern cliff line to sustain the road in this local area. The intent would not be to maintain defence to this road into Epoch 3.</p>		
Newgale north	<p>Managed realignment. Manage shingle on the road but with the long-term intent of allowing the shingle ridge to behave naturally. Maintain access along the main road for as long as possible by shingle clearance. There is already monitoring of the work involved in taking this approach. It is anticipated, however, that during Epoch two this would not provide sufficient security to the road and that the road would, in effect, be lost. This would require significant planning to maintain access to the southern area of the St David's Peninsula.</p> <p>Along with the road, increased flooding to the valley is likely to make the properties and businesses untenable much beyond the start of the second Epoch. There would be a need to move the car park in land as the shingle bank rolls back, although the property under Pinch and West Hill, together with the old Lime Kiln is not seen as being at risk over the period of the</p>	<p>No active intervention.</p>	

Location	0-20 years	20 – 50 years	50 – 100 years
	SMP.		
Newgale Village	<p>Managed realignment. At the main village of Newgale, the shingle would roll back, and although they would still have some protection from this shingle, the cliffs would eventually come under more pressure from Erosion. It is probable that there could be loss of property towards the end of the final Epoch. This erosion is not seen as putting the rest of the village at risk and there might be scope for some protection works, possibly in association with management of the stream. Over the whole section of Newgale, therefore, the intent would be to allow natural retreat of the shingle. Over the main valley frontage the intent would be eventually to create a situation where there was no need for intervention. This would require an initial policy of Managed Realignment over the first two Epochs. At the northern end the policy would be for Managed Realignment over all epochs, not precluding the potential need to defend the main core to the village.</p>		
Lower Solva	<p>Hold the line. It is considered possible to maintain both the area of the quay and the integrity of the walkway. Funding may be an important issue, however, and collaborative funding would need to be sought to maintain current use of the area. Such joint funding has already been accepted in the development of recent schemes.</p> <p>Over the next 50 years planning should be put in place to make properties more resilient to flooding, with the possibility of actually removing property from within the flood plain. This would need to be developed with the local community.</p>	<p>Managed realignment. Whilst it may be practical to raise defences to Lower Solva over the first two Epochs, continuing this policy into the future is not considered sustainable. The narrowness of the river channel, if substantially defended would create problems for catastrophic flooding should defences fail. It would also destroy the important landscape of the village.</p>	
Newport Parrog	<p>Hold the line through local improvement to defences, addressing wave run-up on the slipways and improving flood defence locally to the back of the headland. At Newport, while the recent appraisal confirms significant economic</p>		<p>Managed realignment. The policy of the western section of the frontage is</p>

Location	0-20 years	20 – 50 years	50 – 100 years
	<p>justification for improving defences, the course then set of increasing the height of defences in line with Sea Level Rise is not seen as being sustainable and, even if manageable in the short to medium term, would not address the probable impact in the future. The approach of raising defences would in effect destroy the very values that are identified as being essential to the well-being of the area.</p>		<p>for Managed Realignment behind the rock outcrop. This would specifically support local private management of defences to property but with no expectation of public funding. The intent would be to restore a natural beach to the frontage, which could be maintained sustainably over the next 100 years. Without this, the policy from Epoch three would be No Active Intervention.</p>
Nyfer Estuary	<p>No active intervention. There is only minor flood risk and erosion risk within the Nyfer Estuary. The intent of the plan would be to allow natural development of the estuary. This would not preclude local private defence that could be shown not to impact on the behaviour of the estuary.</p>		
Newport Sands	<p>Hold the line. Retreat defence line in balance with roll back of the Bennet. In the short term the defence is not seen as having a significant impact on the natural behaviour of the whole frontage and over Epoch one this defence could be maintained.</p>	<p>Managed realignment. The intent would be to manage the realignment of defences in terms of a stepped retreat. Management of this would depend on the importance associated with maintaining the car park and access.</p>	<p>No active intervention.</p>

48. Shoreline Management Plan 2 – Risk Areas

48.1 The two Shoreline Management Plans covering the coast of Pembrokeshire are:

- The South Wales SMP2 covers the area from Amroth to St Anne’s Head (January 2012; finalised 2014); and
- The West of Wales SMP2 covers the area from St Anne’s Head to Cardigan (November 2011; finalised 2014).

48.2 The Plans divide the whole coast into cells and set out a preferred management policy for each cell, divided into 3 epochs, collectively looking forward 100 years. The policy approach for each cell is based on the current use of the land and the need to protect assets, whilst taking into account the continued ability to do so, taking into account physical and financial requirements within the context of climate change, including sea-level rise and increase storminess.

48.3 Of the allocations made in the current Local Development Plan, one is currently within a flood zone in Saundersfoot. The site has been granted planning permission and is under construction for residential and commercial use. The development of the site is being undertaken in accordance with the requirements of TAN15. There are also a number of locations where parts of existing towns and villages and road links are likely to be liable to an increasing flood risk.

48.4 The approach now advocated by the Welsh Government is to develop and improve flood forecasting, warning, awareness, response and recovery, as well as flood defences. The SMP2s will identify areas where investment in the physical infrastructure is needed to improve resilience to flooding. They also highlight the locations where a longer term policy will be needed to allow communities to adapt to a changing coastline, including in some isolated instances the need for abandonment of properties.

48.5 The areas within the National Park identified in the SMP2s as having immediate or longer term flood or erosion risk from the sea are:

- a. Amroth (Increasing risk of flooding from present day. Eventual failure of defences in medium/long term)
- b. Wiseman’s Bridge (Need to develop an exit strategy which may involve relocation of assets in medium-term. Long-term public funding of defences is not viable).
- c. Saundersfoot (Adaptation measures required from the short-term. Likelihood of increased frequency of flooding leading to managed realigned in the long-term.)
- d. South Beach, Tenby (roll-back of the dunes will affect some assets in the medium to long-term)
- e. Lydstep Haven (Existing defences have limited lifespan and the holiday park may require adaptation/relocation in the medium term.)
- f. Freshwater East (roll-back of the dunes may affect some assets in the medium to long-term)

- g. Angle (Evolution and retreat of the coast will lead to increased flooding for some properties and assets. Adaptation of properties required. Private funding will be required to maintain/realign the road to Angle Point.)
- h. Dale (Hold the line for as long as possible by maintaining existing defences, but managed realignment necessary in the long-term.)
- i. St Brides (Increased risk to properties in the long-term.)
- j. St Brides to Little Haven road (may require realignment in the long-term.)
- k. Settlands Road (potential loss of road in the long-term)
- l. Little Haven (Hold the line in the short-term with managed realignment necessary thereafter which is likely to result in loss of the existing road and some properties along the frontage.)
- m. Broad Haven (Increased pressure on existing defences will lead to increased frequency of flooding. Some managed retreat will be necessary along some of the frontage and potential loss of road to the north.)
- n. Nolton Haven (Natural evolution of the bay will protect the road, but some loss of property along the frontage).
- o. Newgale (loss of road, car park and properties as shingle bank rolls back from current time).
- p. Solva (Hold the line in the short-term but managed realigned will be necessary in the future with the need to remove some properties from the flood plain.)
- q. Whitesands (long-term realignment will result in loss of the car park).
- r. Abereiddi (managed realigned has commenced. Replacement car park facilities are being considered.)
- s. Newport Parrog (Managed realignment is necessary as existing defences are unlikely to be effective even in the short-term and no public funding available. A policy of no active intervention in the longer-term would restore a natural beach frontage.
- t. Nyfer Estuary (allow natural development of the estuary that would not preclude local private defence, if appropriate).
- u. Newport Sands (managed realignment of the defences with stepped retreat reverting to no active intervention in the long-term. This would impact the car park and access road.)

48.6 The information contained in the Shoreline Management Plans has been used to identify Coastal Change Management Areas in the Local Development Plan 2. The NPA has published Coastal Change Management Area maps for Tenby, Solva, Saundersfoot, Newport, Newgale, Little Haven, The Gann, Dale, Broad Haven, Angle, Amroth and Wiseman's Bridge.

49. Newgale Adaptation Plan (Final) (Pembrokeshire County Council, April 2015)

49.1 A report was commissioned by Pembrokeshire County Council and undertaken by Royal Haskoning DHV in December 2014 which concluded that management of the shingle bank at Newgale will be unsustainable in a timescale of 10-20 years. During this time the bank will become increasingly vulnerable to damage thereby posing a threat to the safety and security of residents in the lower part of Newgale village and to the road infrastructure linking to the St Davids peninsula. Preservation of the road link in its current location is highly unlikely in the medium term and the County Council with partners is now exploring options for the future with an initial consultation on the possible options in the spring of 2016.

49.2 The Adaptation Plan sets out a number of objectives which seek to inform residents and visitors of the need for adaptation; adapt the transport infrastructure and manage the impact on the local and wider community. As a result a number of actions are proposed:

- Identification of properties at risk;
- Preparation of a community flood risk plan;
- Identification of transport adaptation options;
- Ongoing management of the shingle bank
- Ongoing community engagement.

49.3 A study was commissioned by Pembrokeshire County Council to examine how the community of Newgale and surrounding areas can adapt to the changes being brought as a result. Feeding into the Adaptation Plan is an assessment of realignment options for the road. Initially in 2015, thirteen options were identified and following a public consultation exercise, this was reduced to 10 and then further to 4. In February 2016 the County Council appointed consultants, Atkins, to undertake the WeITAG Stage 1 appraisal of the 4 remaining options, resulting in 2 preferred options Further assessment of both options is being undertaken (March 2018).

49.4 The work to assess the need for and establish a route for a new road link at Newgale currently has no timescale. The Plan will need highlight the issues that are emerging and monitor progress. A revision of the flooding and Coastal Inundation section of the Plan is also being undertaken.

50. Renewable Energy

50.1 Issues identified in Annual Monitoring Reports²⁹ where action under the Management Plan may complement policies contained in the Local Development Plan include renewable energy generation.

50.2 The 2008 study 'Development of a Renewable Energy Assessment and Target Information for the Pembrokeshire Coast Local Development Plan' has been updated. The updated study concludes that, for technologies that would require planning permission, the generation potential of renewable electricity within the National Park has significantly increased and the potential for renewable heat energy has significantly decreased from the 2008 estimates.

50.3 Renewable Energy Supplementary Planning Guidance was adopted in October 2011 and provides a supportive context for renewables provision while protecting the special qualities of the National Park. Deciding applications contrary to this Supplementary Planning Guidance should trigger a review. During the most recent monitoring period (April 2016 to March 2017), the Renewable Energy Supplementary Planning Guidance was cited in four decisions, all of which were approved. These were for residential and commercial schemes which incorporated mainly solar technology within their designs. No decisions conflict with the Supplementary Planning Guidance.

50.4 There were no significant applications for wind turbines received within this period and as such, the 'Cumulative Impact of Wind Turbines on Landscape and Visual Amenity' Supplementary Planning Guidance has not been cited.

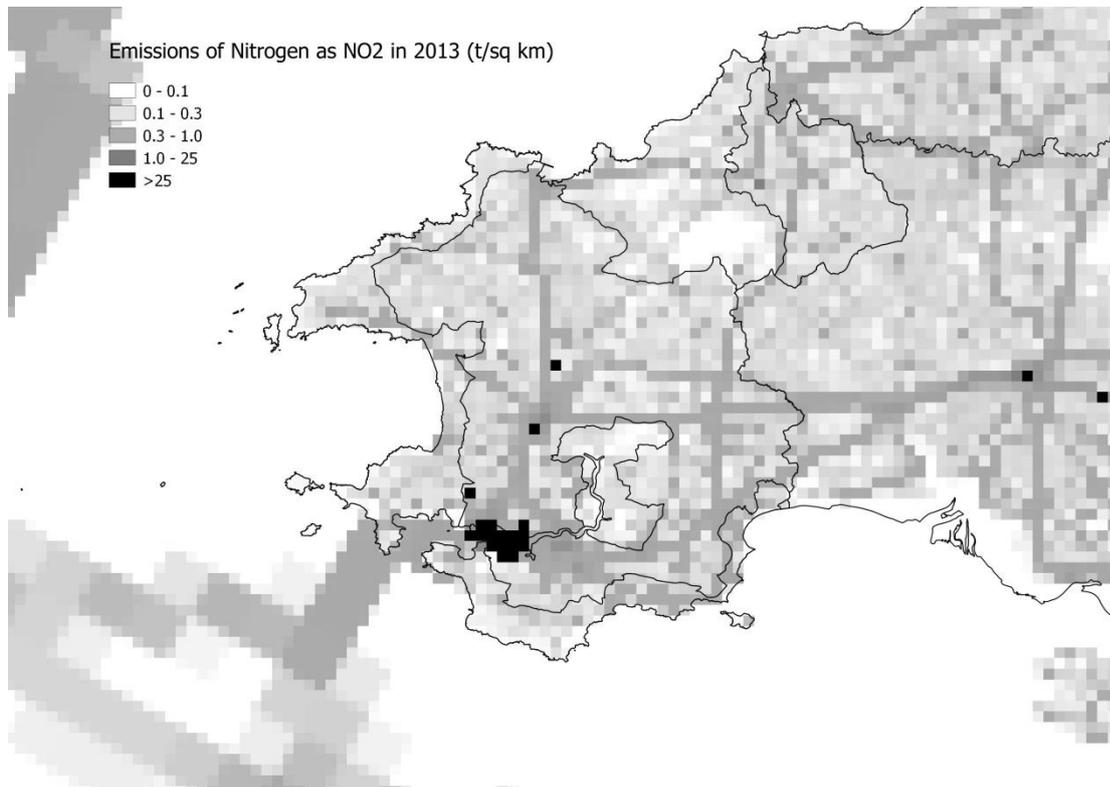
50.5 The policy context and supplementary planning guidance continues to provide a positive framework for renewable energy generation. Development interest for solar panels, biomass and anaerobic digestion still exists although demand for wind turbines has significantly decreased in the last three to four years.

²⁹ <http://www.pembrokeshirecoast.wales/default.asp?PID=536>

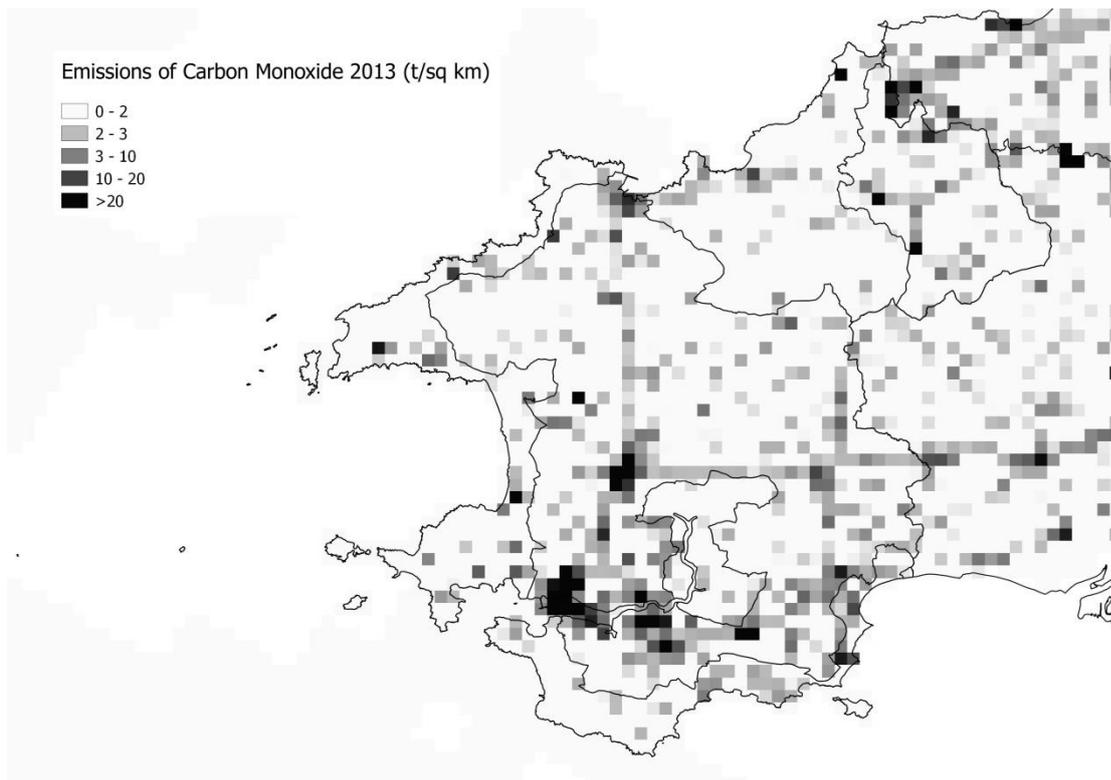
Natural resources

51. Air quality

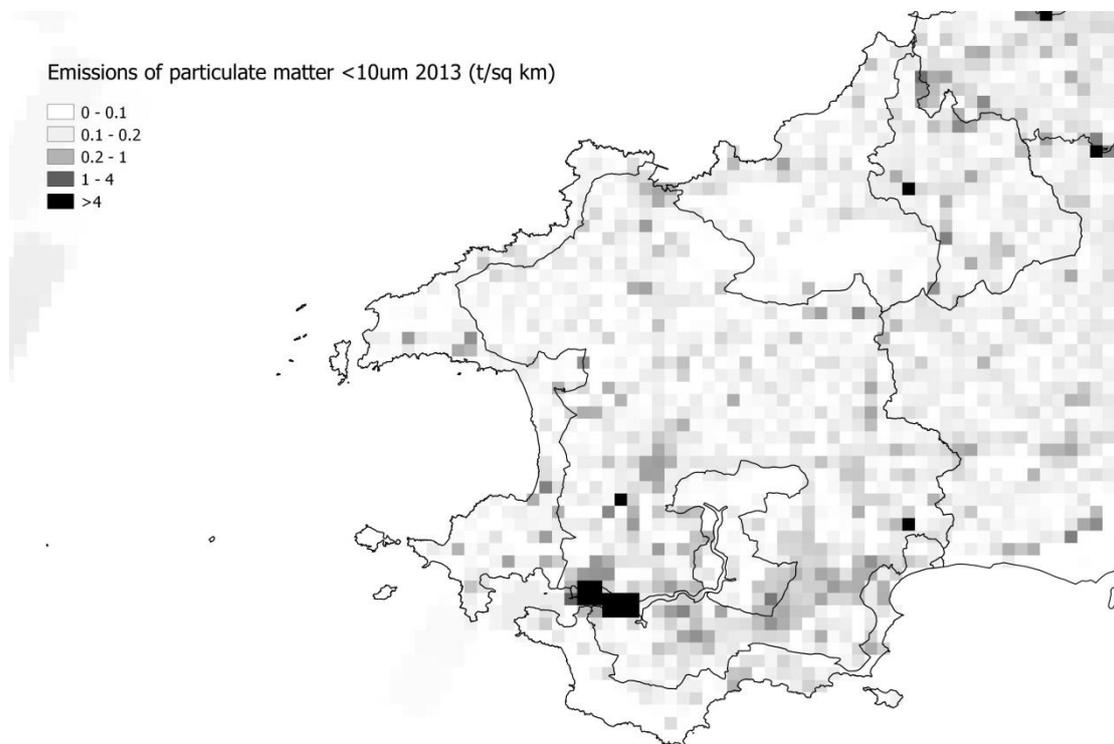
51.1 A range of air pollution emissions data and maps, with emissions broken down by sector are available from the web site of the National Atmospheric Emissions Inventory (<http://www.naei.org.uk/index.php>). Emissions maps for Pembrokeshire in 2012 are presented below for Oxides of Nitrogen (NO_x) and Carbon Monoxide, and the 2012 emissions map for particulate matter smaller than 10µm.



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52. State of Natural Resources Report 2016

52.1 The report includes the following natural resource condition, extent and trend data in relation to Wales as a whole:

Air quality

- The decline in heavy industry alongside regulation has resulted in a reduction in emissions of some pollutants, such as particulate matter. Other sources, that are subject to less or no regulatory control, such as transport, agriculture and domestic heating, have become more of a concern.
- Ammonia remains an issue, both as a local air pollutant and as a contributor to the formation of secondary particulate matter, concentrations of which have risen in Wales in recent years, largely due to changes in agricultural practice.
- 90% of semi-natural nitrogen sensitive Welsh habitats are subject to nitrogen deposition in excess of critical load limits.

Freshwater

- The landscape and geology of Wales provide few natural stores of water either in aquifers or soils. This means that rainfall generally travels quickly to rivers and streams and little is held back to slowly pass through the ground to maintain river flows (base flows) in drier periods. Rivers rise rapidly when it rains and drop quickly afterwards. As a consequence, the flows in all Welsh rivers can change particularly quickly leading to flood conditions, but also to very low flows in extended periods of dry weather.
- Changes in hydraulic conditions are identified as having an impact or likely to have an impact on 40%) of Wales' Natura 2000 sites
- Climate change is predicted to affect the amount and distribution of rainfall, with consequences for flows and water levels and for drought and flood events which may become more common. Work carried out in 2002 showed that by 2050 river flows in winter may rise by 10-15% but in the summer and early autumn could reduce by over 50% and as much as 80% in some places.
- Climate change may affect groundwater recharge. By 2025 it is likely that groundwater recharge will decrease, resulting in decreased dry weather river flows and a general lowering of groundwater levels. This may have impacts on base-flow to rivers and wetlands in dry periods and affects small domestic and agricultural water supplies.

Marine and coastal

- Climate change effects are the main broad scale driver of change for coastal and marine hydrological processes, including changes to tidal levels due to sea-level rise and increased storminess leading to increases in wave energy.
- Climate change is also predicted to increase sea surface temperatures, to affect salinity to a lesser degree and may increasingly affect mixing and stratification over time.

Soil

- More than 400 different soil types are found in Wales. They contribute to, reflect, and support biodiversity, landscapes and land uses.
- Welsh soils contain 410 million tonnes of carbon.
- The soils of best quality and most productive agricultural land are a scarce and finite resource in Wales; accounting for less than 7% of land area
- Soil quality has deteriorated across all habitats apart from woodlands where there has been some improvement.
- Around 10-15% of grassland fields in England and Wales are thought to be affected by severe soil compaction and 50-60% are in moderate condition
- Only 30% of the Welsh peat soil area is considered to be in good condition.
- Climate change related risks are threatening the many services that soils provide, notably those that relate to soil biota, soil organic matter, and soil erosion and compaction.

53. Soilscales

53.1 Soilscales is a 1:250,000 scale, simplified soils dataset, created from the more detailed National Soil Map with the purpose of effectively communicating a general understanding of the variations which occur between soil types, and how soils affect the environment. It is developed by Cranfield University and sponsored by DEFRA.

53.2 The majority of the National Park area is classified as one of the following types:

Soilscale 6: Freely draining slightly acid loamy soils

Soilscale 7: Freely draining slightly acid but base-rich soils

Soilscale 13: Freely draining acid loamy soils over rock

Soilscale 16: Very acid loamy upland soils with a wet peaty surface

Soilscale 17: Slowly permeable seasonally wet acid loamy and clayey soils

Soilscale 19: Slowly permeable wet very acid upland soils with a peaty surface

Soilscale 20: Loamy and clayey floodplain soils with naturally high groundwater

54. Water quality

54.1 The classification (under the Water Framework Directive (2000) classification system) of water bodies in the National Park is generally “Moderate” according to the most recent assessments, which were carried out in 2012. A water body that is of “moderate” status is one that “Good” or “High” ecological status but is failing to achieve a “Good” chemical status. The table below shows a summary of the overall status of water bodies under the Water Framework Directive classification system.

Water Body Category	Overall status						
	Total No. Water Bodies	High	Good	Moderate	Poor	Bad	Not yet assessed
River	85		13	69	3		
Lake	2		1	1			
Transitional	5		2	3			
Coastal	5		2	3			
Ground Water	5		2		3		

Source: Natural Resources Wales (2012)

55. Nitrogen pollution

55.1 Atmospheric nitrogen can have significant effects on human health. It acidifies soils and freshwaters and favours a small number of fast-growing species at the expense of species of conservation concern (e.g. lichens and mosses). Critical load thresholds are being exceeded across a large proportion of UK protected sites.

55.2 The main sources of atmospheric nitrogen are ammonia and nitrogen oxides. Emissions of nitrogen oxides have been considerably reduced over recent decades, but less has been achieved in reducing ammonia emissions.

55.3 Agriculture is a primary source of ammonia emissions and of nitrate pollution. Management of cattle manure accounts for about 40% of ammonia emissions. Nitrogen is also lost from manufactured fertilisers during application. The identification of local emissions sources is the first step in targeting mitigation options such as covering slurry stores.

55.4 An agricultural ammonia emissions attribution map (for Natura 2000 receptors) – shows medium and high emission densities from cattle sector in Pembrokeshire³⁰.

³⁰ NERC Centre for Ecology and Hydrology, 2015, Assessing and Addressing Atmospheric Nitrogen Impacts on Natura 2000 Sites in Wales

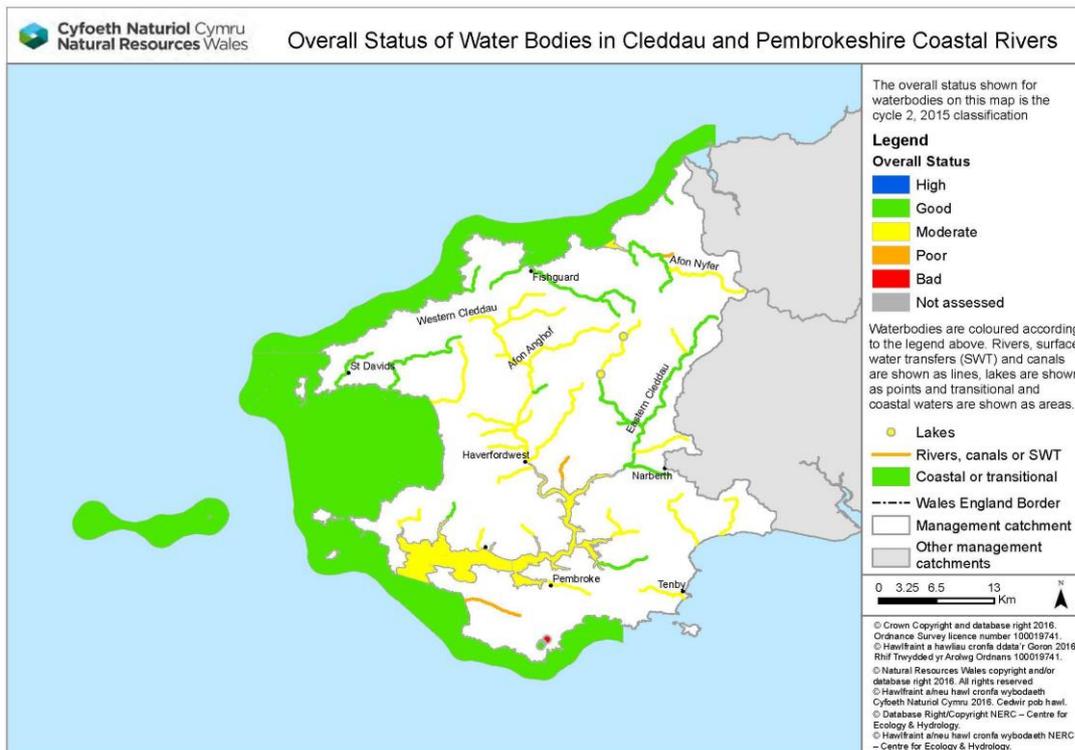
<https://naturalresources.wales/media/674560/life-n2k-aaanis-report.pdf>

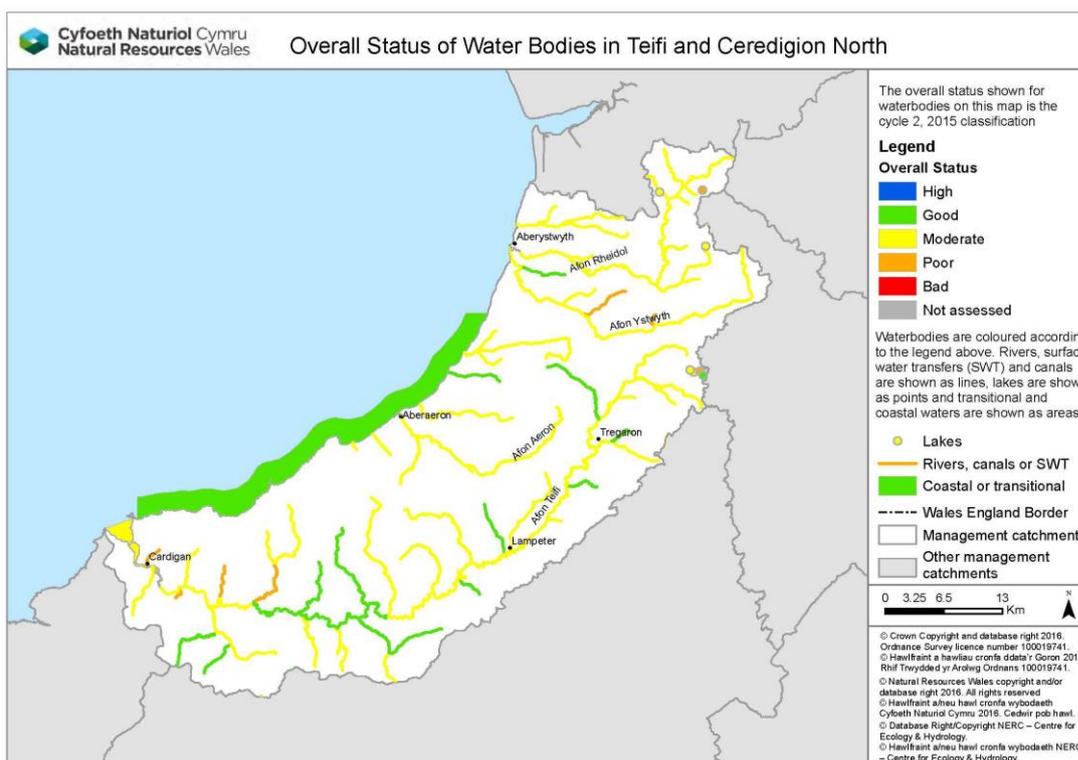
DEFRA, 2018, Code of Good Agricultural Practice for Reducing Ammonia Emissions

55.5 In 2016, Welsh Government consulted on proposals to manage agricultural nitrates, and an all-Wales approach is to be adopted.

56. Western Wales River Basin Management Plan 2015-2021

56.1 The river basin district includes the Cleddau and Pembrokeshire Rivers management catchment and the Teifi and North Ceredigion management catchment.





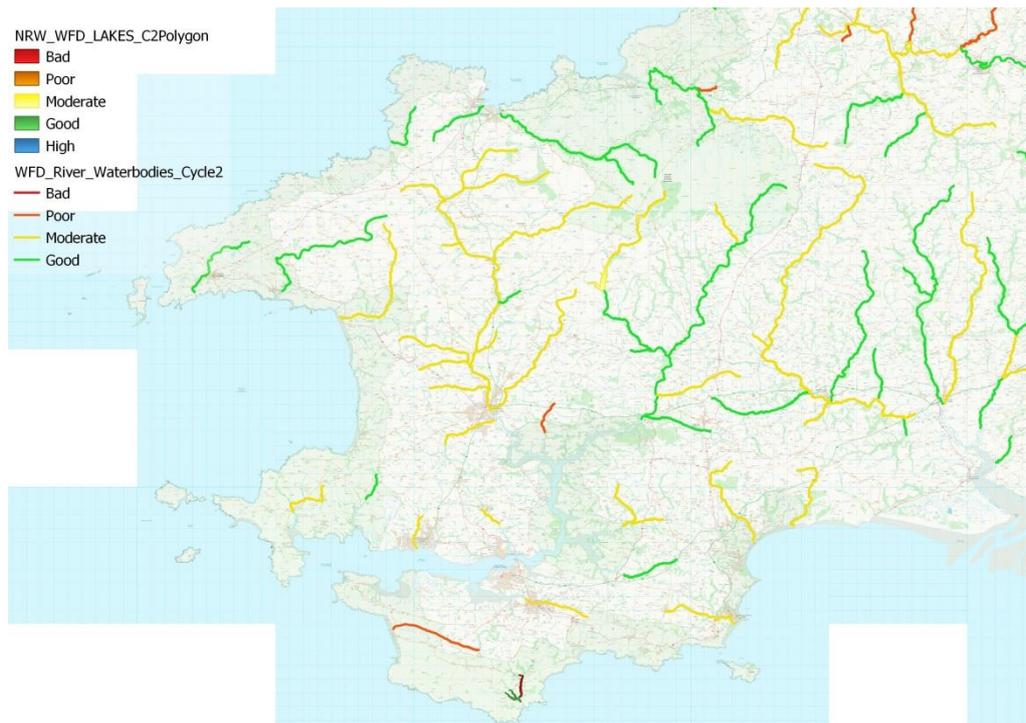
56.2 Catchment measures³¹ for relevant authorities include:

- Emissions controls to reduce nitrogen and acidic deposition.
- regulate pollution from point sources.
- implement changes to land drainage regimes and structures to restore water levels.
- Silt reduction and disposal
- Reduce impacts of regulated flows and abstractions, restore more natural flow regimes, implement options to improve water levels, such as water efficiency and recycling measures
- management of invasive non-native species in line with current national invasive species Action Plans
- Mine water and contaminated land remediation
- Reduce impacts of flood defence structures and operations - improve connectivity, habitat, and morphology
- Target actions to ensure septic tanks are maintained correctly

³¹ Cleddau and Pembrokeshire Coastal Rivers Management Catchment Summary
https://cdn.naturalresources.wales/media/679390/2016-updated-pembrokeshire_catchment_summary_nrw.pdf?mode=pad&rnd=131596369400000000

Teifi and North Ceredigion Management Catchment Summary
https://cdn.naturalresources.wales/media/679392/2016-updated-teifi_catchment_summary_nrw.pdf?mode=pad&rnd=131596369400000000

- Reducing pollution from continuous and intermittent discharges, includes additional treatment at sewage treatment works and reducing surface water drainage to sewers
- Reduce the impacts of erosion, disturbance and damage from both water-based and terrestrial access
- basic and additional measures such as correct management of slurry, silage, fuel oil, and agricultural chemicals; clean and dirty water separation; nutrient management planning; buffer strips and riparian fencing; cover crops and soil management.



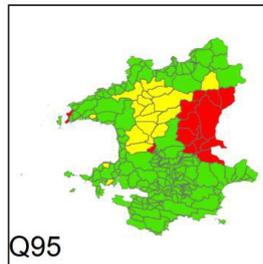
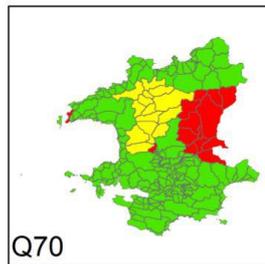
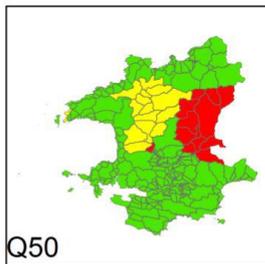
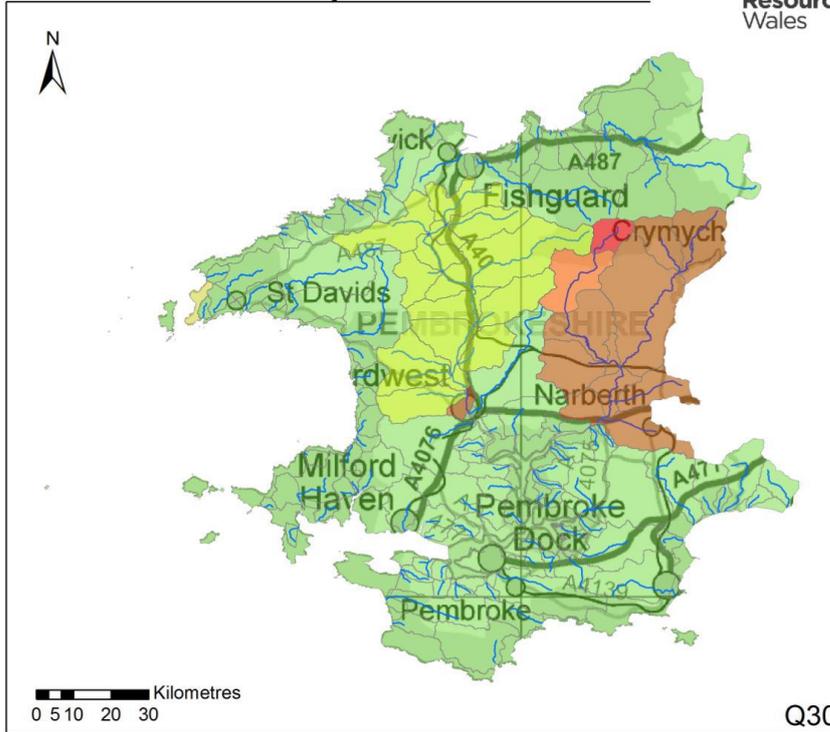
57. Abstraction licensing strategies

57.1 Natural Resources Wales' Catchment Abstraction Management Strategies assess the amount of water available in each river catchment. The strategies directly relevant to the National Park area are The Cleddau and Pembrokeshire Coastal Rivers Abstraction Licensing Strategy³² and the Teifi and North Ceredigion Abstraction Licensing Strategy³³.

³² https://cdn.naturalresources.wales/media/679390/2016-updated-pembrokeshire_catchment_summary_nrw.pdf?mode=pad&rnd=131596369400000000

³³ https://cdn.naturalresources.wales/media/681623/teifi-north-credigion_strategy_english.pdf?mode=pad&rnd=131596369470000000

The Cleddau & Pembrokeshire Coastal Rivers CAMS
 Water Resource Availability Colours



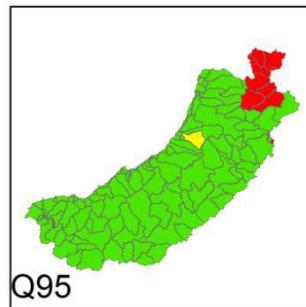
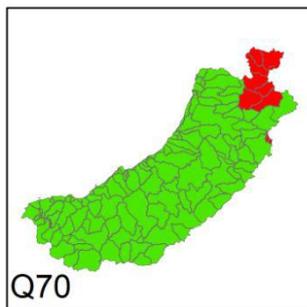
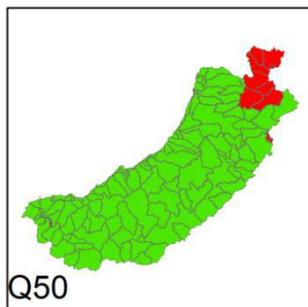
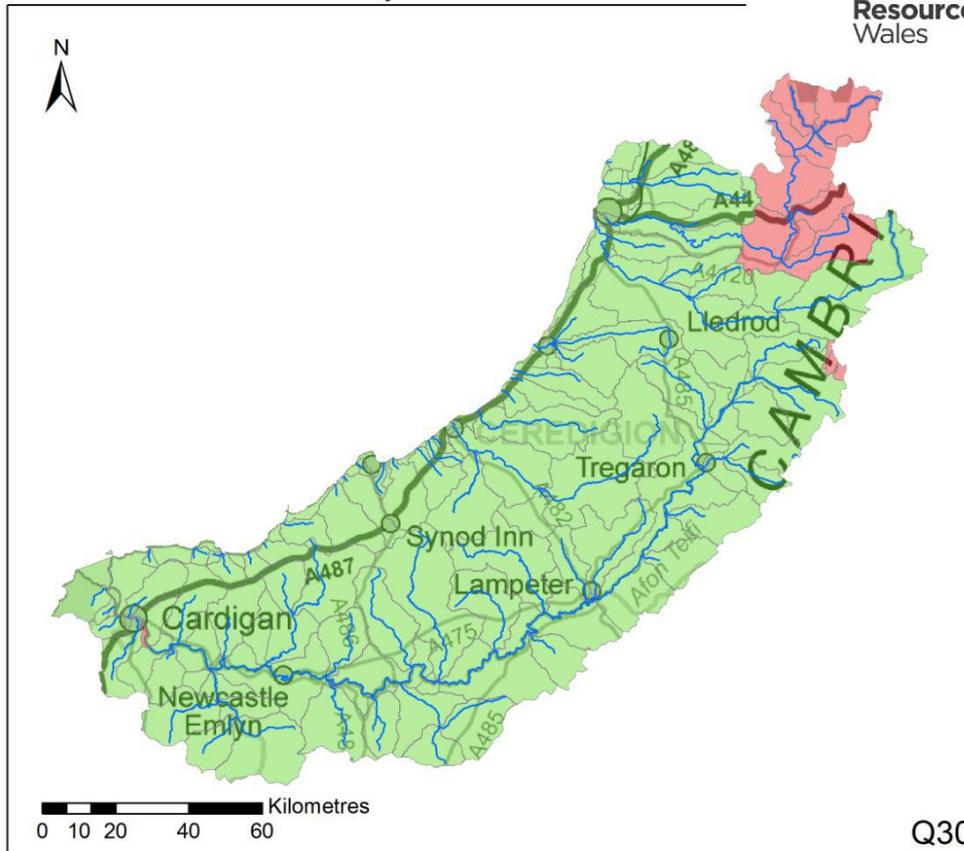
Legend

- The Cleddau & Pembrokeshire Coastal Rivers CAMS rivers
- The Cleddau & Pembrokeshire Coastal Rivers CAMS WBs
- Water Available
- Limited Water Available
- No Water Available

Creation date 27th February 2013

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Teifi & North Ceredigion CAMS
Water Resource Availability Colours



Legend

- Teifi & North Ceredigion CAMS rivers
- Teifi & North Ceredigion CAMS WBs
- Water Available
- Limited Water Available
- No Water Available

Creation date 27th February 2013

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58. Water Resources Management

58.1 Water Resources Management Plans are prepared by Dŵr Cymru / Welsh Water. The Water Resources Management Plan 2019 looks out to 2020 to 2050 to assess risks to supplying sufficient water to meet the customer demand, even during the driest years. The Plan demonstrates where there is sufficient water to meet demand; where there is not, it explains how imbalances will be resolved.

58.2 The supply demand balance for the Mid and South Ceredigion Water Resource Zone indicates a surplus across the 30 year planning period from 2020 to 2050.

58.3 The supply demand surplus in Pembrokeshire will reduce significantly in 2019 as the amount taken from the Cleddau rivers is reduced to meet environmental obligations. The zone is forecast to fall into supply deficit in 2021 with a shortfall of around 5Ml/d by 2025 which increases to a maximum of 14 Ml/d in 2049/50.

58.4 The proposed installation of variable speed pumps in the Canaston pumping station will enable more efficient river regulation to preserve Llysyfran reservoir storage during critical dry years. The change in operation will preserve sufficient water in Llysyfran to meet the supply against demand shortfall during severe droughts. The measure will also provide additional resilience against climate change and severe drought.

Legislation and policy

This section lists some of the main legislation and policy affecting national parks and national park authorities in Wales.

59. The Environment Act 1995

59.1 This sets out National Park purposes:

- (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

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

59.3 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.

59.4 Each National Park Authority is required to prepare a five-yearly 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 Principle³⁴. 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.

60. The Environment (Wales) Act 2016

60.1 The Act includes provision for planning and managing Wales' natural resources and for maintaining and enhancing biodiversity. It identifies examples of natural resources and sets out principles of sustainable natural resource management, to ensure that natural resources are used in a way and at a rate that maintains and enhances the resilience of ecosystems and the benefits they provide³⁵.

60.2 The principles of sustainable management of natural resources are to:
(a) manage adaptively, by planning, monitoring, reviewing and, where appropriate, changing action

³⁴ "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)

³⁵ Environment (Wales) Act 2016, Sections 3 and 4

- (b) consider the appropriate spatial scale for action
- (c) promote and engage in collaboration and co-operation
- (d) make appropriate arrangements for public participation in decision-making
- (e) take account of all relevant evidence and gather evidence in respect of uncertainties
- (f) take account of the benefits and intrinsic value of natural resources and ecosystems
- (g) take account of the short, medium and long term consequences of actions
- (h) take action to prevent significant damage to ecosystems
- (i) take account of the resilience of ecosystems, in particular the following aspects:
 - (i) diversity between and within ecosystems
 - (ii) the connections between and within ecosystems
 - (iii) the scale of ecosystems
 - (iv) the condition of ecosystems (including their structure and functioning)
 - (v) the adaptability of ecosystems

60.3 Based on evidence in the State of Natural Resources Report (2016), Welsh Government's Natural Resources Policy (2017) identifies three national priorities: delivering nature-based solutions; increasing renewable energy and resource efficiency, and taking a place-based approach. This provides the context for Area Statements, which will identify the public bodies which Natural Resources Wales considers may help address regional priorities, risks and opportunities for sustainable management of natural resources in those areas.

60.4 Public authorities must have regard to the Area Statements relevant to them. National Park management is aligned with the principles of sustainable management of natural resources; this helps achieve National Park purposes and will assist in delivery of Area Statements. Two Area Statements apply particularly to the National Park: the South West Area Statement and the Marine Area Statement.

61. The Historic Environment (Wales) Act 2016

61.1 The Act amends the two pieces of UK legislation that currently provide the framework for the protection and management of the Welsh historic environment: the Ancient Monuments and Archaeological Areas Act 1979 and the Planning (Listed Buildings and Conservation Areas) Act 1990 and includes new stand-alone provisions.

61.2 It has three main aims:

- To give more effective protection to listed buildings and scheduled monuments
- To improve the sustainable management of the historic environment
- To introduce greater transparency and accountability into decisions taken on the historic environment.

62. National Park Management Plan guidance and advice (2007 and 2014)

62.1 Guidance on preparing National Park Management Plans in Wales was published by the Countryside Council for Wales in 2007. That guidance still stands, and has been supplemented with advice commissioned by Natural Resources Wales on incorporating ecosystem conservation into protected landscape management (advice issued in 2014).

62.2 Ecosystem management principles include the recognition that change is inevitable, and that everyone should be involved in decision-making. The advice includes case studies and the key messages which can be taken from them. These and the principles of the Convention on Biological Diversity have been taken into account in reviewing this Management Plan.

63. Nature Recovery Plan for Wales (2015)

63.1 The Nature Recovery Plan for Wales (2015) is the National Biodiversity Strategy and Action Plan for Wales. It sets out a commitment to biodiversity in Wales, issues to address, and objectives for action. It sets out how current and proposed action, particularly through the Well-being of Future Generations (Wales) Act 2015, and Sustainable Management of Natural Resources will contribute to reversing the loss of biodiversity in Wales.

63.2 An Action Plan sets out those actions which have been specifically identified to meet our objectives to reverse the decline of biodiversity. A Nature Recovery Framework, in development, shows the governance structure for the Nature Recovery Plan, and the roles and responsibilities of everybody involved in the delivery of action for biodiversity in Wales. It will also define the accountability measures in place to ensure delivery.

64. Nature Recovery Plan for Pembrokeshire (June 2018)

64.1 The Pembrokeshire Nature Recovery Plan replaces the Local Biodiversity Action Plan for Pembrokeshire, and closely follows the format of the Wales Nature Recovery Plan. It provides the framework for local biodiversity action that will contribute to the delivery of national targets for key habitats and species and raise awareness and understanding of the relevance of biodiversity.

65. Pembrokeshire Well-being Plan

65.1 Pembrokeshire's Wellbeing Assessment was approved by the Pembrokeshire Public Services Board in April 2017 with the Well-being Plan for Pembrokeshire itself published in May 2018. The Well-being Plan for Pembrokeshire sets out how the Pembrokeshire Public Services Board can add value to existing programmes and partnerships, in support of two well-being objectives and four priorities through eight integrated projects. The objectives and priorities are:

- We want to help our people, communities and organisations so that we can support ourselves and each other (priorities: living and working; resourceful communities)
- We want to protect and enhance our natural assets whilst optimising economic prospects, accessibility and health for all (priorities: tackling rurality; protecting our environment)

65.2 The eight integrated projects are:

- Recruitment and Employment Transformation Framework
- Environmental and Climate Change Risk Assessment
- Becoming a Carbon Neutral County
- Doing things Differently
- Celebrating the Great outdoors
- Community Participation
- Understanding our Communities
- Meaningful Community Engagement

66. Vital nature: Making the connections between biodiversity and the people and places of Wales

66.1 *Vital Nature* (July 2018) is Natural Resources Wales' strategic steer for biodiversity to 2022. It establishes a high-level framework for actions for biodiversity in line with the Nature Recovery Action Plan for Wales and sets out a series of goals and high-level commitments regarding collaborative delivery of biodiversity and ecosystem resilience duties. The goals include the following:

- Everyone values the species and habitats, landscapes and seascapes of Wales and has opportunities for access to nature. There is wide appreciation and understanding of the value of the natural world and its importance for people's well-being and for the economy, helping to align the choices that we make with the capacity of ecosystems to support us.
- Protected sites on land and sea in Wales are an integrated network, ecologically connected with the wider landscape and seascape, resilient to climate change, and where a dynamic approach to site designation and management enables habitats and species to thrive and expand, providing ecosystem services well beyond the site boundaries. Maintaining and enhancing biodiversity and building ecosystem resilience are a routine requirement of new development and the regulation and management of natural resource use across all sectors in Wales.

67. Wales National Marine Plan

67.1 In December 2017, Welsh Government published a consultation draft Wales National Marine Plan, which will guide decisions on the sustainable use of Welsh seas. Specifically, the Plan is intended to: integrate policy with the rest of the UK, guided by the UK Marine Policy Statement; support the vision for clean, healthy, safe and biologically diverse seas; guide future sustainable development and direct decisions on the use of marine space and natural resources.

67.2 The consultation draft Plan identifies indicative Strategic Resource Areas. Relevant authorities are expected to guide sectors towards these areas and ensure their sustainable use (in accordance with the principles of sustainable development and sustainable management of natural resources).

68. The Well-being of Future Generations (Wales) Act 2015

68.1 This requires the National Park Authority to set and publish objectives designed to maximise its contribution to achieving each of the well-being goals described in the Act, and to take all reasonable steps to meet those objectives in exercising its functions. The Future Generations Commissioner for Wales has identified six priority areas which address the root causes of problems facing future generations and help achieve the best multiple outcomes. They relate to two broad themes:

- (1) Creating the right infrastructure for future generations, focussing on housing stock, energy generation and efficiency, and transport planning
- (2) Equipping people for the future, focussing on skills, adverse childhood experiences, and alternative models for improving health and well-being ('social prescribing')

68.2 The Act places a legal requirement on the Welsh Ministers to set national indicators, to be “applied for the purpose of measuring progress towards the achievement of the well-being goals”. The indicators are set by Welsh Ministers but reflect the whole of Wales and will enable all partners to evaluate their contributions towards the well-being goals.

69. Welsh Government Natural Resources Policy (2017)

69.1 The Policy sets out three national priorities for the management of Wales’ natural resources:

- Delivering nature-based solutions
- Increasing renewable energy and resource efficiency
- Taking a place-based approach

69.2 Welsh Government policies will be aligned to the delivery of these priorities, and the legislative framework will drive action. Working closely with partners in the National Parks, Local Authorities, the National Trust and Natural Resources Wales will be essential to realise the economic and wider benefits of Wales’ built and natural environments.

69.3 The Natural Resources Policy provides the context for Area Statements (prepared by Natural Resources Wales). These will identify the public bodies which may help address regional priorities, risks and opportunities for sustainable management of natural resources. The statements will help fulfil Natural Resources Wales’ general purpose to pursue and apply the principles of sustainable natural resources management. Public authorities must have regard to the Area Statements relevant to them.

70. Welsh Government policy on protected landscapes in Wales

70.1 *Working Together for Wales: Policy Statement for the National Parks and National Park Authorities in Wales* was issued by Welsh Government in March 2007. An Independent Review of Designated Landscapes in Wales, commissioned by the Welsh Government led to a report, *National Landscapes: Realising their Potential. The Review of Designated Landscapes in Wales* (2015), which made many recommendations covering proposals and observations on purposes, principles, vision, governance models, planning and funding. A Future Landscapes Wales Working Group was established to explore the Review recommendations and the case for change. *Future Landscapes: Delivering for Wales* was published in 2017. The proposals set the designated landscapes on a path to drive the sustainable management of natural resources in their areas and working beyond their current boundaries. It draws on the strengths and opportunities of genuine partnership and collaboration. In doing so, it advocates greater flexibility in structures in order to meet the needs of places and communities.

70.2 In March 2018, the Minister for Environment confirmed that the designated landscapes review process would draw to a close with the publication of a policy statement in coming months. The Minister gave a firm commitment that all Wales' existing protected landscapes will be retained and their current purpose of conserving and enhancing natural beauty will not be weakened. The Minister also underlined the importance of a more diverse cross-section of Welsh society feeling they have a stake in protected landscapes and recognising the benefits that derive from them.

70.3 *Valued and Resilient: The Welsh Government's Priorities for the Areas of Outstanding Natural Beauty and National Parks* was issued by Welsh Government in July 2018. It replaces the previous 2007 guidance.

70.4 *Valued and Resilient* outlines key priority areas following consideration of the outcomes from the Review of Designated Landscapes, Future Landscapes Wales Programme and responses to the *Taking forward Wales' sustainable management of natural resources* consultation. It provides clarity of purpose for the National Parks and Areas of Outstanding Natural Beauty in the context of the UK's exit from the European Union and at the close of a period of review. Themes and priorities include the following (emphasis added):

1. Valued Places
 - (i) Landscapes for everyone
 - **...broad partnerships should be formally established or maintained, which are enabled and empowered by the managing body to provide meaningful opportunities to participate in the preparation of plans and decision-making** of these designated landscapes.
 - While it is important for all sectors of society to experience these designated landscapes, particular focus should be given to children and young families from deprived areas. Action must be taken to

help to tackle the inequalities that exist in health, education and economic outcomes amongst the poorest in society. This work will include enhanced outdoor education programmes and volunteering opportunities.

2. Resilient Environments

- (ii) Exemplars of the sustainable management of natural resources
 - **AONBs and National Parks, which contain a socio-economic dimension, should exemplify approaches to reconciling tensions around competing demands for natural resources.** They have established governance and accountability structures and should utilise mechanisms such as the Management Plan and Local Development Plan in this endeavour. The emerging Area Statements offer the opportunity to inform and enhance further the role of landscape scale action. To support this ambition The Welsh Government will introduce legislation at the earliest opportunity to **require a National Park Authority to pursue the sustainable management of natural resources in the exercise of its functions.**
- (iii) Halting the loss of biodiversity
 - The health of designated landscapes will be inextricably linked with the improvement of neighbouring landscapes and sites. The extensive nature of **landscape designation provides a mechanism to secure healthy, resilient and productive ecosystems that are managed sustainably and contribute to connectivity between habitats.**
 - Creating both new native and new mixed woodlands that can deliver multiple benefits, and to use planting and natural processes to do so, is a challenge which applies equally to the designated landscapes as to the rest of Wales. It is possible to **increase woodland cover whilst respecting the special qualities of these landscapes.**
- (iv) Green energy and decarbonisation
 - Designated landscapes must **contribute to a sustainable low carbon economy for Wales, for example, through enabling the generation of renewable energy at an appropriate scale, water management and carbon sequestration.**
 - Through careful planning and management these landscapes can play a key role in meeting the challenges of adaptation and mitigation of climate change, achieving energy security whilst creating resilient communities and supporting the environment. **Communities should be supported to bring forward appropriate renewable energy schemes** which have the potential to reduce dependence on carbon based energy and be a source of revenue for the community.
 - ...this Government has an ambition for the Welsh Public Sector to be carbon neutral by 2030. The National Park Authorities, in particular, can demonstrate leadership on achieving a carbon neutral public sector.

3. Resilient Communities

- (v) Realising the economic potential of landscape
 - National Park Authorities have a duty to ‘foster the economic and social well-being of local communities within their national park’ and AONB local authorities also have a similar responsibility across the whole of their authority areas. To reflect their national importance the planning system will continue to afford them the highest possible protection from inappropriate development. This does not prevent the designations from playing a key role in facilitating appropriate development whilst maintaining the integrity of landscape quality.
 - **Designated landscape management organisations need to further develop and refine their own understanding of local economic resilience and economic opportunities**, and continue to collaborate with other economic development agencies, including local authorities. They should draw on their power to convene local bodies, businesses and groups in order to support and create opportunities for employment.
- (vi) Growing tourism and outdoor recreation
 - To **encourage, provide for and manage responsible outdoor recreation opportunities** is an important role for AONBs and a key remit for Park Authorities. Efforts need to focus on working towards the provision of fit for purpose places and facilities which are consistent in standard with the spectacular landscapes they serve. Programmes must encourage participation and strong links across the sector to ensure harmonious use of the areas and their special qualities.
- (vii) Thriving Welsh language
 - Cymraeg 2050 is the ambition of the Welsh Government to see the number of people able to enjoy speaking and using Welsh reach a million by 2050. The designated landscapes will have **an important role to play to increase public awareness of the value of the Welsh language, both as part of our national heritage and as an important skill in modern life.**

4. Resilient Ways of Working

- (viii) All landscapes matter
 - The bodies and partnerships with responsibility for the designated landscapes should together **promote the social, cultural and economic value and sustainable use of all landscapes, working across boundaries** with Natural Resources Wales and with local partnerships.
 - This means closer operational arrangements between existing designated areas on a regional and national basis, but also between the designated landscapes and areas without a statutory designation.
 - The Welsh Government wishes to see the designated landscapes taking confident strides in managing positive landscape change for

the benefit of people and the landscape. This attitude should be evident in all plans, activities, and communication.

(ix) Collaboration

- Welsh Government believes a helping hand is needed to assist at a strategic level and intends to ***establish a National Partnership to develop a robust culture of collaboration whilst also providing scrutiny and challenge on designated landscapes' priorities and delivery.***
- A collaborative approach in support of an area's special qualities may be achieved more effectively through building relationships and trust, rather than reliance on compliance on a duty to have regard. Both approaches will require parties to understand and appreciate the aspiration for an area and their own impacts and contribution. The designated landscape bodies exist to facilitate the necessary joint endeavour for the management of the landscapes which includes, but extends beyond, those who are caught by the duty to 'have regard'.