

# Carmarthenshire Revised Local Development Plan (LDP)

## Sustainability Appraisal (SA) Scoping Report

### Appendix B: Baseline Information



**EICH CYNGOR arleinamdani**  
[www.sirgar.llyw.cymru](http://www.sirgar.llyw.cymru)

**YOUR COUNCIL doitonline**  
[www.carmarthenshire.gov.wales](http://www.carmarthenshire.gov.wales)

## 1. Sustainable Development

1.1 The Carmarthenshire Well-being Assessment (March 2017) looked at the economic, social, environmental and cultural wellbeing in Carmarthenshire through different life stages and provides a summary of the key findings. The findings of this assessment form the basis of the objectives and actions identified in the Draft Well-being Plan for Carmarthenshire. The Assessment can be viewed via the following link: [www.thecarmarthenshirewewant.wales](http://www.thecarmarthenshirewewant.wales)

1.2 The Draft Carmarthenshire Well-being Plan represents an expression of the Public Service Board's local objective for improving the economic, social, environmental and cultural well-being of the County and the steps it proposes to take to meet them. Although the first Well-being Plan is in draft and covers the period 2018-2023, the objectives and actions identified look at delivery on a longer term basis of up to 20-years.

1.3 The Draft Carmarthenshire Well-being Plan will focus on the delivery of four objectives:

- **Healthy Habits**  
People have a good quality of life, and make healthy choices about their lives and environment.
- **Early Intervention**  
To make sure that people have the right help at the right time; as and when they need it.
- **Strong Connections**  
Strongly connected people, places and organisations that are able to adapt to change.
- **Prosperous People and Places**  
To maximise opportunities for people and places in both urban and rural parts of our county.

## 2. Biodiversity and the Natural Environment

2.1 Biodiversity is, literally, the variety of life on earth. It embraces all living plants and animals and the ecosystems on which they depend. Biodiversity is everywhere: in gardens, fields, hedgerows, mountains, rivers and in the sea.

2.2 At a local level, biodiversity greatly influences the character of our landscape. Carmarthenshire is justly renowned for its magnificent coast, quiet estuaries, steep wooded valleys and rugged uplands. Throughout much of the rest of the county there is a patchwork of woodlands and fields, bounded by the hedge-banks that are frequently of historic importance. The sea and seabed around the Carmarthenshire coast are also rich in species, some of which are of considerable economic importance.

2.3 This natural beauty of the county is a major factor on which the local tourism and recreation industries depend. Biodiversity is therefore fundamental to the physical, economic and spiritual well-being of all who live and work in Carmarthenshire.

### International Sites

2.4 Carmarthenshire has significant areas of land that are designated for their international importance for nature conservation. These include:

- Special Areas of Conservation (SACs) designated under the EC Directive on the Conservation of Natural Habitats of Wild Fauna and Flora (92/43/EEC);
- Special Protection Areas (SPAs) designated under the EC Directive on the Conservation of Wild Birds (79/409EEC) and
- Ramsar sites designated following the 1971 Ramsar convention on wetlands.

European Site	Qualifying Feature(s)	Size (hectares)	Conservation Status
Afon Tywi/ River Twyi SAC	Twaite shad Otter Sea lamprey River lamprey Brook lamprey Allis shad Bullhead	363.45	Unfavourable. Favourable. Unfavourable. Unfavourable. Unfavourable. Unfavourable. Unfavourable.
Caeau Mynydd Mawr SAC	Purple moor-grass meadows; Marsh fritillary butterfly. <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinia caeruleae</i> ) Marsh fritillary butterfly	25.06	Unfavourable.  Unfavourable.
Cernydd Carmel SAC	Turloughs Northern Atlantic wet heaths with <i>Erica Tetralix</i> European dry heaths Active raised bogs	361.14	Favourable. Destroyed: Partially.  Destroyed Partially. Unfavourable . Favourable.

	<i>Tilio-Acerion</i> forests of slopes, screes and ravines		
Carmarthen Bay Dunes SAC	Embryonic shifting dunes Shifting dunes along the shoreline with <i>Ammophila arenaria</i> Fixed dunes with herbaceous vegetation Dunes with <i>Salix repens ssp. argentea</i> Humid dune slacks  Narrow mouthed whorl snail  Petalwort  Fen orchid	1206.32	Favourable Maintained. Favourable Maintained.  Unfavourable . Unfavourable . Unfavourable . Unfavourable . Unfavourable . Unfavourable .
Afon Teifi/ River Teifi SAC	Water courses of plain to montane levels with <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation Oligotrophic to mesotrophic standing waters with vegetation of <i>Littorelletea uniflorae</i> and/or of Isoeto-Nanojuncetea Brook lamprey River lamprey Atlantic salmon Bullhead Otter Floating water-plantain Sea lamprey	715.58	Favourable.  Favourable.  Favourable Favourable. Favourable. Unfavourable. Favourable Maintained. Favourable Maintained. Unfavourable.
Afonydd Cleddau/ Cleddau Rivers SAC	Water courses of plain to montane levels with <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation Active raised bogs  Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> Brook lamprey  River lamprey  Bull head Otter	751	Unfavourable.  Unfavourable . Unfavourable.  Unfavourable recovering. Unfavourable recovering. Unfavourable. Favourable maintained. Unfavourable.

	Sea lamprey		
Carmarthen Bay and Estuaries SAC	Sandbanks which are slightly covered by sea water all the time Estuaries Mudflats and sandflats not covered by seawater at low tide Large shallow inlets and bays <i>Salicornia</i> and other annuals colonising mud and sand Atlantic salt meadows Twaite shad Sea lamprey River lamprey Allis shad Otter	66101.16	Unfavourable: Declining Favourable: Maintained Favourable: Maintained Favourable: Maintained Unfavourable Unfavourable Unfavourable: No Change Unfavourable Unfavourable: No Change Favourable
Carmarthen Bay SPA	Common scoter	95860.36	No condition assessment made, for site description refer to management plan.
Cwm Doethie-Mynydd Mallaen SAC	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles European dry heaths	4122.29	Unfavourable.  Unfavourable: Recovering
Elenydd Mallaen SPA	Merlin Red kite	30022.14	Favourable. Favourable. Favourable.
Burry Inlet SPA	Pintail Northern Shoveler Teal Wigeon Dunlin Red knot Oystercatcher Curlew Grey Plover Shelduck Redshank Turnstone	6627.99	Favourable Favourable Favourable Favourable Favourable Favourable Favourable Favourable Favourable Favourable Favourable Not Assessed
Cardigan Bay/Bae Ceredigion SAC	Sandbanks which are slightly covered by sea water all the time Reefs Submerged or partially submerged sea caves Bottlenose dolphin Sea lamprey River lamprey	95860.36	Not Assessed Not Assessed Favourable: Maintained Favourable: Maintained Unfavourable Unfavourable Favourable: Maintained

	Grey seal		
North Pembrokeshire Woodlands / Coedydd Gogledd Sir Benfro SAC	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> Barbastelle bat	314.48	Unfavourable recovering.  Unfavourable  Favourable: Maintained.
Yerbeston Tops SAC	Molinia meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinia caerulea</i> ) Marsh fritillary butterfly	90.7	Unfavourable.  Unfavourable.
Rhos Llawr-cwrt SAC	Marsh fritillary butterfly <i>Hamatocaulis vernicosus</i> (moss)	45.8	Unfavourable: Recovering.  Unfavourable.
Pembrokeshire Bat Sites And Bosherton Lakes / Safleoedd Ystlum Sir Benfro a Llynnoedd Bosherton SAC	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp. Greater Horseshoe Bat  Lesser Horseshoe Bat  Otter	122.59	Unfavourable No change.  Favourable maintained. Unfavourable: Declining. Favourable.
Gower Ash Woods / Coedydd Ynn Gwyr SAC	<i>Tilio-Acerion</i> forests of slopes, screes and ravines Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i>	233.15	Unfavourable.  Unfavourable.
Pembrokeshire Marine SAC	Estuaries Large shallow inlets and bays Reefs Sandbanks which are slightly covered by seawater all the time Mudflats and sandflats not covered by seawater at low tide Coastal lagoons Atlantic salt meadows Submerged/partially submerged sea caves Grey seal Shore dock Sea lamprey River lamprey Allis shad Twaite shad	138069.45	Unfavourable: Declining Unfavourable: Declining Unfavourable: Declining Unfavourable: No Change Unfavourable: Declining Favourable: Maintained Unfavourable Favourable: Maintained Favourable: Maintained Favourable: Maintained Unfavourable: Declining Unfavourable: No Change No Change Not Assessed Not Assessed Favourable

	Otter		
Gower Commons / Tiroedd Comin Gwyr SAC	Northern Atlantic wet heaths with <i>Erica tetralix</i> European dry heaths Molinia meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinia caerulea</i> ) Marsh fritillary butterflies Southern damselfly	1776.72	Unfavourable.  Unfavourable. Unfavourable.  Unfavourable. Unfavourable.
River Wye / Afon Gwy SAC	Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation Transition mires and quaking bogs White clawed crayfish  Sea lamprey Brook lamprey River lamprey Twaite shad Atlantic salmon Bullhead Otter Allis shad	2234.89	Unfavourable.   Unfavourable: Declining.  Unfavourable . Unfavourable. Unfavourable. Unfavourable. Unfavourable. Unfavourable. Unfavourable. Favourable: Recovered. Unfavourable.
Gweunydd Blaencleddau SAC	Northern Atlantic wet heaths with <i>Erica tetralix</i> Molinia meadows on calcareous, peaty or clayey-silt-laden soils Blanket bogs  Transition mires and quaking bogs Alkaline fens  Marsh fritillary butterfly Southern damselfly	151	Unfavourable declining.  Unfavourable declining.  Unfavourable recovering. Favourable maintained. Favourable maintained. Unfavourable. Favourable.
Preseli SAC	Northern Atlantic wet heaths with <i>Erica tetralix</i> European dry heaths Depressions on peat substrates of the <i>Rhynchosporion</i> Alkaline fens Southern damselfly Marsh Fritillary butterfly	2705.9	Unfavourable.  Unfavourable. Unfavourable: Declining.  Favourable. Unfavourable. Unfavourable: No Change.

		<i>Hamatocaulis vernicosus</i> (moss)		Favourable: Maintained.
Mynydd Epynt SAC		<i>Hamatocaulis vernicosus</i> (moss)	43.4	Favourable.
River Usk. Afon Wysg SAC		Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation Sea lamprey Brook lamprey River lamprey Twaite shad Atlantic salmon Bullhead Otter Allis shad	1008.26	Unfavourable.  Unfavourable. Unfavourable. Unfavourable. Unfavourable. Unfavourable. Favourable: Recovered. Unfavourable.
Burry Ramsar	Inlet	Burry Inlet is a large estuarine complex located between the Gower Peninsula and Llanelli in South Wales. It includes extensive areas of intertidal sand and mud flats, together with large sand dune systems at the mouth of the estuary. The site contains the largest continuous area of saltmarsh in Wales (2,200 ha). The Burry Inlet regularly supports large numbers of wildfowl and waders.	2,200	No condition assessment made, for site description refer to management plan.
Bristol Channel Approaches cSAC		Harbour porpoise	584,994	Favourable.

## Sites of Special Scientific Interest

2.5 There are 81 Sites of Special Scientific Interest (SSSI) in the county (excluding the area within the Brecon Beacons National Park) covering 17,088 Ha, and ranging in size from small fields to large areas of mountain sides and long rivers.

2.6 They cover approximately 7.2 % of the county. SSSI are the best wildlife and geological sites in the country. They include habitats such as ancient woodland, flower-rich meadows, wetlands as well as disused quarries and support plant and animal species which are not often seen in the wider countryside.

2.7 SSSIs are statutorily protected under the Wildlife & Countryside Act 1981 (as amended by the Countryside & Rights of Way Act 2000). The Natural Resources Wales has responsibility for identifying, notifying and protecting SSSIs.

## **Local Nature Reserves**

2.8 There are six Local Nature Reserves in Carmarthenshire: Pembrey Burrows and Saltings, Ashpits Pond and Pwll Lagoon, North Dock Dunes, Carreg Cennen, Glan-yr-Afon, Kidwelly, and Morfa Berwig, Bynea. There are also a number of Nature reserves throughout the County managed by other organisations.

## **National Nature Reserves**

2.9 The following National Nature Reserves are also situated in Carmarthenshire:

- Carmel;
- Allt Rhyd y Groes;
- Dinefwr; and
- Waun Las (National Botanic Garden of Wales farm)

## **Sites of Importance for Nature Conservation**

2.10 There are currently no Sites of Importance for Nature Conservation (SINC) designated within Carmarthenshire.

## **Local Biodiversity Action Plan (LBAP)**

2.11 The Carmarthenshire LBAP has been produced by a partnership of organisations concerned with the conservation of the County's biodiversity. In line with national guidance, the broad aim of the Carmarthenshire LBAP is to conserve and enhance biodiversity in Carmarthenshire by means of local partnerships, taking account of both national and local priorities.

2.12 The broad aims of the Carmarthenshire LBAP are as follows:

- To maintain and enhance the biodiversity of Carmarthenshire through the preparation and implementation of individual action plans, covering a range of selected habitats and species which reflect both national and local priorities;
- To develop effective local partnerships to co-ordinate and deliver biodiversity action in Carmarthenshire;
- To raise public awareness of the importance of conserving and enhancing Carmarthenshire's biodiversity; and,
- To monitor progress in achieving local biodiversity targets and to report on such progress to a national biodiversity database.

2.13 The LBAP contains a series of action plans covering the nationally threatened or declining species and habitats in the County, as well as species and habitats of local concern. The LBAP focuses on local action that meets the objectives for each habitat and species within the Plan.

2.14 The Wales Biodiversity Partnership (WBP) has drawn up nine habitat groupings and it was agreed that the Carmarthenshire LBAP will follow these groupings. These are: Woodland, Upland Habitats, Freshwater, Wetlands, Farmland, Lowland Grassland and Heathland, Brownfield/Urban, and Coastal and Marine habitats and species.

2.15 Species have been grouped in with habitats as far as possible as often the main action to conserve species is achieved through habitat management. However a number of species will have individual action plans which can be downloaded through the following link:

<http://www.carmarthenshire.gov.wales/home/council-services/planning/biodiversity/local-biodiversity-action-plan/>

### **3. Air Quality**

3.1 The Environment Act 1995 places a duty on the Council to periodically review and assess air quality within its area. There are key pollutants that should be considered, and they are set out in legislation. Each of the key pollutants has a standard that should not be breached. The standards (or objectives) have been set at levels based on current scientific information which are designed to protect health and the environment. The Air Quality Objectives are set out in the Air Quality Standards (Wales) Regulations 2010.

#### **Why is air quality important?**

3.2 Air Quality is the leading cause of the environmental burden of disease in Europe. In February 2016 it was reported that 40,000 additional deaths per year are attributable to poor air quality<sup>1</sup>, with a health cost of £20 billion per annum.

#### **Who does what in Wales?**

3.3 Natural Resources Wales regulates emissions to air from larger industrial operations (Part A1 under the Environmental Permitting Regulations (EPR)), such as power stations, refineries and incinerators, to meet the requirements of the Industrial Emissions Directive 2010. Inherent in this is the need to prevent, or minimise, emissions from the sites we regulate by applying the national and European standards set to protect health and the environment. We are also required to produce an annual Pollution Inventory for emissions.

3.4 Under the Environment (Wales) Act 2016 NRW also has a duty to report on the state of air quality in Wales as part of the State of Natural Resources Report (SoNaRR) and to consider more local environmental priorities in Area Statements. Welsh Government is the competent authority, under the Air Quality Standards (Wales) Regulations 2010, for implementing the requirements of the 2008 directive on ambient air quality and Cleaner Air for Europe (CAFÉ).

3.5 Under the Environment Act 1995 Local Authorities have responsibility for the assessment and management of local air quality, designating Air Quality Management Areas and implementing action plans where there is a failure to meet the required standards. Local Authorities also regulate emissions to air from smaller industries (Part A2 and B under EPR)<sup>1</sup>.

#### **Current State**

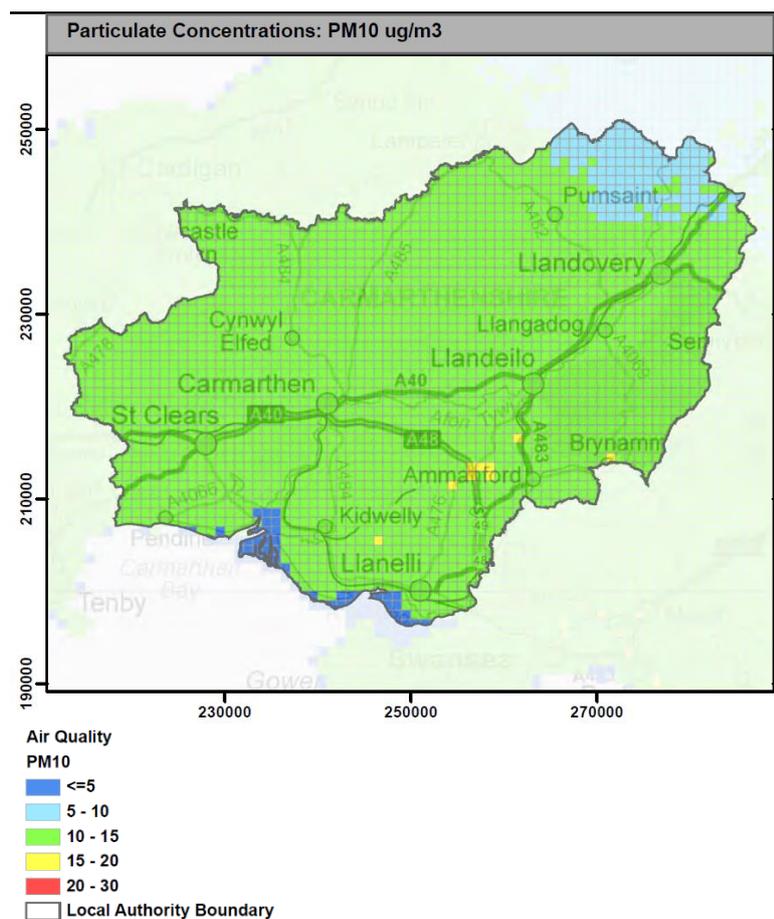
3.6 Air quality in Wales has improved, with statutory emissions controls and a decreasing industrial base leading to a reduction in industrial emissions. However ambient air quality targets for nitrogen dioxide, particulate matter, nickel and polycyclic aromatic hydrocarbons are still being breached in Wales. Although industry remains a significant source of pollutants other sources, generally smaller or more diffuse and subject to less or no regulation, have now become more prominent.<sup>1</sup>

#### **Air Pollution in Carmarthenshire**

3.7 The following map identifies modelled annual mean concentrations for PM10. This produced by Ricardo-AEA for Defra and is based on modelled emissions to the atmosphere from UK sources from the National Atmospheric Emissions Inventory (NAEI) together with measured concentrations <sup>1</sup>.

---

<sup>1</sup> Local Evidence Pack: Carmarthenshire 4/10/2013 (Natural Resources Wales)



Source: Local Evidence Pack: Carmarthenshire 4/10/2013 (Natural Resources Wales)

3.8 The Council submits regular air quality reports to Welsh Government on Carmarthenshire's air quality. Further information on air quality reports can be downloaded from the Defra website. All Local Authorities in Wales update details about their monitoring locations and sampling results on the Welsh Air Quality Forum website.

3.9 The Council has identified that the key pollutant most relevant to Carmarthenshire is Nitrogen Dioxide (NO<sub>2</sub>). The main source of NO<sub>2</sub> emissions in Carmarthenshire is road traffic. The Council has developed a monitoring network that follows some of our busiest roads and most congested streets.

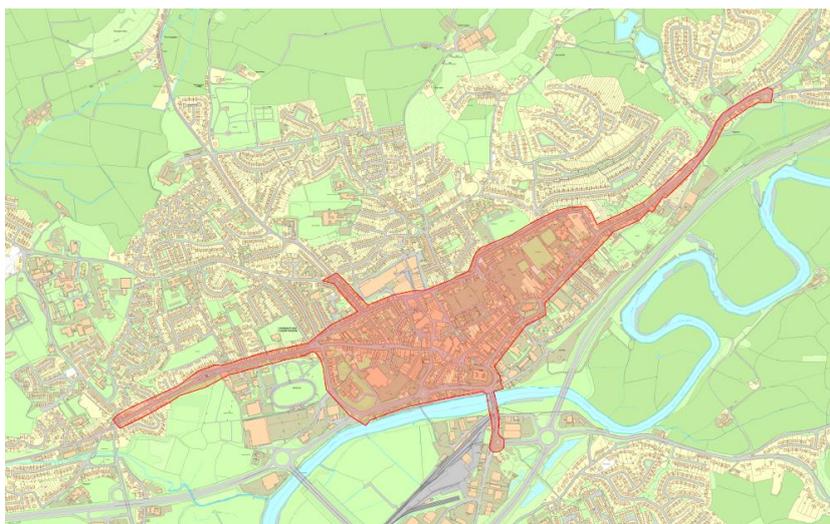
### Llandeilo AQMA

3.10 An Air Quality Management Area (AQMA) was designated for part of Llandeilo in 2011. This is because standards for NO<sub>2</sub> in the area are being breached. Although NO<sub>2</sub> levels in the area are not sufficiently high to be causing immediate health effects, they are at levels that could result in health issues over the long term, for people who already suffer from respiratory conditions, such as asthma, COPD (chronic obstructive pulmonary disease) etc. The Council is working closely with colleagues at external agencies to help identify and implement solutions to improve air quality in the area.



### **Carmarthen AQMA**

3.11 An AQMA was designated for a specific area of Carmarthen in August 2016. The reason is due to emissions from road traffic sources. Levels of Nitrogen Dioxide (NO<sub>2</sub>), currently breach legal levels in localised hotspots within the AQMA, and the Council is working with partners within and outside of the Council to reduce these levels where it can. Although NO<sub>2</sub> levels in the area are not sufficiently high to be causing immediate health effects, they are at levels that could result in health issues over the long term, for people who are exposed for sufficient periods of time and who already suffer from respiratory conditions, such as asthma, COPD (chronic obstructive pulmonary disease) etc. The Council is in the process of formulating an Action Plan, which will identify measures that could help improve Air Quality in the area.



### Llanelli AQMA

3.12 An AQMA was designated for a specific area of Llanelli in August 2016. The reason is due to emissions from road traffic sources. Levels of Nitrogen Dioxide (NO<sub>2</sub>), currently breach legal levels in localised hotspots within the AQMA, and the Council is working with partners within and outside of the Council to reduce these levels where we can. Although NO<sub>2</sub> levels in the area are not sufficiently high to be causing immediate health effects, they are at levels that could result in health issues over the long term, for people who are exposed for sufficient periods of time and who already suffer from respiratory conditions, such as asthma, COPD (chronic obstructive pulmonary disease) etc. The Council is currently in the process of formulating an Action Plan, which will identify measures that could help improve Air Quality in the area.



3.13 A range of air pollution emissions data and maps, with emissions broken down by sector is available from the web site of the National Atmospheric Emissions Inventory (<http://www.naei.org.uk/index.php>).

## 4. Climatic Factors

4.1 The former Carmarthenshire Climate Change Strategy, the current LDP and the Well Being Assessment for Carmarthenshire (2017) all recognise the vulnerabilities (and opportunities) that face the County in relation to climate change.

### Climate Change

4.2 Rising sea levels are anticipated to impact not only the 5,587 properties in Carmarthenshire already at risk of tidal and rising river level flooding, but additional properties along the county's coastal and river communities. Conversely potential impacts such as a rise in grassland productivity and extended tourist seasons are also likely to impact Carmarthenshire. It is important to harness the positive and mitigate the negative consequences all of these issues for the economic, environmental, cultural and social well-being of individuals and communities affected (Wallingford, 2012).

4.3 A horizon scanning approach allows for such scenarios to be explored in spatial terms. For example, settlements and commercial interests along the Carmarthenshire coastline may be increasingly susceptible to flooding from the sea. In addition, increased flooding within river valleys is likely to put increased numbers of properties and transportation infrastructure under threat from both out-of-bank flows and surface water run-off. Climate change may also create a shift in agricultural activity/productivity and vulnerable members of the community may be at increased risk from the increased likelihood of extremes of temperature.

4.4 In 2016, 941 megawatts of domestic electricity and gas were consumed within Carmarthenshire. However, this represented a decrease by 4.9% since 2012. In addition in 2015, total CO<sub>2</sub> emissions in Carmarthenshire were 1212.7 kilotonnes. This figure has decreased by 8.3% since 2011. Similarly the 2015 the total CO<sub>2</sub> emissions per head in Carmarthenshire of 6.6 tonnes. Has also decreased by 8.3% since 2011.

4.5 The climate change risk assessment for Wales (January 2012) presents the findings of an assessment of climate change risks for Wales, which has been completed as part of the UK Climate Change Risk Assessment (CCRA).

4.6 From the results of this assessment, the potentially most significant threats for Wales from climate change appear to be:

- Changes in soil conditions, biodiversity and landscape as a result of warmer, drier summers.
- Reductions in river flows and water availability during the summer, affecting water supplies and the natural environment;
- Increases in flooding both on the coast and inland, affecting people, property and infrastructure;
- Changes in coastal evolution including erosion and coastal squeeze, affecting beaches, intertidal areas and other coastal feature;
- Changes in species including a decline in native species, changes in migration patterns and increases in invasive species;
- Increases in the risk of pests and diseases affecting agriculture and forestry. The risk to livestock is a particular concern.

4.7 The potentially most significant opportunities identified for Wales from climate change appear to be:

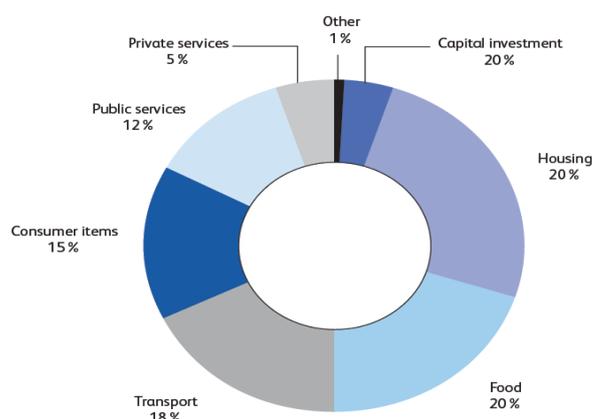
- Increases in grass yields, allowing a potential increase in livestock production; and
- Increases in tourist numbers and a longer tourist season.

4.8 As a largely rural county, Carmarthenshire may be disproportionately affected by both positive and negative impacts of climate change as explored in the Climate Change Risk Assessment for Wales. By 2050 winter rainfall is predicted to increase by 14% and summer rainfall to decrease by 16% which may increase the likelihood of flooding in the county, particularly in inland rural areas already subject to flooding as a result of surface run off water. Even modest flooding events can significantly impact on the physical and mental wellbeing of the individuals affected for many years after the actual flooding event and the worst effects of flooding are often felt by the more vulnerable in society.

## Ecological Footprint

4.9 Put simply, an ecological footprint can be defined as a measurement of sustainability. The ecological footprint is essentially an accounting system that recognises the impact of every good and service purchased by taking into account all of the energy and resources used to make the product. The added value of measurement is the emphasis placed on exploring where reductions can be made through policies which influence consumption patterns and behaviour.

4.10 The below chart depicts the ecological footprint of Wales by theme. The Chart has been lifted from One Wales-One Planet (Welsh Government, 2009). It can be clearly noted that Housing (20%), Food (20%) and Transport 18% take up a sizable proportion of the overall figure. These are all issues that a land use plan can make a contribution towards addressing. The ecological footprint per person for Wales according to 2006 figures was 4.41 and for the UK it was 4.64. The footprint of Wales has increased at an average rate of 1.5% per person between 1990 and 2003. One Wales One Planet sets out a target of reducing the per person figure to 1.88 within the lifetime of a generation.



## 5. Water

### Water Framework Directive

5.1 The Water Framework Directive (WFD) establishes a framework for the protection of surface waters (rivers, lakes, estuaries and coastal waters) and groundwaters. Its purpose is to prevent deterioration and improve the status of aquatic ecosystems, promote sustainable water use, reduce pollution of groundwater and contribute to mitigating the effects of floods and droughts.

5.2 The Directive requires the water quality/quantity of our rivers, lakes, groundwater, estuaries and coastline is assessed using ecological (fish, invertebrates, plants etc.) and chemical (nutrients, pesticides, etc.) monitoring.

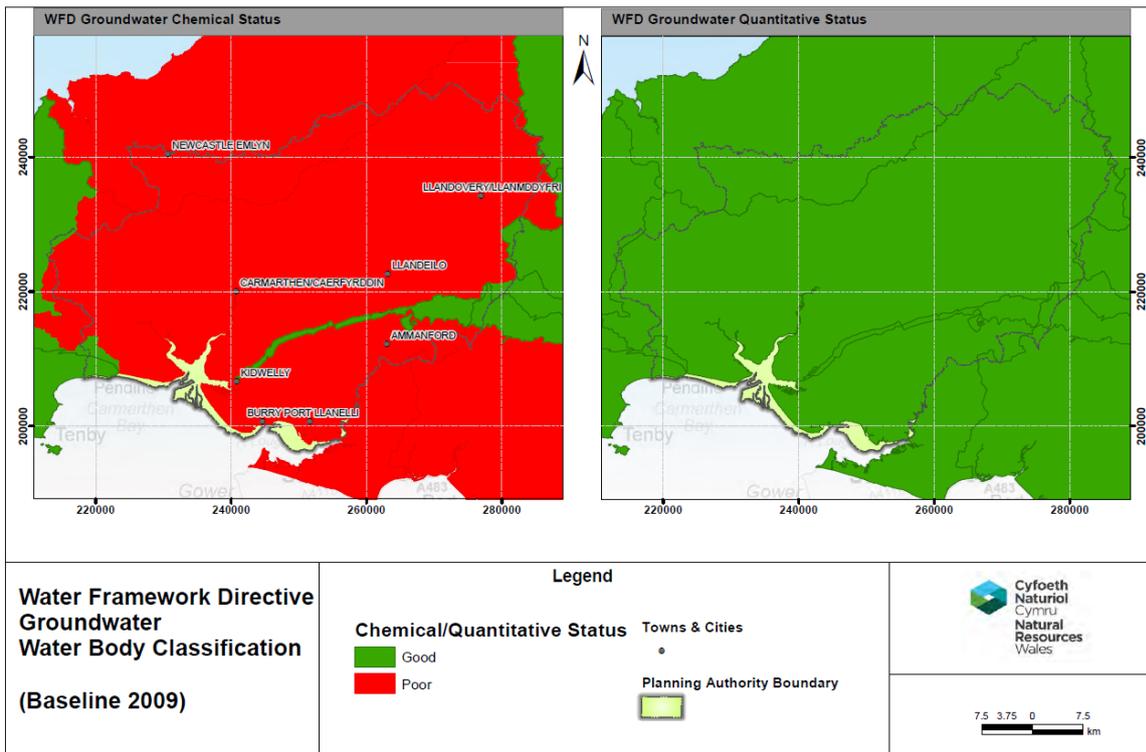
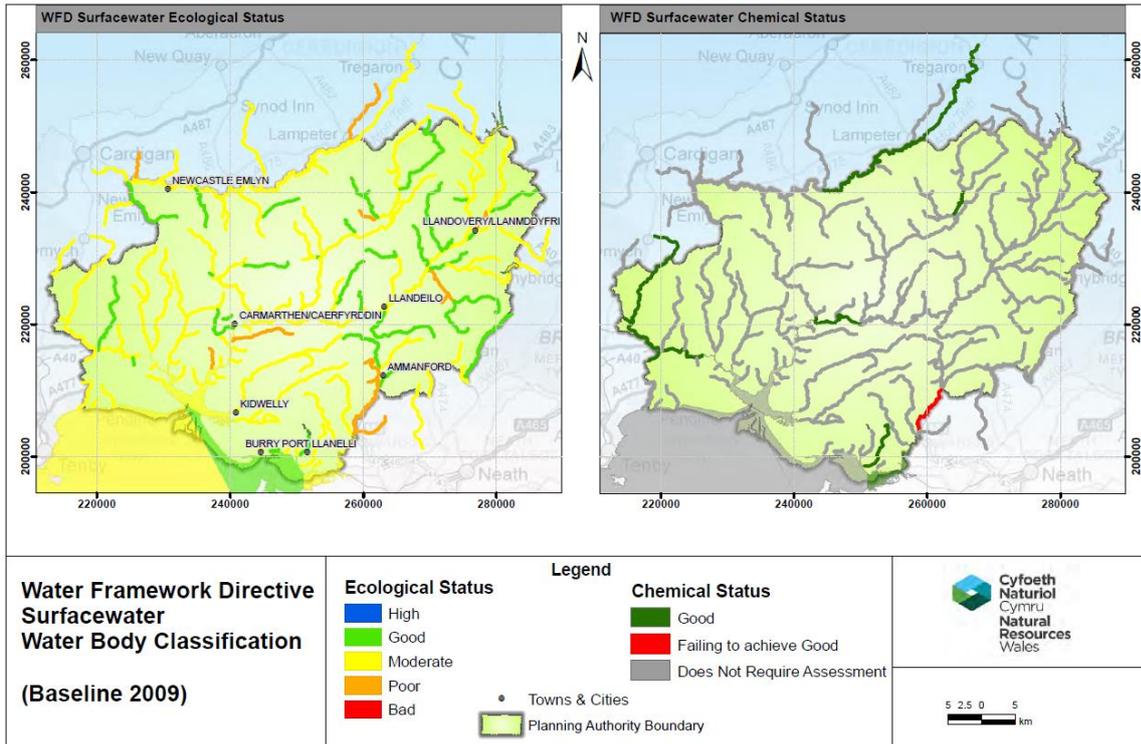
5.3 Waterbodies are assigned a status of health which is represented by colours on the map. Water bodies, that are classified as 'Bad', 'Poor' or 'Moderate' are failing the EU Water Framework Directive standards and these waterbodies will need to improve to at least 'Good' ecological status by 2027.

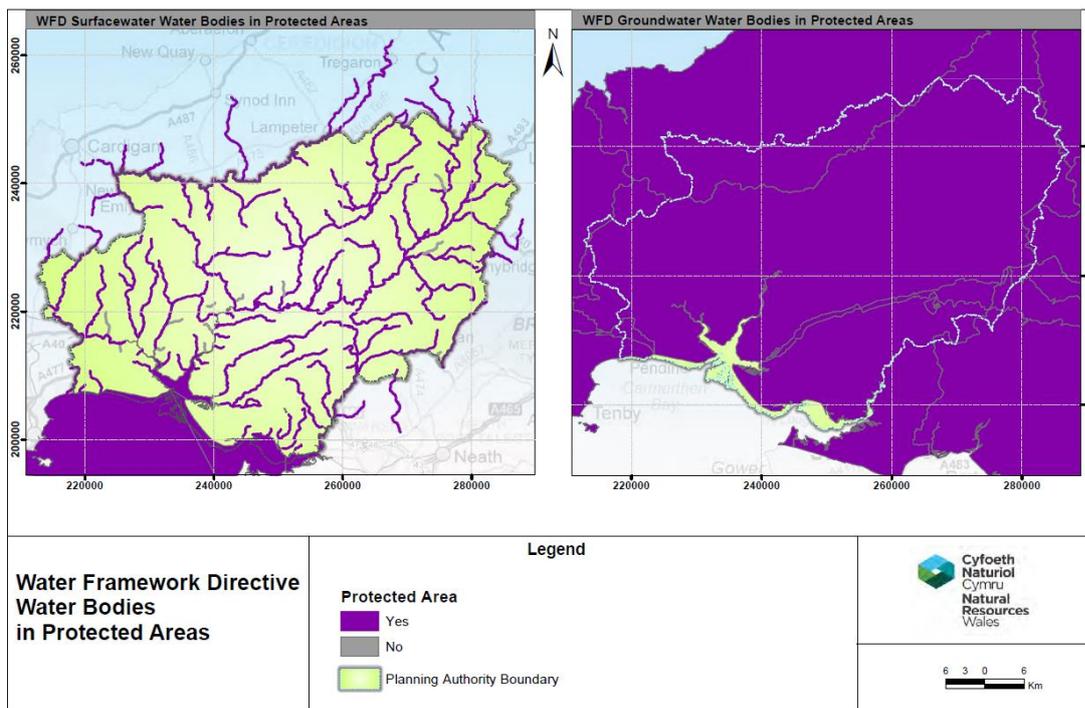
5.4 Overall water quality in the County has been improving with the majority of rivers reaching moderate to good ecological status under the water framework directive. Many of the waterbodies within the wider Tywi catchment, in the east of the county are moderate quality due to a legacy of historic metal mining. This often coincides with areas of extensive conifer plantations in the steeper slopes of the upland, many of these are also designated acid sensitive catchments due to their low natural buffering capacity.

5.5 More intensive agriculture in the valley bottoms have often compromised gains in water quality. This is especially true in catchments dominated by intensive dairy production. In addition to their regulatory role NRW locally is actively working with stakeholders to improve ecological and water quality across all water bodies including the Carmarthen Bay and estuaries.

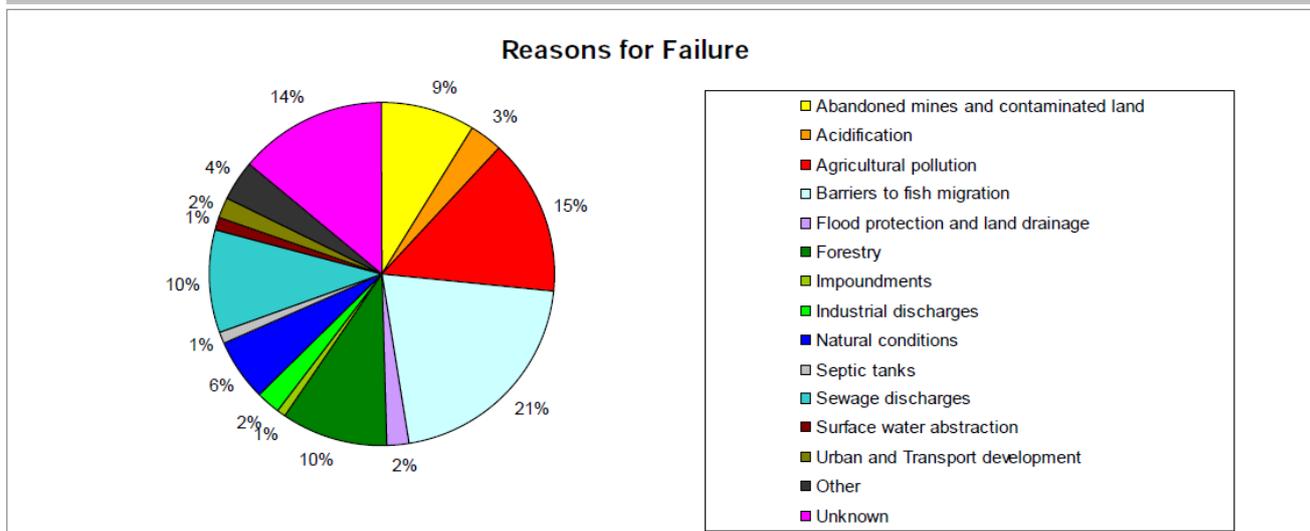
5.6 Our EU designated bathing waters are monitored from May to September for contamination from faecal indicator organisms. Bathing waters are classified annually according to the quality of the water (Excellent, Good, Sufficient, Poor). At the end of the 2015 season the beaches were classified and all designated bathing waters in Wales met the sufficient standard or above. Carmarthenshire is home to two designated bathing waters which have blue flag status as identified in the map above.

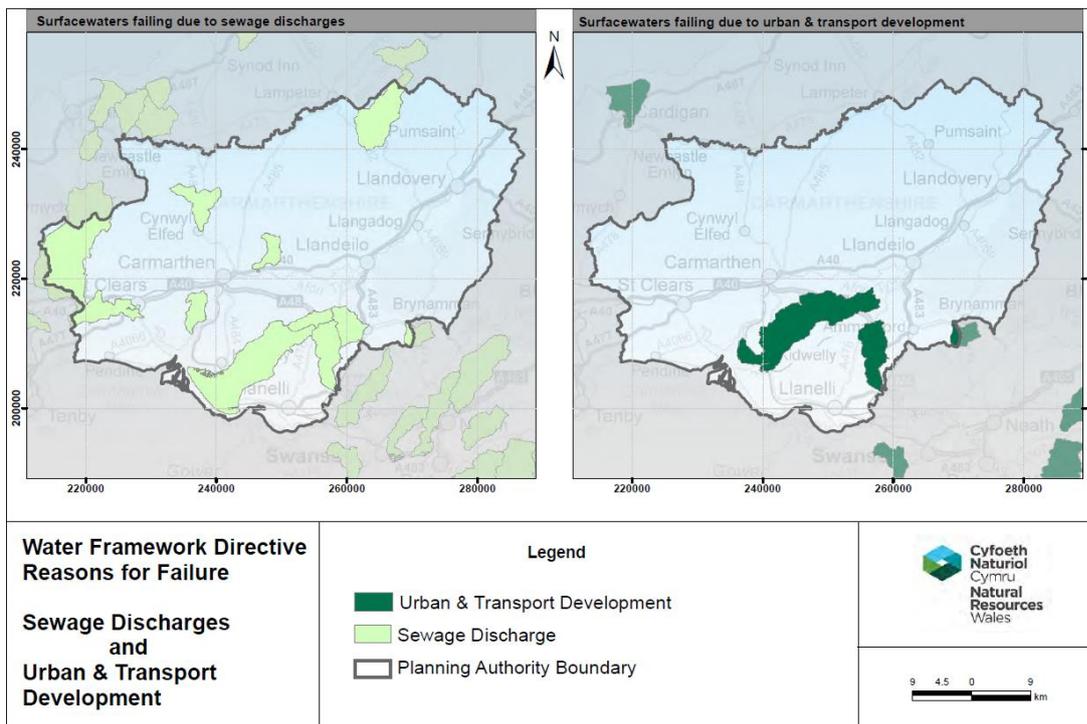
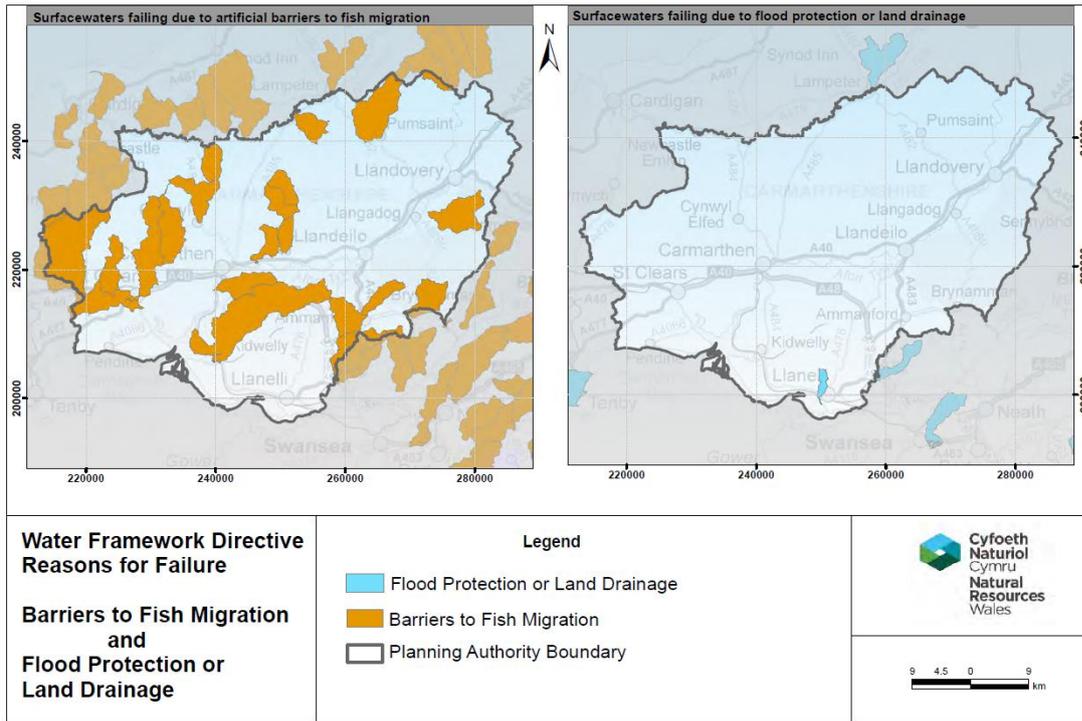
5.7 The following maps and charts have been extracted from the Local Evidence Pack: Carmarthenshire 4/10/2013 as produced by Natural Resources Wales and provide further information in relation to Water Framework Directive Classifications for the County. Further reference should be had to the content of the Pack in relation to Water Quality considerations.

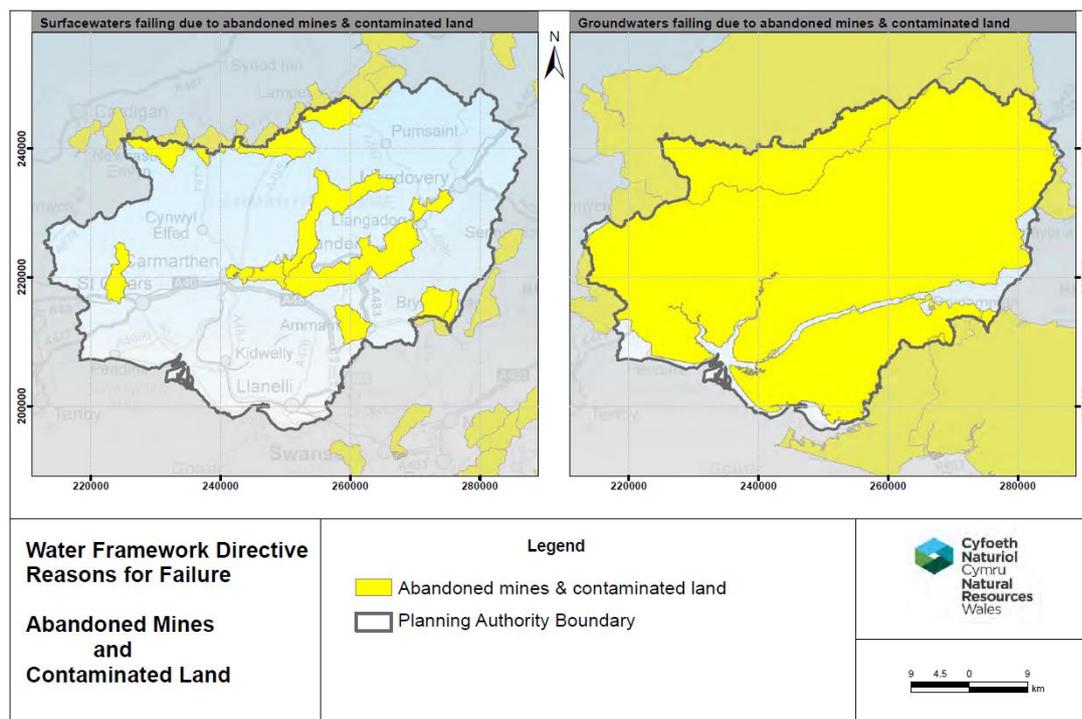




Water Framework Directive: Reasons for Failure for Water Bodies in Carmarthenshire







## Water Supply

5.8 The Dwr Cymru Welsh Water Resources Management Plan (2014) covers a 25 year period, from 2015 to 2040 (also termed the ‘planning period’) and considers what needs to be done to ensure a sustainable and affordable balance between the amount of water we take from the environment and the amount of water we need for our daily lives.

5.9 It is vitally important for a water company to understand its capability to supply water and the demand for water from customers and business within its supply area. The comparison is termed the Supply Demand Balance (SDB).

5.10 In relation to Carmarthenshire, it should be noted that the Tywi Gower zone is shown to be in surplus. However Pembrokeshire and Brecon Portis zones are shown to be in deficit.

5.11 The Tywi Conjunctive Use System is the largest WRZ in South West Wales, extending in the east from the Vale of Glamorgan to west of Carmarthen and stretching northwards past Llanwytrd Wells.

Figure: DCWWs abstractions in South West Wales subject to the review of consents process - Dŵr Cymru Welsh Water - Water Resources Management Plan, April 2014

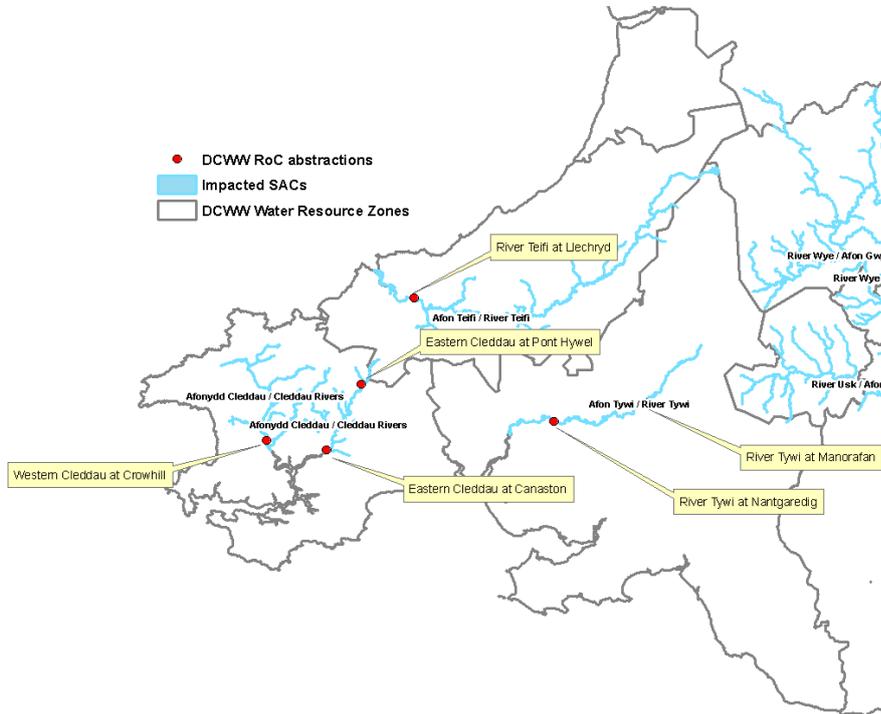
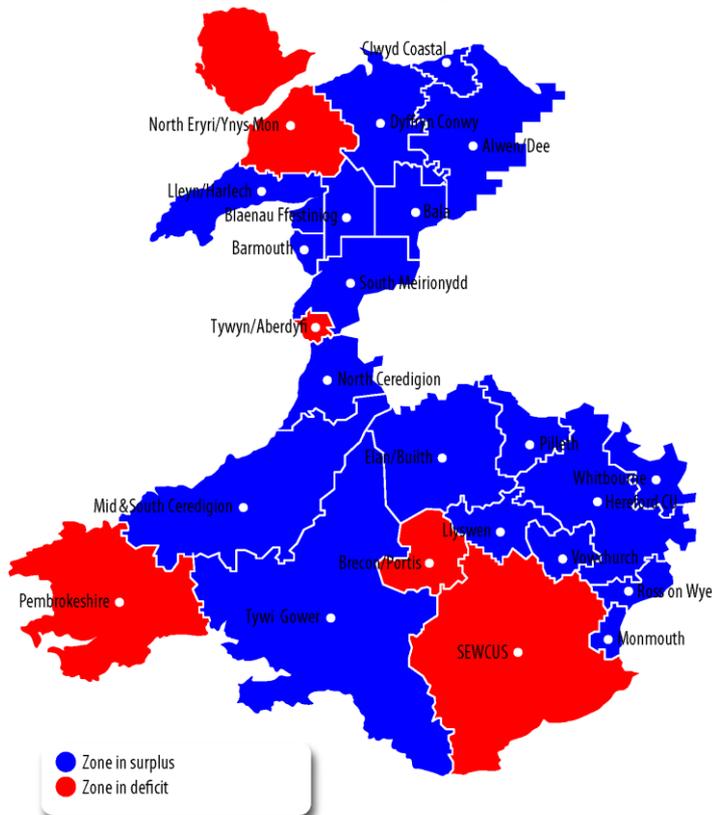


Figure: Water Resource Management Plan Assessments- Dŵr Cymru Welsh Water (Source: Water Resources Management Plan, April 2014)





## 6 Material Assets

### Highways and Transportation

6.1 Carmarthenshire is located on the A40, A477 and A48 trunk roads with connections to the west providing links to the Irish ferry ports, which with the M4 forms part of the Trans-European Network. The east-west link is further emphasised by the West Wales railway line which extends from Swansea (and the wider rail network) through to Pembrokeshire via Carmarthen and Llanelli. The West Wales line also forms part of the Trans-European Network linking to and from the Irish Ferry Ports in Pembrokeshire. The Heart of Wales railway line extending from Swansea through eastern parts of the County through to Shrewsbury offers additional transport benefits albeit based on a limited service.

6.2 The principal highway network within the Plan area includes the A48 trunk road leading to and from the M4 motorway and its connections through South East Wales and beyond. The A40 and A483 trunk roads offer links through the County to Mid and North Wales as well as to the Midlands and the North of England. Further access to the north of the County and beyond into Central and North Wales is provided via the A484 and the A485. The County is also served by a number of A-roads as well as numerous B-classified roads each representing important components of the highway network.

6.3 The following table illustrates the length (Km) of the road network in Carmarthenshire, which in itself represents some 44% of the regional network, and illustrates the amount of the County accessed by B and lower classification roads, which is in part a reflection of the rural extent of the County and emphasises the challenges to delivering a sustainable integrated strategy for the area.

<b>Carmarthenshire Road Network – Road Length (Km)</b>	
M4	5
Class A (Trunk)	147
Class A (County)	247
Class B and C	1,579
Minor Surfaced	1,496
<b>Total</b>	<b>3,474</b>

Source: Adopted Carmarthenshire Local Development Plan

6.4 In relation to car availability within Carmarthenshire as at 27<sup>th</sup> March 2011 only 18.8% of households within the County did not have access to a car or van whilst 43.5%, 27.6% and 10.2% had access to one, two or three (or more) cars or vans respectively<sup>2</sup>.

6.5 In terms of traffic volumes the County has in recent years seen a year on year increase since 2012 with the 2016 levels now at a level (2.00) which surpasses that of 2007 (1.94)<sup>3</sup>. Some 38% of this volume utilises the County's Trunk Road Network, with 34% of the volume through 'minor' classified roads, reflecting the rural nature of large parts of the County<sup>4</sup>.

<sup>2</sup> People and vehicle licensing and ownership – Welsh Government 2012

<sup>3</sup> Volume of road traffic by local authority and year (StatsWales)

<sup>4</sup> Volume of road traffic by local authority and road classification (StatsWales)

## Waste

6.6 Carmarthenshire falls within the South West Wales regional area for waste management. Industrial & commercial waste makes up the most significant proportion of the total controlled waste stream within the region – 252,000 tonnes of residual (non-recycled) waste produced in 2012. Controlled waste includes municipal solid waste, commercial and industrial waste, construction and demolition waste, hazardous waste and the controlled fraction of agricultural waste. 135,000 tonnes of residual construction and demolition waste was produced in 2012. More up to date data is available for municipal solid waste, of which 161,000 tonnes of residual waste was produced in the 2016/17 period. In terms of hazardous waste, the rates produced have generally remained at a similar level in recent years. Whilst Wales does not have any hazardous waste landfill sites, the country is well served by other types of facilities that deal with such waste. There is no recent data available for agricultural waste.

6.7 The proportion of municipal waste recycled or composted in Carmarthenshire for 2016/17 was 66.2%. This is above both the average for the SW West Wales region, 64.3% and the average for Wales of 63.8% (*StatsWales*). For the region as a whole, the reliance upon landfill for residual waste has been steadily decreasing over recent years from 151,120 tonnes in 2012/13 to 69,398 tonnes in 2016/17. This is an encouraging sign, and is in accordance with national targets as set out in the national waste strategy *Towards Zero Waste*.

6.8 According to Natural Resources Wales (2012), the SW Wales region has the highest preparation for re-use, recycling & composting rates for industrial & commercial waste (67%). However landfill was found to be the second highest method of waste management (21%). For commercial & industrial waste, Natural Resources Wales (2012) found that landfill was the predominant waste management method in SW Wales (57%) with recycling being second (31%).

6.9 Due to the decreasing amounts of waste going to landfill, the remaining void space for the region lies above the threshold set out in TAN21 (7 years). However, parts of the SW Wales region are reliant on utilising areas outside the region to cater for residual waste (including contracts with facilities abroad). There is a noticeable lack of alternative facilities to deal with residual waste within the region and this is an issue that will need to be monitored closely over the coming years.

## 7 Soils

### Soil Quality

7.1 In Wales as a whole, there is a high incidence of sensitive habitats exceeding critical loads with respect to acidification (acid deposition) and eutrophication (nutrient enrichment). Critical values represent levels above which pollutants are considered to cause significant harm with respect to acidification and eutrophication (National Assembly for Wales 2007b). It should be noted that the trends identified for acidification rates of sensitive habitats is likely to be associated with the fact that soils in upland areas have a poor neutralising capacity and are therefore more vulnerable to the effects of acidification (National Assembly for Wales 2007b).

7.2 Between 2002 and 2004, the percentage of sensitive habitats exceeding critical loads for acid deposition was 81.1%. For the same period, the percentage of sensitive habitats where pollutants causing eutrophication exceeded critical loads was 86.1% (National Assembly for Wales 2007b). Such values appear to be particularly high in comparison to rates of exceedance for the UK for acidification and eutrophication (55.9% and 59.5% respectively).

7.3 Data on critical loadings of nutrient nitrogen loads by nitrogen deposition (Centre for Ecology and Hydrology 2004) indicate that the degree of breaching of critical loads in soils is predicted to reduce, however that critical loadings will still be breached in parts of Carmarthenshire in 2010. Similarly, critical loadings by acid deposition in soils are predicted to decrease by 2010, though areas will remain where critical loads are still exceeded.

7.4 Soils are an important carbon sink, and therefore soil conservation can contribute to buffering the predicted effects of climate change.

### Geology

7.5 The solid and drift geology of the County can be split into a number of broad categories:

- The Silurian series - present in the northernmost part of the County.
- Surrounding the Silurian series is the Ordovician series which constitutes the dominant strata of the County.
- Old Red Sandstone is present and extends in a broad band from west to east in the central areas of the county.
- Carboniferous Limestone is present around Pendine and in a narrow band from Kidwelly in the south and extends eastwards to the north of Ammanford and into the Brecon Beacons National Park.
- Millstone Grit Series is also present in a narrow band and overlies the carboniferous limestone series.
- The middle and lower coal measures are present in the South East of the County.
- Alluvium is present in the River valleys of the Tywi, Teifi and Loughor as well as the low-lying coastal areas around Pendine, Pembrey and Llanelli.

## **Geodiversity and Geoconservation**

7.6 The importance of conserving sites which reflect the geodiversity of the UK landscape and natural environment is now recognised as being of major importance in the context of sustainable land-use planning and development. Such sites can provide access to key bedrock, superficial deposits and soil units which contain instructive evidence of previous periods of environmental change, including climate and land-use change; many chart the history of local mineral extraction and associated industrial development; others were, and remain, the only source for building stones that contribute to our architectural heritage.

### **Regionally Important Geodiversity Sites (RIGS)**

7.7 RIGS are currently the most important places for Earth Science conservation outside statutorily protected land such as Sites of Special Scientific Interest (SSSI). RIGS form a network within a county or region of geological sites that are considered worthy of protection for their Earth Science importance. They are identified by locally developed criteria which may emphasise the local educational, historical and recreational resource rather than its national scientific significance which is the remit of SSSI status. RIGS form a network of second tier sites that supports the SSSI sites but which do not have statutory protection. However, the designation of RIGS is one way of recognising and therefore protecting important Earth science and landscape features through the local authority planning system for the future.

### **RIGS within Carmarthenshire**

7.8 The British Geological Survey (BGS) has provided RIGS data for Carmarthenshire as part of the South Wales RIGS audit. The data identifies 32 RIGS sites within the SE part of the County. Further sites are known to have been evaluated in other parts of the County by the South West Wales RIGS Group. The BGS will be consulted as part of the LDP review process in respect of any changes/updates to RIGS.

## **Hydrogeology**

7.9 Groundwater is a significant resource supplying base-flows to local rivers and wetlands. Historically it has been exploited for drinking water and commercial purposes. The carboniferous limestone formations comprise a major aquifer that bears water that can be used to supply large abstractions for public or other purposes.

7.10 Carboniferous limestone at Pendine is used for public water supply abstraction.

7.11 The Old Red Sandstone and Millstone Grit rock formations are minor aquifers and are locally important sources of groundwater, although faulting may reduce the effectiveness of these rocks as aquifers. The coal measures in the southeast of the county also constitute a minor aquifer.

7.12 The alluvium deposits along the Rivers Teifi, Tywi and Loughor are minor aquifers. In the Teifi, the alluvium gravel deposits are used extensively for public supply and agricultural purposes.

## **Agricultural Land Classification**

7.13 According to the Agricultural Land Classification (ALC) data available, there is no land of the highest grades (Grade 1 and Grade 2) present within Carmarthenshire. A patchwork of Grade 3 land is situated towards the south and southeast of the county following the Tywi river valley, stretching from Llandovery in the east, through Llangadog, Llandeilo and Carmarthen. The majority of land in Carmarthenshire is classified as Grade 4 land, with a small proportion of Grade 5 land situated towards the northeast of the County.

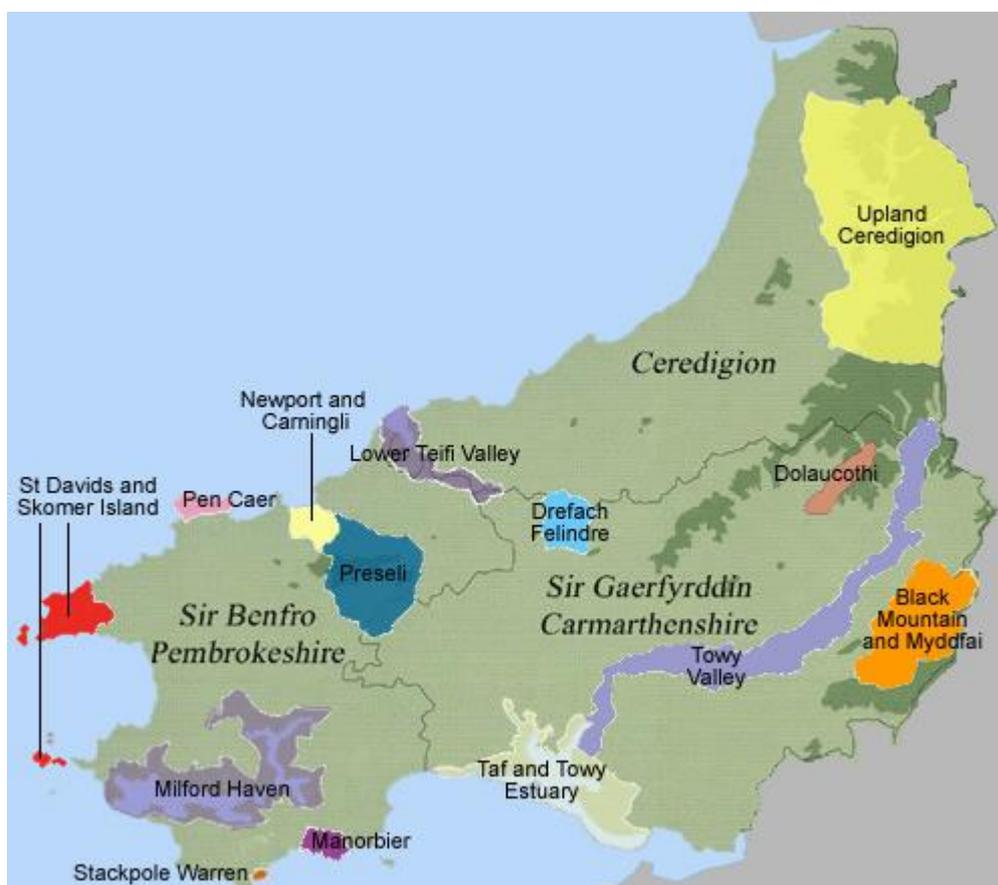
## 8. Cultural Heritage and Historic Environment.

8.1 Given the often large distances between regional centres in Carmarthenshire, towns and villages have historically developed distinctive local identities and cultures, based around industrial and agricultural heritage.

### Landscapes of Outstanding Historic Interest

8.2 There are seven Landscapes of Outstanding Historic Interest that fall wholly or partly within Carmarthenshire:-

- Tywi Valley, Myddfai and Black Mountain
- Tywi Valley
- Preseli
- Dolaucothi
- Taf and Tywi Estuary
- Drefach / Felindre
- Lower Teifi Valley

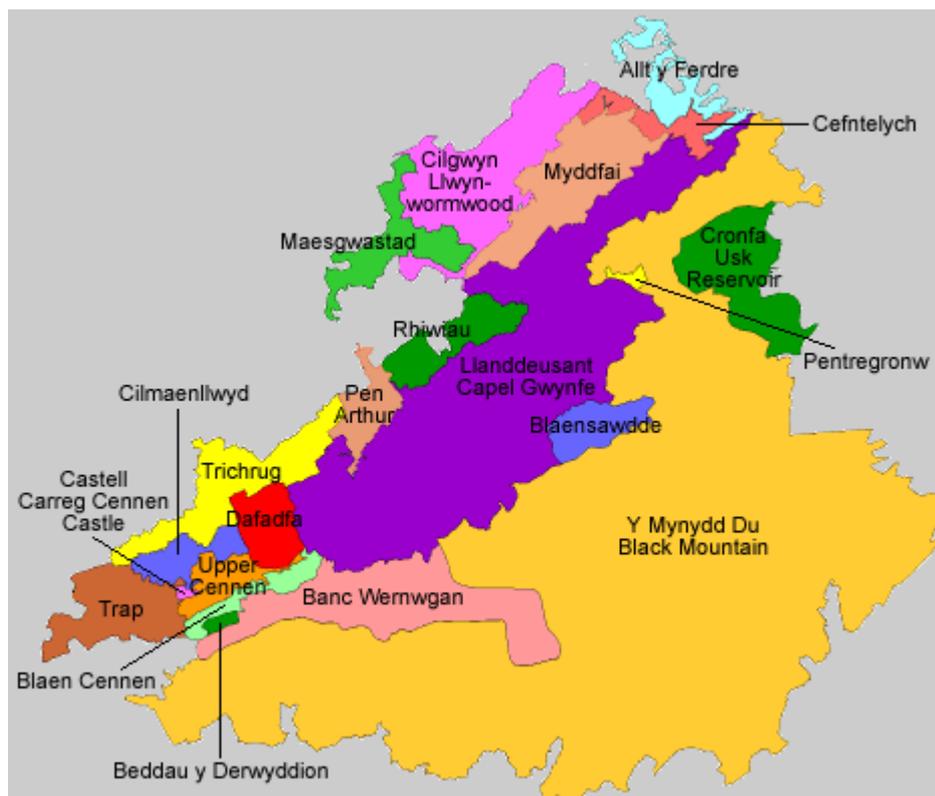


Source: Dyfed Archaeological Trust (<http://www.dyfedarchaeology.org.uk/>)

8.3 PPW states that: “In preparing their development plans, local planning authorities should take account of the register of historic parks and gardens in Wales and they should develop locally specific policies that will contribute to their protection and enhancement. Similarly local planning authorities should also take into account areas included in the register of historic landscapes in Wales and where it is considered appropriate to do so, develop locally specific policies that will contribute to their conservation<sup>5</sup>.”

8.4 Further details in respect of the above Landscapes of Outstanding Historic Interest and their historic landscape characterisations is set out below.

### Tywi Valley, Myddfai and Black Mountain



Source: Dyfed Archaeological Trust (<http://www.dyfedarchaeology.org.uk/>)

8.5 **Trap** character area consists of enclosed land of small irregular enclosures and pockets of larger regular enclosures. The settlement pattern is of dispersed houses and farms with a cluster of 19th century and modern dwellings at Trap.

**Upper Cennen** character area lies in the upper Cennen valley which has heavily wooded steep slopes, and enclosed land with dispersed farms on flatter land.

**Beddau y Derwyddon** character area is a small area of rough and improved pasture surrounded by a dry-stone wall separating unenclosed moorland from lower lying enclosed and settled land.

**Dafadfa** character area is situated on gentle north-facing slopes and consists of improved pasture divided into fairly regular medium-sized fields. The settlement pattern is one of widely dispersed farms. Farmhouses and outbuildings are mostly 19th century in date and stone-built.

**Blaensawdde** character area lies in the upper Sawdde valley at the foot of the Black Mountain. It consists of large dispersed farms, small- to medium-sized fields and woodland.

<sup>5</sup> Planning Policy Wales (Edition 9) – Paragraph 6.4.12

Farmhouses mostly date to the 18th- and 19th-century and are associated with a wide range of outbuildings.

**Cilgwyn-Llwynwormwood** character area contains several former estates. Some of the mansions survive, but the main influence on the historic character by the estates was the creation of a 'parkland' landscape.

**Rhiwiau** character area lies across a ridge. Though formerly enclosed, many of the old banks and hedges are now derelict and the landscape has an open appearance. There are no settlements.

**Pen Arthur Plantation** character area lies across a high ridge and the valley sides of the Afon Sawdde. It comprises of 20th century forestry which has been planted over former fields. Dwellings survive in small clearings in the plantation.

**Trichrug** character area lies across a ridge which rises out of an area of rich farmland. Though formerly enclosed, many of the hedges and dry-stone wall boundaries have broken down and the area is now a patchwork of improved pasture, rough grazing, moorland and conifer plantations.

**Myddfai** character lies in an open valley and consists of dispersed farms and fairly regular fields of pasture. The village of Myddfai with its medieval church provides a focus for the area.

**Llanddeusant-Capel Gwynfe** character area consists of rolling enclosed farmland, dispersed farms and scattered deciduous woodland which fringes open moorland of the Black Mountain.

**Cefntelych** character area lies across a low ridge and consists of improved pasture which has been divided into large fields. Hedges to the fields are now mostly derelict, giving an unenclosed appearance to the landscape.

**Maes-gwastad** character area lies across the valley bottom of the Afon Brân and comprises of large fields of improved pasture which are divided by well-kept hedges, dispersed farms, but very little woodland or trees.

**Pentregroww** character area lies on steep southwest-facing slopes on the edge of the Black Mountain. Though formerly enclosed by dry-stone walls and banks, this area is rapidly reverting to moorland. A deserted farmstead is situated here.

**Allt y Ferdre** character area lies across hills and very steep valley sides. It is entirely composed of woodland, both old deciduous and 20th century conifer plantations.

**Glasfynydd Forest - Usk Reservoir** character area consists of a large 20th century conifer plantation and a 20th century reservoir. Both were established over what was mainly unenclosed moorland.

**Banc Wernwgan - Foel Fraith Quarries** character area occupies the northern edge of the Black Mountain. The land is unenclosed moorland. The remains of the limestone quarrying industry are obvious elements of the historic landscape.

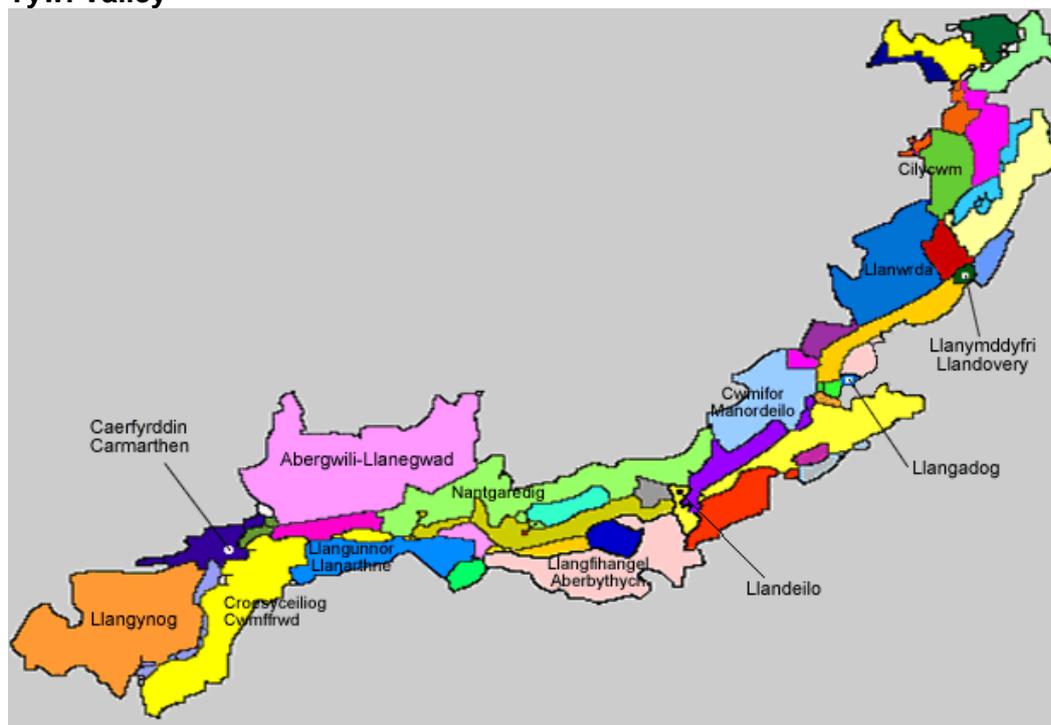
**The Black Mountain - Y Mynydd Ddu** character area is entirely open moorland. It includes the summits of Bannau Sir Gar/Fan Brycheiniog at over 800m, but it mostly consists of rough grazing and blanket peats between 250m and 600m.

**Cilmaenllwyd** character area consists of dispersed farms and cottages, and fairly regular fields of improved pasture. Boundaries comprise banks and hedges. Farmhouses and other buildings mostly date to the 19th century.

**Blaen Cennen** character area lies on the northern fringe of the Black Mountain and consists of dispersed farms and pasture fields.

**Carreg Cennen Castle** character area comprises of a craggy limestone hill on the summit of which is located the substantial remains of a medieval castle.

## Tywi Valley



Source: Dyfed Archaeological Trust (<http://www.dyfedarchaeology.org.uk/>)

**8.6 Llangynog** Llangain character area consists of rolling landscape of small irregular fields, woodland and plantations on steep valley sides and dispersed farms, with small scale modern residential development close to Carmarthen.

**Tywi Tidal Flood Plain** character area is subjected to regular flooding and consequently has few historic landscape components apart from drainage ditches and fences, and navigation aids in the channel of the Tywi.

**Carmarthen** character area comprises the whole of the county town, including the historic core, 20th century housing development and infrastructure.

**Ystrad Tywi: Carmarthen-Llandeilo** character area comprises of the flood plain of the River Tywi. Widely dispersed farms on islands of marginally higher ground, and distinctive hedgerow trees lend a parkland appearance to the landscape.

**Abergwili - Llanegwad Parish** character area lies on the northern side of the River Tywi and essentially consists of small irregular fields of improved pasture, deciduous woodland on steep valley sides and dispersed stone-built farms.

**Morfa Melyn** character area is that small portion of the flood plain of the River Tywi upstream of Carmarthen that is subjected to occasional tidal inundation. It essentially consists of open pasture, with few boundaries.

**Llangunnor - Llanarthne Parishes** character area lies on north-facing slopes on the south side of the Tywi valley and consists of small fields, woodland and dispersed small farms.

**Abergwili** character area consists of a village of mainly 18th- and 19th-century houses along the A40 road (now bypassed), the medieval church, the modern Bishop's Palace of St David's, the old palace (now Carmarthen Museum) and its parkland grounds, and modern residential development.

**Croesyceilog - Cwmffrwd** character area is enclosed into medium-sized fields of improved pasture. Small stands of woodland are mainly confined to steep slopes. The ancient settlement pattern of dispersed farms is supplemented by more recent linear development along main roads that radiate out from Carmarthen.

**The National Botanic Garden of Wales** character area encompasses the old gardens and parkland of Middleton Hall. This landscape is currently undergoing restoration and renewal, including the construction of a large glasshouse.

**Llanarthne** character area is centred on Llanarthne village, which has an old core based on the medieval parish church, but contains much modern development, and includes the surrounding rich farmland and dispersed farms.

**Llanfihangel Aberbythych** character area essentially consists of rolling enclosed farmland, woodland on steep valley sides and dispersed farms. 19th- and 20th century residential development is restricted to small hamlets and linear development along main roads.

**Nantgaredig - Derwen Fawr** character area lies across low rolling hills on the north side of the Tywi valley and consists of large dispersed farms in a landscape of small- to medium-sized fields. Modern linear and nucleated development is concentrated along the A40 road which passes through the area.

**Llangathen** character area is centred on Llangathen church and associated settlement, and Aberglasney house and gardens which are currently being restored. The overall landscape is of enclosed pasture and dispersed farms.

**Golden grove/Gelli Aur** character area includes the mansion, gardens and park of Gelli Aur, conifer plantation, parts of which encroach across the former park, and the estate village of Llanfihangel Aberbythych.

**Allt Pant Mawr** character area consists of the heavily wooded slopes of the south side of the Tywi valley. Interspersed with the woodland are smallholdings and cottages set in a distinctive system of small fields.

**Dinefwr Park** character area essentially consists of the 18th- and 19th-century house, gardens and park of Dinefwr together with the castle. The house and most of the park are owned by the National Trust and retain many of their historic elements.

**Ystrad Tywi: Llandeilo - Llangadog** character area comprises the flood plain of the river. There are no settlements and no woodland, though the plain is divided into a rather loose field system of medium- to large-sized enclosures.

**Cwmifor - Manordeilo** character area lies across low rolling hills on the northern side of the Tywi valley. It consists of ancient settlement pattern of dispersed farms, enclosed pasture and small stands of woodland, with 19th- and 20th-century linear and nucleated settlement along the A40 road.

**Llandeilo** character area is urban in character. The historic core of the town which consists mainly of 18th- and 19th -century buildings is grouped close to the A483 road and around the parish church. Later 19th-century and 20th-century development lies outside the core.

**Allt Tregyb** character area lies on north-facing slopes of the Tywi valley and consists of deciduous woodland interspersed with small irregular fields and dispersed small farms, smallholdings and cottages.

**Felindre** character area comprises of a small nucleated settlement of mostly 19th and 20th century houses, outside of which lie several loosely dispersed smallholdings in an enclosed strip field system.

**Carreg-Sawdde Common** character area consists of an unenclosed common, in the centre of which lies a cluster of 19th- and 20th-century buildings - encroachments on to the common land.

**Llangadog**, character area, is centred on the medieval church, Church Street and a small 'square'. Buildings on the square are imposing and 18th- and 19th-century in date. Later 19th-century residential development and 20th century housing and light industrial units lie on the outskirts of the town.

**Cefngornoeth** character area lies across a low, hilly ridge on the north side of the Tywi valley, and consists of dispersed farms, irregular fields and small stands of woodland.

**Ystrad Tywi: Llangadog-Llandoverly** character area consists of the flood plain and lower slopes of the Tywi valley. Large dispersed farms and a regular field system characterise the area. Distinctive trees lend a parkland appearance to the landscape.

**Abermarlais** character area is based on the old house, gardens and park of Abermarlais. The house has now gone and the park and gardens decayed. Situated between old deciduous woodland and conifer plantations, the open feel of the park still remains.

**Llansadwrn - Llanwrda** character area contains the two 19th century villages of Llansadwrn and Llanwrda which are set in a landscape of small fields and dispersed farms on low, rolling hills on the northern side of the Tywi valley.

**Llandovery** is an urban character area and consists of the historic core of town which includes the medieval castle and 18th- and 19th-century buildings, together with the outlying parish church, Llanfair-ar-Bryn medieval church and modern development.

**Maesllydan** character area developed out of an open field system. Pasture enclosed into regular fields contains traces of ridge and furrow cultivation. Settlement is predominantly of large dispersed farms.

**Llwynhowell** character area comprises substantial farms distributed along the lower slopes of the River Tywi set in a landscape of small irregular fields of improved pasture, and deciduous woods.

**Cilycwm** character area consists of the small village of Cilycwm and dispersed large farms. These are set in a landscape of irregular fields. The hedges to many fields are overgrown lending a wooded aspect to the area.

**Rhandirmwyn** character area lies in the upper valley. Dispersed farms and 19th century lead mining communities are the dominant settlement types. Fields are small and irregular. Woodland, overgrown hedges and conifer plantations lend this area a heavily wooded aspect.

**Cwm-y-Rhaeadr** character area consist of very steep valley sides. Most of the valley sides have been planted with conifer plantations, but a little open moorland is present. The area lies above the rich farmland of Cilycwm character area.

**Nant-yFfin** character area lies in the upper, steep-sided valley of the Tywi and its tributaries. Historic landscape components consist of dispersed farms - 19th century stone buildings - small irregular fields and deciduous woodland.

**Craig Ddu** character area consists of very steep, craggy valley sides and a high moorland plateau. The valley sides are cloaked with deciduous woodland interspersed with rough grazing and moorland.

**Dinas** character area lies in the upper Tywi valley and consists of steep valley sides covered in dense deciduous woodland, with open moorland on craggy slopes and a high plateau.

**Craig y Bwch** character area comprises of unenclosed upland on the eastern side of the Tywi valley. From the steep valley sides, the area levels out onto an undulating plateau of rough grazing.

**Carn Goch** character area consists of a low hill of open moorland on which lie the massive stone-built ramparts of a major Iron Age fort and a smaller satellite fort.

**Fforest** character area occupies a long ridge between the Tywi and Brân valleys. The field pattern of earth banks and hedges has now largely broken down, and wire fences provide stock-proof barriers. Land is improved or rough grazing, with scrubby woodland on steep slopes.

**Dryslwyn** character area consists of the earthwork and masonry remains of the medieval castle and town of Dryslwyn which lie on a low hill within the Tywi valley.

**Bethlehem** character area lies on the south side of the Tywi valley and comprises of a landscape of small, irregular fields, small stands of deciduous woodland and dispersed farms.

**Garn-wen** character area lies on northwest-facing slopes above the Tywi valley. It consists of irregular fields which run out onto high ground above, and two large farms, Garn-wen and Tan-y-lan.

**Cynghordy** character is located on the western valley side of the Afon Brân and the eastern valley side of the Afon Tywi, the area comprises of small, irregular pasture fields, woodland, and dispersed farms.

**Llanwrda Parish** character area lies across rolling hills to the north of the Tywi valley and consists of small irregular fields, dispersed farms and scattered woodland.

## Preseli



Source: Dyfed Archaeological Trust (<http://www.dyfedarchaeology.org.uk/>)

8.7 The Preseli Historic Landscape transcends administrative boundaries with the following characterisation areas most directly contained either in whole or within part within Carmarthenshire.

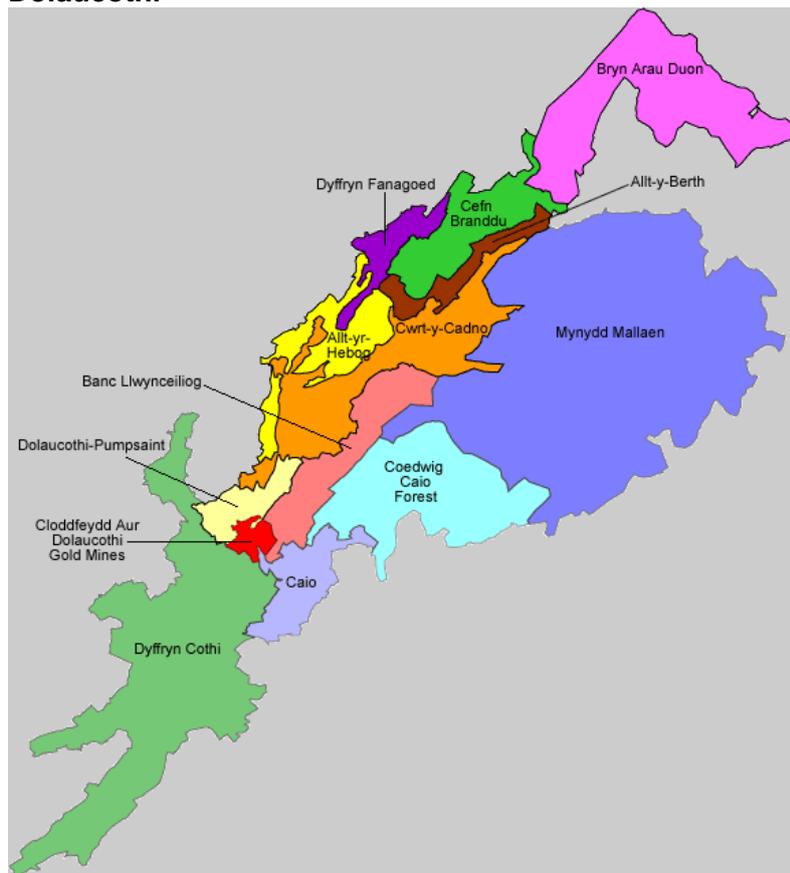
**Llangolman** historic landscape character area consists of irregular fields, dispersed farms and cottages, narrow lanes and woodland on steep valley sides. Buildings are of varied character and range from large farmhouses through to single storey cottages. Stone is the traditional building material. Boundaries are of earth or earth and stone, and are topped with hedges. Pasture is the predominant agricultural land-use.

**Carn Wen** historic landscape character area consists of a small unenclosed hill of scrubby land. The remains of a quarry abandoned in the late 20th-century are a prominent landscape element. There are no settlements, trees or roads in this area.

**Glandy Cross** historic landscape character area is centred on the A478 road. A system of fairly regular fields with dispersed farms and cottages lies either side of this road. Late 20th-century linear housing and other buildings have developed at Glandy Cross and Efailwen. Prehistoric ritual and funerary monuments, including Meini Gwyr stone circle, are a characteristic of this area.

**Pentre Galar** historic landscape character area was open common land until it was enclosed by Act of Parliament in 1812. The regular field system, dispersed farms and roads all date to this period. Stone is the principal building material. Boundaries are of earth banks topped with hedges. Land-use is improved pasture with tracts of rougher ground.

## Dolaucothi



Source: Dyfed Archaeological Trust (<http://www.dyfedarchaeology.org.uk/>)

**8.8 Dolaucothi - Pumpsaint** character area lies across the valley floor of the Cothi and consists of Pumpsaint village, and the park and gardens attached to the former Dolaucothi House. The village mostly consists of 19th century buildings erected in a distinctive style by the Dolaucothi estate in the 1850s.

**Cwrt-y-cadno** character area lies in the upper Cothi valley. It is a landscape of dispersed farms, small fields and woodland. Many of the farms were built by the Dolaucothi estate in the 1850s in a distinctive 'pattern-book' style.

**Dolaucothi Gold Mines** character area consists entirely of the remains of the gold mining industry dating from Roman times to the 20th century. The National Trust own the site, and they have re-erected examples of mine buildings as visitor attractions.

**Caio** character area is centred on the village of Caio. However, the main components of this landscape comprise dispersed farms and irregular fields of pasture which are divided by earth banks and hedges.

**Caio Forest** character area consists of a large 20th century conifer plantation which has been established over unenclosed moorland.

**Banc Llwynceiliog** character area lies on the upper valley side of the Afon Cothi. Old enclosures of banks and hedges have now broken down and the area is essentially open improved pasture. Linear earthworks of Roman aqueducts which run along the valley side are prominent landscape elements.

**Mynydd Mallaen** character area comprises of a high moorland plateau which is surrounded by lower lying farms and fields and flanked by forestry.

**Dyffryn Fanagoed** character area lies across the floor and lower slopes of a high, open valley, and consists of dispersed farms, the buildings of which are mostly 19th century, and small irregular fields.



8.11 The present coastline is a changing one, owing to continuing sand movement, but sea walls and drains, fronted by tidally inundated morfeydd or salt marshes, safeguard the reclaimed land. Archaeological evidence, the study of relict and active features in the present landscape, and the use of aerial photographs, cartographic and documentary sources, have been successfully combined to reconstruct the evolution of this largely man-made landscape.

8.12 The geological inheritance of a line of former sea cliffs with a raised beach at their base form the northern boundary of the western, or Laugharne Marsh and the Gwendraeth estuary. Although now quarried away, caves in the limestone of Coygan Bluff on this former coastline have produced Upper Palaeolithic material, and excavation of the hillfort there prior to quarrying yielded a long occupation sequence from the Neolithic to the early medieval. More research is required to establish the position of the coastline in the Roman and medieval periods, but there is no doubt that the castle towns of Kidwelly and Laugharne were much more open to the sea than at present.

8.13 Many of the finds of prehistoric and medieval date from Laugharne Burrows cannot now be provenanced, but the position of shell middens within both dune systems, which have produced medieval pottery is crucial to the chronology of coastal change and enclosure. They would benefit from modern excavation.

8.14 The former Witchett Brook divided Laugharne Marsh into East and West Marsh, the latter used as saltmarsh pasture in the Middle Ages before any sea walls were built, and there may also have been medieval settlement on the slightly raised sites of some of the present day farms on East Marsh. Although partly within the present Ministry of Defence range at Pendine, traces of 17th century sea walls survive and the successive enclosures of the early 19th century are well preserved. Access from Coygan quarry to the river at Laugharne was provided by a tramway and small creek, Railsgate Pill, still well-preserved, evidence for the now vanished era of coastal trade which persisted in the small estuary ports until the Second World War.

8.15 The enclosure of Pembrey Marsh was, like Laugharne, made possible by the development of sheltering seaward sand dunes. Its industrial history and legacy is more complex with a remarkable series of early canals leading to shipping places and quays. These were developed to export the anthracite coal of the South Carmarthenshire coalfield, from the early 18th century onwards. They led across lands enclosed from the sea inland of Pembrey Burrows by the late 17th century, if not earlier. Earthwork traces of cultivation and drainage techniques in both Marshes are evident both from the air and on the ground on farmlands seen by improvers, such as Charles Hassall in the early 19th century, as test beds for modern agricultural techniques. This contrasts with the remarkable survival, in the Hugden belonging to Laugharne Corporation, of a medieval open field system, still communally apportioned and unenclosed, which has been included within the boundaries of this area.

8.16 Twentieth century changes are more evident on Pembrey Burrows, now covered in a forestry plantation of the 1920s. A variety of industrial uses in the early 20th century culminated in a wartime airfield and a Royal Ordnance Works, one of whose surviving structures is now a Scheduled Ancient Monument. Sport and leisure activities are, and have been, an important feature of 20th century uses of the area, from the land-speed record attempts by the Campbells, and Parry Thomas in 'Babs' in the 1920s along Pendine Sands, to the creation of a Country Park in Pembrey Burrows in the 1980s. Carmarthen Bar was notorious for its shipwrecks, a number of which are prominently visible and accessible at low tide, while others are revealed periodically by the ever-shifting sands. Finally, Laugharne must not be forgotten

for its literary associations with the poet Dylan Thomas and his insights of life in a small Welsh community during the mid-20th century<sup>6</sup>.

## Drefach / Felindre



Source: Dyfed Archaeological Trust (<http://www.dyfedarchaeology.org.uk/>)

8.17 **Drefach – Felindre** is an industrial historic landscape character area based on the woollen industry. Stone-built mills, workers' houses, owners' houses, churches and chapels clustered in several villages attest to the rapid expansion of this industry in the late 19th century and early 20th century.

Deciduous woodland on steep valley sides above the industrial settlements of Drefach and Felindre characterises the **Dyffryn Bargoed and Dyffryn Esgair** historic landscape character area.

The **Afon Teifi: Newcastle Emlyn – Llandysul** historic landscape character area comprises the rich pasture of the floodplain. There are no houses but two 18th century stone bridges are included.

Small regular fields created by an Act of Parliament in 1855 and deciduous woodland characterise the relatively small **Coed Mawr** historic landscape character area.

Dispersed farms within a landscape of pasture fields with deciduous woodland on steeper slopes and a few late 19th century woollen mills and workers' houses close to the Afon Teifi characterise the **Llangelier** historic landscape character area.

Although small farms, cottages and other buildings testify to its 19th century origins, the **Saron –Rhos** historic landscape character area is overwhelmingly characterised by modern linear housing development stretching for several kilometres along the main A484 road.

The **Bwlch-Clawdd – Cwmbach** historic landscape character area appears to have developed during the late 18th century when farms and small fields were established on open moorland. Most buildings in the area are modern. Two Bronze Age round barrows and the early medieval Clawdd-Mawr dyke are included in this area.

<sup>6</sup> Historic landscape Characterisation – Dyfed Archaeological Trust  
SA – SEA Scoping Report – Appendix B  
July 2018

An 1866 Act of Parliament enclosing open moorland into fields created much of today's **Rhos Penboyr** historic landscape character area. Small farms, coniferous plantations, a World War 2 'stop line' and three wind turbines have been subsequently established.

The **Wauanfawr** historic landscape character area largely results from an 1866 Act of Parliament enclosing moorland in regular fields and bisecting it with straight lanes. Small farms were later established. Two Bronze Age round barrows survive from a much earlier age.

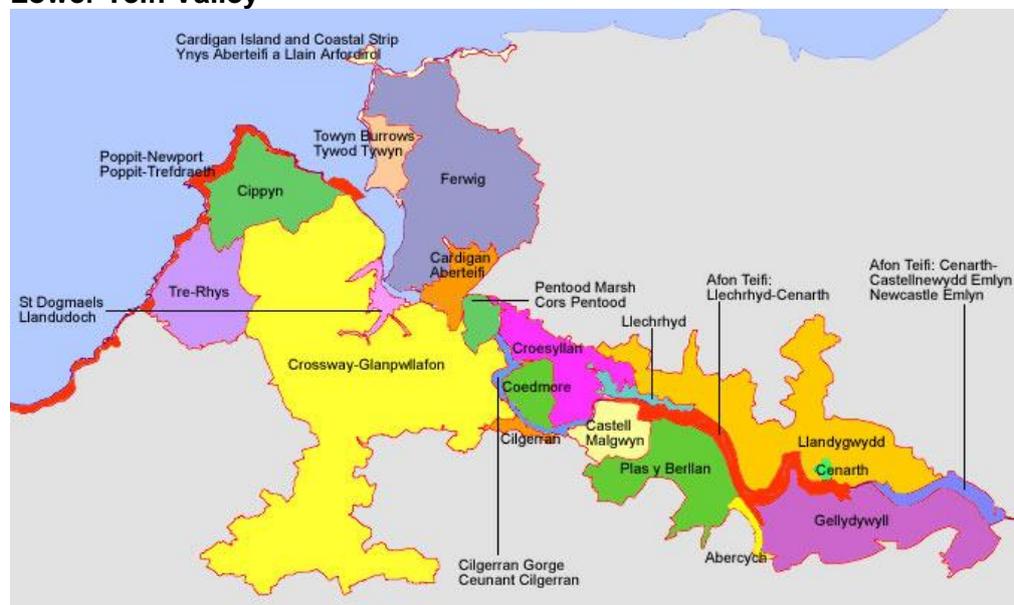
A close distribution of small farms in a landscape of fields bounded by hedges on banks characterises the **Penboyr** historic landscape character area. Apart from a few modern houses, almost all the buildings in this area date to the 19th century.

Dispersed farms, fields and deciduous woodland on steep valley sides, with a scatter of late 19th century workers' houses close to Drefach-Felindre characterise the **Bwlchydomen-Pentrecagal** historic landscape character area.

**Rhyddgoed** is a relatively small historic landscape character area and consists of regularly shaped fields and dispersed farms. Most buildings date to the 19th century.

**Henllan** is a small but complex historic landscape character area comprising a 19th century village focused on an old railway (now a tourist line) and a World War 2 prisoner of war camp, now largely converted to other uses, surrounded by deciduous woodland and farmland.

### Lower Teifi Valley



Source: Dyfed Archaeological Trust (<http://www.dyfedarchaeology.org.uk/>)

8.18 The Lower Teifi Valley Historic Landscape transcends administrative boundaries with the following characterisation areas the most directly related to or contained within Carmarthenshire. Pasture fields separated by overgrown hedges on the floodplain characterise the **Afon Teifi: Cenarth – Newcastle Emllyn** historic landscape character area. There are no buildings or other structures.

The older part of **Cenarth** historic landscape character area lies to the south of the historic bridge over the Teifi and comprises a loose cluster of mainly 18th and 19th century stone buildings. Most modern development lies to the north of the bridge.

Fields, dispersed farms, deciduous woodland and coniferous plantations, much on fairly steep north-facing slopes, characterise the **Gellydywyll** historic landscape character area. Farms are generally large, and include the 19th century model farm of Gelligatti.

The **Afon Teifi: Llechrhyd – Cenarth** historic landscape character area consists of fields and overgrown hedges across approximately 7 km of floodplain. A timber yard and a walled garden are the only structures in this character area.

Dispersed farms set in a landscape of pasture fields and deciduous woodland on the north side of the Afon Teifi characterise the **Llandygwydd** historic landscape character area. Older buildings range from Georgian gentry houses to cottages. All are stone-built and most date to the 19th century. **Abercych** is a 19th century industrial linear village spaced along a minor road on a steep valley side. Older buildings date to the 19th century and are stone-built. Modern housing infills the gaps between these older structures.

## Registered Parks and Gardens

8.19 The following Registered Parks and Gardens are situated in Carmarthenshire:

Registered Park and Gardens	Grade	Reasons for Designation
Llanmiloe House	II	Well preserved Edwardian garden with much original planting.
Laugharne Castle & Castle House	II	Castle garden is unusual example of picturesque garden laid out in a medieval castle. Contains remains dated to Tudor period. Main garden restored to early nineteenth layout & contains early nineteenth century gazebo with views over Taff. Castle: Guardmanship Ancient Monument; Scheduled Ancient Monument; Listed Buildings: castle; (grade I), walls (grade II), gazebo (grade II). Castle House: listed building (grade II*).
Maesyrcrugiau Hall	II	Remains of extraordinary Edwardian summerhouse in neglected contemporary garden with some pre-1891 features.
Middleton Hall	II	Survival of late eighteenth-century landscaped park in fine countryside, with main feature of lakes. The house and pleasure garden have gone. Ruined structures remain & present. There is unusual double-walled kitchen garden & preserved ice house. The core of the park now converted into National Botanic Garden of Wales. Listed building: stables (grade II)
Aberglasney	II	Survival of structure and trees of formal gardens and informal woodland garden of long established country mansion. Most important feature is arcaded court with raised walk around probably dating to early seventeenth century. Also two walled gardens, a pond, gatehouse, yew tunnel walk & remains of woodland walks. Archaeological excavation revealed phase of building work on gardens in seventeenth century. Aberglasney undergone major programme of rebuilding & restoration work in late 1990s. Listed buildings: Aberglasney & arcaded terrace walks enclosing walled garden (grade II*); NE courtyard range, former stables, cart-shed, SE courtyard range, former bakehouse, cowsheds, former small coach house, baliffs house, gatehouse & former domestic
Derwydd	II	A small late nineteenth century garden with surviving iron work, topiary, walled garden, walks, croquet lawn, incorporating earlier features including a pre-1809 terrace. Listed building: Derwydd (grade II*)
Dolaucothi	II	Early nineteenth-century parkland with remnants of possible lime avenue. Walled garden partially intact. A few specimen trees. Listed building: Dolaucothi (grade II); lodge (grade II)
Edwinsford	II	Vestiges of parkland including oak avenue possibly about 1635. Fine bridge linking utilitarian area, including walled garden,

		coach house, gardener's cottage to the mansion. Many of the buildings were topped with lead ornaments that depicted their function, now gone. Family associations with Sir Joseph Banks, who spent several summers at Edwinsford. Listed building: Edwinsford (grade II*); bridge (grade II)
Glynhir	II	Early to mid-nineteenth century garden, including fine dovecot, canal, walled garden, ice house and woodland garden with picturesque walks; picturesque bridges over waterfall on the river Loughor (Llwchwr) now disappeared. Listed buildings: house (grade II); dovecot (grade II)
Golden Grove	II*	Golden Grove was for long time one of the most important estates in West Wales. Its park & gardens contain many ancient trees. It retains good quality formal terraces & an outstanding arboretum associated with the Victorian House. The walled garden is of great interest in being associated with an earlier house & it contains a lake & canal which were probably in existence in the mid-seventeenth century. Listed buildings: house and stable block (grade II)
Pantglas	II	Much of the Victorian gardens (including a lake), constructed to complement the Italianate mansion built around 1853, remains intact although the house has gone. Listed buildings: house (grade II); bridge (grade II); utility courtyard (grade II)
Plas Dinefwr	I	An outstandingly beautiful & picturesque eighteenth-century landscaped park, incorporating the remains of a medieval castle. Site also includes a small lake, two walled gardens & fine sweeping drives. Lancelot (Capability) Brown is known to have visited the site & to have admired it. Listed buildings: Old Dynevor Castle (grade I); Plas Dinefwr (grade II*); inner & outer courtyard ranges (grade II*); low stone wall & gates to ha-ha (grade II); fountain in small formal garden (grade II); Dairy Cottage (grade II); Dovecot (grade II)
Taliaris	II	The essential layout of park & appears to have been little altered in the last two hundred years, although there is evidence for some change in land use. Listed building: house (grade I)
Parc Howard	II	Early to mid-twentieth century purpose-built municipal park, including fine gates, railings & bandstand. Mature shelter belt & small sunken garden. Listed buildings: mansion (grade II); bandstand (grade II); two sets of gates, gate piers & railings (grade II)
Stradey Castle	II	The parkland, which was probably enclosed in late sixteenth to early seventeenth century, retains park-like feel, although reduced in size. There is a fine terraced garden associated with the mid-nineteenth century mansion. Within the park are some interesting water features, a good range of trees, including some early introductions & woodland walks. A fine walled garden & nursery area are associated with the seventeenth century house, whose site was turned into a garden in mid-nineteenth century. Listed building: Castle (grade II*)
Llechdwnni	II	The survival of an unusual & early walled garden & formal pool, associated with one of the former most historic houses in the

		south of the country. The large garden has a long terrace, terminated at each end by projecting round gazebos. Listed building: old house (grade II)
Paxton's Tower	II*	The tower, built as a memorial & eye catcher, forms a spectacular picturesque landmark overlooking the Tywi valley & is visible for miles around. It was the only folly designed by the well-known architect S. P. Cockerell. Listed buildings: Paxtons's Tower (grade II*); Tower Lodge (grade II)
Llwynywormwood	II	Late eighteenth or early nineteenth-century landscaped park created out of rolling countryside. There are scenic drives which maximized the picturesque views, not only of the park, house, stream and a lake, but also of the Brecon Beacons beyond. Listed building: barn (grade II)

Source: Register of Historic Landscapes, Parks and Gardens of Special Historic Interest in Wales - Cadw

### Scheduled Ancient Monuments

8.20 There are also 366 Scheduled Ancient Monuments (SAM) in Carmarthenshire; ranging from Prehistoric to Post-Medieval/Modern features of cultural heritage interest.

8.21 Reference is also had to the content of the Historic Environment Records (HER) across the county as compiled and maintained by Dyfed Archaeological Trust. Reference is had to the HER records via:

<http://www.dyfedarchaeology.org.uk/>

### Conservation Areas

8.22 There are Conservation Areas in the following settlements in Carmarthenshire:-

- Abergorlech
- Cenarth
- Cwmdu
- Kidwelly
- Laugharne
- Llanboidy
- Llanddarog
- Llandeilo
- Llandovery
- Llanelli
- Llangadog
- Llangathen
- Llansaint
- Llansteffan
- Newcastle Emlyn
- St Clears
- Talley

8.23 The following areas within Carmarthen Town are also designated as Conservation Areas:-

- Carmarthen Town
- Lammas Street
- North Carmarthen
- Parcmaen Street/St Davids
- Picton Terrace/Penllwyn Park
- Pontgarreg and St Davids Hospital
- Priory Street
- The Parade/Esplanade
- The Quay/Towyside
- Water Street

## 9. Landscape

9.1 The Brecon Beacons National Park is one of the most important landscape and nature conservation designations in the country. The National Park is an important geological resource, as well as also being important for biodiversity, and cultural heritage. The management of development in the National Park is covered by a separate National Park Development Plan Document, and as such is not part of the Carmarthenshire LDP.

### Special Landscape Areas

9.2 The County contains many areas of high and outstanding landscape quality. Following guidance from Natural Resources Wales, and using Landmap information, the LDP identifies Special Landscape Areas (SLAs). It was established that the landscapes in Carmarthenshire that are considered to be of greatest importance, and which are worthy of the protection that the designation of SLAs provides, are the:

- River valleys
- Upland landscapes
- Coastal landscapes

9.3 The SLAs have been grouped according to these landscape types and are described below.

### River Valleys

9.4 **Tywi Valley** – The SLA includes the entire river valley apart from the Tywi estuary, which forms a part of the Carmarthen Bay and Estuaries SLA. The Tywi Valley SLA consists of the valley floor and associated slopes, and includes number of different landscapes. The upper Tywi Valley, north of Rhandirmwyn is typically narrow, rising steeply on either side to the more rugged upland landscapes of Mynydd Mallaen and the North Eastern Uplands, both of which are SLAs in their own right. The upper Tywi Valley is characterised by small fields, hedgerows, woodland, traditional farms, narrow roads, and the river itself, often bordered by trees, but in places by open meadows.

9.5 Moving down stream towards Rhandirmwyn and Llandovery, the mid Tywi valley opens out more, but the valley continues to rise up to the open hill land. The landscape is well wooded with a significant number of hedgerow and other individual trees. Here there is more open flat agricultural land, some small settlements - Rhandirmwyn and Cilycwm, both dominated by traditional buildings and vernacular architecture. These are harmonious unspoilt rural landscapes.

9.6 The lower Tywi valley down stream of Llandovery consists of the wide level flood plain, together with its northern and southern slopes which provide outstanding views over the valley and from the north towards the Brecon Beacons. Although dominated by agricultural land and larger fields than in the mid and upper valley, the flood plain also has a significant number of mature hedgerow and fields trees, and the valley slopes, particularly the steeper southern slopes are well wooded. Historic parklands and castles are also a feature of this part of the valley, e.g. Gelli Aur and Dinefwr Park, and Dinefwr and Dryslwyn castles. The castles in the valley have imposing locations on limestone outcrops, over-looking the valley. Traditional farms in the valley have typically expanded and often now include large agricultural buildings. Most of the settlements in this part of the valley have also grown with an element of modern

building around a more traditional core. Inappropriate development continues to threaten the conservation of this outstanding landscape, hence the reason for its designation.

**9.7 Bran Valley (north of Llandovery)** - The SLA consists of the flood plain and the valley side. The A483(T) and the Heart of Wales railway line run along this valley making it an important gateway into Carmarthenshire and it is known for the views into the county that these routes provide when travelling from Powys. The railway includes the viaduct at Cynghordy which is a well known landscape feature, and is visible from the main road, giving this area a strong sense of place. The main road is a feature of the area, while not particularly busy there is a fairly constant stream of traffic and the noise associated with this.

9.8 There are few settlements other than Cynghordy and here there is some parkland. The rest of the valley is a mix of agricultural land with hedgerows and trees on the flood plain and flatter areas and significant amounts of woodland on the valley slopes creating an attractive balance. The area includes a number of well wooded tributaries to the Bran.

**9.9 Llŵchwr Valley** - The Llŵchwr valley on the Carmarthenshire/Swansea boundary has a wide and level flood plain with steeply rising valley sides. The flood plain is open and is characterised by large irregular fields and some drainage channels. In contrast the slopes on the Carmarthenshire side support an attractive mix of woodland and agricultural land, the woodland often being associated with watercourses that run down the slopes. Small irregular fields with a mix of outgrown and cut hedge boundaries are also a feature of these slopes. There is little access to the flood plain other than for farming purposes, there is no settlement in it other than Pontarddulais to the south, and Ammanford to the north. The slopes are sparsely settled with scattered farms. The railway runs along the valley (mostly in Swansea), the track making a strong line in the landscape in contrast to the meandering river. Pylons cross the valley in the south but are partly masked by the wooded slopes to the west.

**9.10 Cwm Cathan** - Cwm Cathan is an impressive and steep sided river valley running from the upland area of Mynydd Betws to the lowland Llŵchwr valley. It is well wooded with semi-natural broadleaved woodland - including area of birch woodland, as well as semi-improved grasslands as well as scrub and bracken areas. The variety of vegetation here provides texture in this landscape, and creates a network of semi-natural habitats across the area. Some hedgerows are becoming lines of trees and these also contribute to the enclosed and well-wooded appearance of the area. Holly-rich hedges are a feature. This is an intimate enclosed, unspoilt and natural landscape, and not without views of the surrounding areas. With narrow twisty roads and being sparsely settled, this quiet area feels some distance from Ammanford.

**9.11 Teifi Valley** - The source of the Teifi is in Ceredigion, and the middle course of this river flows along the Carmarthenshire county boundary between Lampeter and Llechryd. Within Ceredigion the Teifi valley is also recognised as a SLA. The Carmarthenshire section of the Teifi runs through a well wooded valley. As the river flows west so the flood plain becomes broader. The valley immediately west of Lampeter is noted for the number of hedgerow and field trees it contains, although there is less woodland in this part of the valley than further downstream.

9.12 As the river flows through Maesycrugiau it becomes very narrow and gorge like. The river and its valley dominate this landscape and the area feels secluded. This section of the valley is well wooded. There is little new development in this section of the valley. Small farms and traditional houses including road side cottages are the dominant types of settlement.

9.13 The Teifi valley between Maesycrugiau and Llechryd is characterised by a particularly attractive balance between woodland (mostly broadleaved) with some conifer woodland) and open fields, notably in the flood plain, with mature trees. The river is frequently visible and with the roads that run either side of the river and this gives the area a feeling of movement in each direction. Views are restricted to the valley floor and its slopes, so there is a sense of being within the valley at all times. Development consists of scattered farms, some small settlements along the roads, and also includes the larger settlements of Newcastle Emlyn and Pentrecwrt.

9.14 **Cothi Valley** - The Cothi Valley can be described in four parts.

9.15 As the Cothi runs between Mynydd Mallaen and the North Eastern Uplands Special Landscape Areas the valley is upland in character. The slopes rise up from 160m to just over 400m on Mynydd Mallaen. The valley sides are well wooded with an attractive and balanced mix of broadleaves and some conifers, as well as enclosed and unenclosed grazing, and fridd. Where there are field boundaries these tend to be fairly weak, with some hedge lines becoming lines of trees. Fences are not un-common where hedges have disappeared. In contrast the valley floor is more intensively farmed, with frequent views of the fast flowing river throughout the area. Farms tend to be positioned at the base of the steep valley sides, at the break of slope. Towards Pumsaint the landscape has an estate character to it - visible in some of the building styles. The road is narrow, the farms scattered and vernacular styles dominate the building design. There is very little new development in the area.

9.16 The Llansawel Basin contains the confluence of the Cothi with a number of other rivers - the Marlais, Melindwr and Twrch. The narrow upland valleys in the surrounding area opens out in this section into a much larger river basin creating a much more open lowland landscape. Shingle banks are a feature of this section. The area combines gently rolling land with flatter valley bottom land, the majority of which is improved agricultural land, with a small amount of woodland. The hedgerows and hedgerow trees create the impression of a significant amount of tree cover. At the Glan yr Rannell Hotel there are some elements of a planned parkland landscape. Llansawel is the largest settlement and there are numerous scattered farms.

9.17 Between Edwinsford and Brechfa the Cothi valley is well wooded, and downstream of Abergorlech it passes through the Brechfa Forest. This section of the valley is more enclosed than the Llansawel Basin. The lower lying pasture land here is characterised by well-developed hedgerows, and hedgerow and field trees. There are few views of the river itself as its banks are frequently tree lined. The B road runs through the area and passes through the small settlements of Abergorlech and Brechfa.

9.18 Down-stream of Brechfa the valley is narrower and more V-shaped than the river upstream of the village - rather more like an upland river. It appears that the Cothi changed its course, having previously followed what is now the Gwili valley to the west of Brechfa. South of Brechfa the deeply incised valley rises steeply, to the hills on either side. The valley slopes are a mix of bracken, woodland, new woodland planting and farmland. There are views of the river at a number of places along the valley, particularly where the road and footpath run close to it. Farmland and woodland dominate the lower lying land. This area provides a clear contrast with the more open Mid Cothi valley to the north, and the Llansawel Basin and the Tywi Valley to the south, as the river and more gorge-like, and the valley sides steeper. This section of the valley is sparsely settled with few farms. The course of the river is varied, and includes open and shallow areas as well as cuttings through dark rocks. Much of the river bank in this stretch is wooded.

**9.19 Lower Taf Valley** - The SLA includes the river valley from the railway crossing east of Whitland to the estuary, so effectively the lower reaches of the Taf. Much of the area is secluded, and there is little access to. Settlements are restricted to the valley sides. The valley feels empty despite being so close to the main roads. The valleys sides of this stretch of the river are well wooded and contribute to its scenic qualities. Downstream of the A477 the river is tidal, and at the A4066 it enters the estuary where the slopes are less wooded, and the landscape becomes more open, and the character of the landscape changes from being that associated with a river valley to that of an estuary, with areas of salt marsh mud flats. This SLA abuts the Carmarthen Bay and Estuaries SLA

**9.20 Drefach Velindre** - Both the visual and sensory and the historic environment layers of LANDMAP recognise the distinctive landscape of this area. A network of steep well wooded valleys, with linear settlements with a distinct vernacular style - typically small road side terraced cottages, made from locally quarried stone, and larger riverside mills and chapels that reflect the former woollen industry that was thriving here (and in parts of the Teifi Valley) in the 19<sup>th</sup> and early 20<sup>th</sup> century. Narrow roads run along each of these valleys. The area has a sense of being very enclosed, sheltered and tucked away, it has a unique character in Carmarthenshire. Agricultural fields are typically small and surrounded by woodland.

**9.21 Swiss Valley** - The landscape of Swiss Valley is an attractive mix of woodland and water. The reservoirs have a natural feel to them and support a variety of aquatic vegetation, the area provides an attractive interface between woodland and water. Swiss valley is easily accessible on foot and cycle from Llanelli and is used for recreation but with the minimum of infrastructure (this does include a cycle path) . There are very attractive internal views over the water, and along the river. The valley has a sense of enclosure, and feels remote from the busier landscapes that surround them. The woodland in Swiss valley is mostly broad-leaved. The valley is peaceful and unspoilt. While there is no settlement in the valley, it is overlooked by farms in the surrounding countryside.

**9.22 Talley** - The historic part of the village of Talley, centred on the abbey, enjoys an attractive lake side setting that is unique in the county. It has an attractive backdrop of fairly steep slopes that are used either for agricultural or forestry. The Special Landscape Area includes the abbey, church and surrounding dwellings, the lakes and the land that surrounds these features and provides a setting for them. The two connected lakes are an unusual feature and known throughout the county. There are very few lakes in Carmarthenshire. The two lakes are designated as a Site of Special Scientific Interest for the aquatic habitats and species they support. The B road runs through the more modern part of the village and traffic on it can be heard most of the time.

**9.23 Gwendraeth Levels** - These are the low lying flood plain grazing meadows on former marsh land that are often flooded in the winter months. Despite being relatively wet this area continues to be managed largely for agricultural. The rectilinear fields are broken up by wide tall hedges and drainage ditches. In places these tall hedges create a feeling of enclosure, elsewhere these landscapes usually appear very open and wind swept (e.g. Gwent Levels). There are few dwellings, few roads, other than the main road, and where these occur they tend to be straight. In addition to the agricultural land, the area includes a variety of wetland habitats, ponds, fens giving the area a more naturalistic appearance, and the capacity to support wildlife. Largely un-spoilt, the area remains rural in character. There is an important historic dimension to this landscape as it was created as a result of draining wetlands and constructing sea defences to hold back the sea water that began in 1609, and continues into

the mid 19<sup>th</sup> century with the enclosure of fields. The Gwendreath Levels SLA abuts Pembrey Mountain SLA and this area provides an important and unspoilt backdrop to the levels

## **Uplands**

**9.24 North Eastern Uplands** - An extensive area of rolling upland area characterised by unenclosed grazing land and some large coniferous forestry blocks, which are considered to be an integral part of this landscape. The area also includes small pockets of enclosed improved land near the isolated farms, but the majority remains unenclosed. The mix of habitats and vegetation cover within these open unenclosed areas provides texture in this landscape, and includes marshy grasslands, wetland vegetation in the shallow river valleys, bracken on the steeper land, some fridd habitat, small areas of heath land habitat etc. Small rocky outcrops occur throughout the area, adding further variety. There are few broad-leaved trees, and these are more frequent in the shallow river valleys. These different elements add variety to the area. There are only a few small roads in the area and farm tracks, barely any settlement. As an area it feels sparsely populated. North of Ffarmers there are areas where, unusually in Carmarthenshire, some of the field boundaries are stone walls. There is relatively little new development here, other than new agricultural barns. There are extensive views within the area and into the surrounding valleys; there are also longer views to the Brecon Beacons. The area feels remote, exposed and elevated and largely empty of people. On the county boundary Llyn Brienne forms a part of this Special Landscape Area.

**9.25 Mynydd Mallaen** - Mynydd Mallaen is an exposed area of un-enclosed grazed upland plateau, dominated by heathland and wetland plant communities with, bilberry, heather and wet heath mosaic. The plateau drops down into the surrounding valleys through fridd habitats, grassland, rocky scree in places and woodland. The area is Common Land with open access. The plateau is marked by one or two cairns; otherwise it creates a very gently almost level skyline. There are tracks across the area. There are no trees, nor field boundaries, but several rocky outcrops and wet depressions. The area provides extensive views in all directions, and feels extremely exposed, wild, empty and isolated.

**9.26 Llanllwni Mountain** – This is an area of unenclosed heather moorland, positioned on a rolling plateau positioned along the watershed between the Teifi and the Cothi valleys. Bronze aged burial mounds are discernable on the main ridge, and provide a sense of our impact on this landscape over millennia. There are extensive views in all directions from the plateau, particularly notable are the views north-west over the Teifi Valley and south east towards the Brecon Beacons. The area is Common Land with open access, and is grazed by sheep and ponies, and regularly burnt. The roads that cross the area are used infrequently, and while they permit easy access to the mountain, it has a feeling of being exposed, and of being wild, and empty. The farms that abut the mountain are positioned below it on the enclosed land. It is one of few areas in the county that is devoid of settlement.

**9.27 Carmarthenshire Limestone Ridge** - This undulating ridge (reaching 280m AOD) of higher exposed upland is the only extensive area of limestone in Carmarthenshire. The ridge has a distinct and varied landscape, which includes unenclosed common land e.g. Mynydd Llangynderine and Mynydd y Garreg, with bracken and heather and rock exposures, the limestone quarries at Crwbin and Cilyrchen, and extensive areas of small fields, mature hedges and woodland e.g. Carmel (which include Carmel Woods NNR). Llyn Lech Owain Country Park lies on the ridge. The ridge provides views over the adjacent valleys and over much of south Carmarthenshire. It is crossed by several roads, the busiest being the A48(T) but is also very tranquil in parts, e.g. Mynydd y Cerrig. Settlements include scattered farms and

linear settlements that are often related to the quarries, and this is reflected in the vernacular architecture.

**9.28 Pembrey Mountain** - Pembrey Mountain rises steeply from the Gwendreath Levels forming an important back drop to this area, and hence its recognition as a Special Landscape Area. The slopes are now mostly wooded with a mix of broadleaves and conifers, and from the ridge (100m AOD) there are extensive views over the levels and Carmarthen Bay towards Caldy Island. When the sea encroached further inland over the Gwendreath Levels, the slopes of Pembrey Mountain would have formed the coastal cliffs. The mountain has a rich and diverse archaeology, that includes iron-age hill forts, possible bronze-age barrows, evidence of Medieval ridge and furrow as well as quarries and coal pits.

**9.29 Mynydd y Betws** - This is an extensive area of exposed undulating upland moorland extending into the Swansea. It is an area of unenclosed, grazed common land, with a mix of grasses and some smaller areas of heather, and wetland habitats. There are impressive views from Mynydd y Betws over south-east Carmarthenshire and towards the Brecon Beacons. The area is interrupted by the road that crosses the mountain and where this enters the common on its northern side at Scot's Pine, by the telegraph poles and larger pylons and a mast. These elements detract from the integrity of the area but this is restricted to this small part of the whole. Elsewhere within the area there is a considerable degree of unity and little interrupts the rest of this landscape. It is one of five extensive areas of unenclosed moorland in the county. There are no trees or shrubs in this area and there is a striking difference between this area and the enclosed land at lower elevations on the northern slopes. Today there are no settlements here, but the area is rich in archaeology, with several sites clearly discernable on the ground, illustrating the history of this area.

### **Carmarthen Bay and Estuaries**

9.30 This SLA contains a number of distinct landscapes, which should be considered as a continuum. The SLA wraps around Carmarthen Bay and includes:

**Coastal Hills:** Marros – Pendine, Llanybri, Llansaint and Pembrey Coastal hills:

**Coastal slopes:** Marros to Wharley Point and St Ishmael's coastal slopes:

**Estuary slopes:** the slopes above the estuaries i.e. the slopes on either side of the Taf and Tywi rivers where they are within the estuary:

**River estuaries:** the rivers channels, and associated mud flats at low tide:

**Coastal grazing marsh:** West Marsh, East Marsh south of Laugharne, south of Kidwelly;

**Sandy beaches:** Marros, Pendine and Cefn Sidan;

**Sand dunes:** Pendine and part of Cefn Sidan;

**Salt marsh:** This occurs in several areas within the estuaries, and near the coast e.g Pembrey Saltings;

**Settlements:** Pendine, Laugharne, Llansteffan and Ferryside.

9.31 The Carmarthen Bay and Estuaries SLA includes all the landscapes that contribute to our coastal and estuary landscapes. It is often the juxtaposition of one landscape with another such as salt marsh and the river, or the wooded estuary slope and the river channel that together create a landscape of high scenic quality.

9.32 The coastal hills provide the backdrop to the bay and the estuaries, and from them there are fine views over the sea. Being close to the coast, and elevated these hills are exposed, and this is demonstrated by the windswept trees.

9.33 The coastal slopes are usually characterised by rough non-agricultural land with bracken and scrub, again often sculpted by the wind. They are exposed, and usually face the sea. They are located between the hills and the lower lying beaches or marshes.

9.34 The estuary slopes are the more sheltered slopes between the hills and the river estuaries. In the Tywi estuary they tend to be particularly well wooded, but also include some agricultural land.

9.35 The river estuaries include the river channel. These are tidal and at low tide include mud flats. East and West Marsh are the largest areas of coastal grazing marsh in Carmarthenshire. West Marsh has been developed for military purposes and so is relatively disrupted and has scrubbed up somewhat as a result of becoming drier. East Marsh is still managed in a traditional way for grazing, but has also been subject to some development. It is more open, windswept and empty than West Marsh.

9.36 These landscapes are typically open windswept and empty, are of importance for the biodiversity they support. They are also of historic interest as well as these areas only came into existence once land could be drained.

9.37 The three beaches are some of the longest in Wales. Pendine and Cefn Sidan are well known as holiday destinations. When the tide is out there are extensive areas of sand, and views out to sea and along the coast.

9.38 The sand dunes about the beaches and their landscape is typical of any dune system. Efforts are being made to control the sea buckthorn has been spreading within the Cefn Sidan dune system.

9.39 The salt marsh is an integral and distinctive part of the estuary and coastal landscape, and one which provides a free and natural sea defence. The salt marsh usually abuts mud flats which are exposed at low tide. The salt marshes are typically dissected by muddy creeks and support plants that can tolerate the saline conditions, and these are two of the features of the salt marsh that make this landscape so distinctive. Salt marshes are exposed and windy places, with no shelter.

9.40 The three settlements – Laugharne, Llansteffan and Ferryside within the SLA each have a distinct character. Ferryside is the only one on the railway, which in itself is a feature of the Tywi estuary. Laugharne is the most urban of the three, and has developed around its castle, whereas the castle at Llansteffan is in an elevated position above the village.

## 10 Population

10.1 Population estimates are produced by the Office for National Statistics (ONS), and take into account births, deaths, and an estimate of migration between the last census and the middle of the current year.

10.2 The population of Carmarthenshire is estimated at 185,610 in 2016, accounting for almost 6 per cent of the Welsh population. Of this, 90,835 (49%) are male and 94,775 (51%) are female. The age profile of the local population is shown in the table below.

<b>2016 – Mid Year Population Estimates</b>				
<b>Age Structure</b>	<b>Carms Population</b>	<b>Carms %</b>	<b>Wales Population</b>	<b>Wales %</b>
Aged: 0-4	9,782	5.3	173,261	5.6
5-15	23,064	12.4	383,818	12.3
16-24	18,021	9.7	359,672	11.6
25-44	40,171	21.6	739,907	23.8
45-64	51,910	27.9	821,855	26.3
65-74	23,823	12.8	352,636	11.3
75+	18,839	10.1	282,001	9.0
<b>Total</b>	<b>185,610</b>	<b>100</b>	<b>3,113,150</b>	<b>100</b>

Sources: Stats Wales <https://statswales.gov.wales/Catalogue/Population-and-Migration/Population/Estimates/nationallevelpopulationestimates-by-year-age-ukcountry>

10.3 The following link provides access individual profiles for each ward within Carmarthenshire. The profiles provide a summary of the key characteristics of the ward as well as valuable local information. The ward profiles draw upon a wide array of data sources, and their standardised layout enables the quick and easy comparison of areas, an investigation of patterns, and identification of variations.

10.4 The profiles as published May 2017 incorporates the following information:

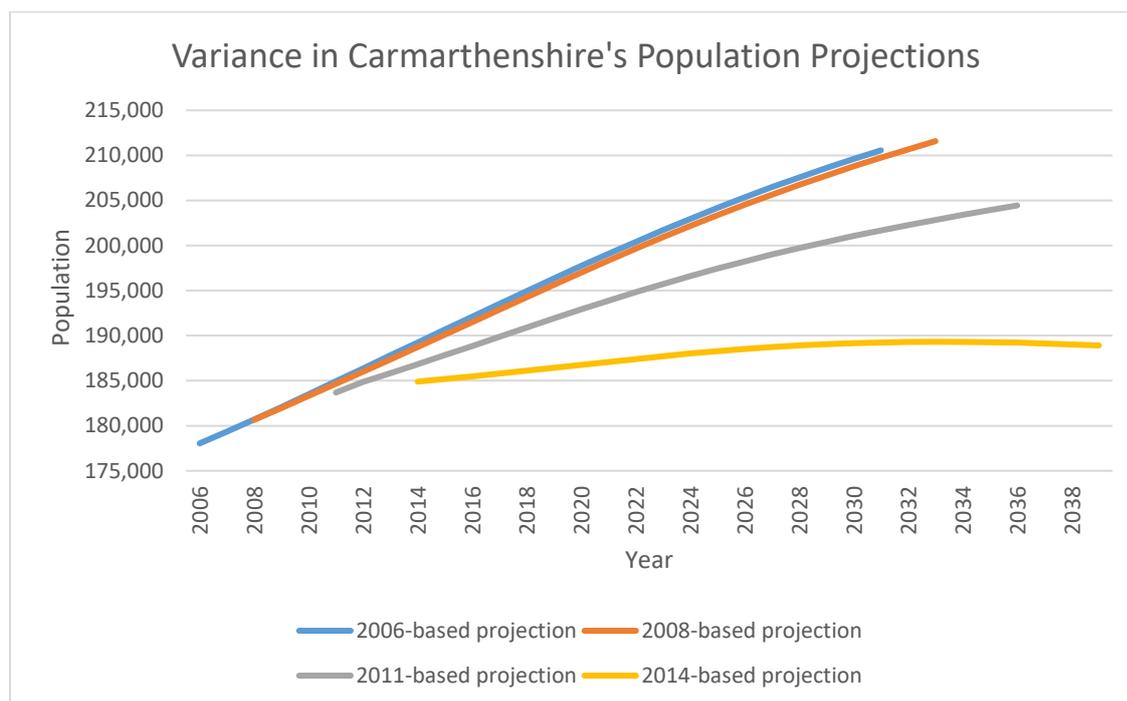
- 2015 Mid-Year Population Estimates (Office of National Statistics, ONS)
- Population characteristics, household composition and economic activity status (2011 Census)
- Housing type and tenure statistics (2011 Census)
- Household Income estimates (CACI 'Paycheck' data 2016)
- Ns-SeC data (socio-economic position based on occupation, 2011 Census)
- Updated labour market and benefit statistics
- Recorded crime statistics for 2016-2017 (Dyfed Powys Police)

<http://www.carmarthenshire.gov.wales/home/council-democracy/research-statistics/electoral-ward-county-profiles/#.WqqJM-a7KUK>

10.5 The publication of the 2014 local authority based population provided the first indication of population change at a sub national level since the 2011 census. The following table indicates and compares the latest projections for the plan period for the Revised LDP with that

produced as part of the current LDP and the original WG local authority based projections in 2006. The 2011 and 2014 based projections indicated a projected population of 193,874 and 187,079 respectively at 2021.

10.6 This limited level of population change is projected to continue through the lifetime of the revised LDP with 2033 indicating a County population of 189,317. These projections indicate a downward trend in population growth compared to the previous 2006-based and 2008-based projections. The future pattern of demographic change will be subject to further evidence gathering as part of the revised LDP<sup>7</sup>.



Source: Carmarthenshire Local Development Plan Review Report

10.7 In considering the Revised LDP period of 2018-2033, the principal projections within the 2014 based population projection suggests an increase in the population of 3,207 persons. These projections will need to be given careful consideration and reflect other relevant factors which impact upon the future development and housing needs, not least the household projections for the County. The 2011-based and 2014-based household projections have indicated a significant reduction in household numbers from that projected within both the 2006 and 2008 based projections.

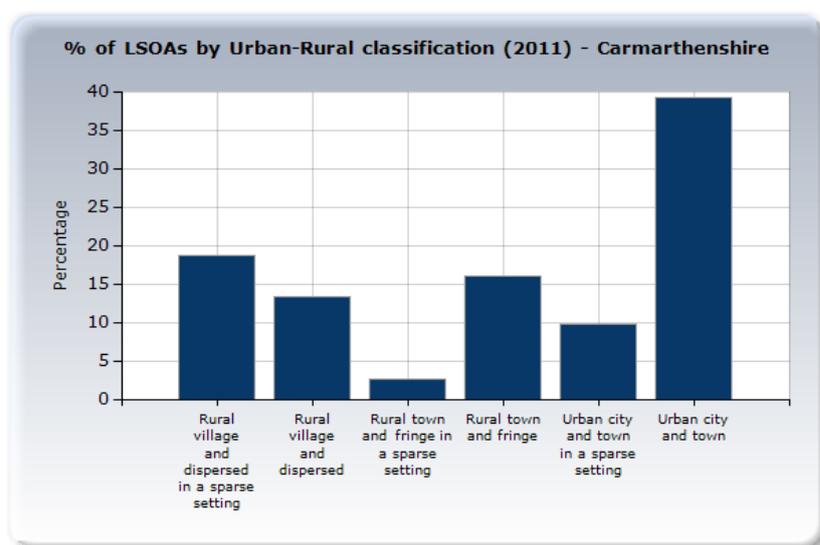
<sup>7</sup> Stats Wales <https://statswales.gov.wales/Catalogue/Population-and-Migration/Population/Projections/Local-Authority/2014-based/populationprojectioncomponentsofchange-by-localauthority-year>

## Population Density

10.8 Population density provides a measure of the number of people living in an area. This varies across the County with higher densities in the urban areas than the rural areas with Carmarthenshire having a total land areas of 2370km<sup>2</sup>. This makes it the third largest local authority by area in Wales. However, the average density for Carmarthenshire as a whole is 78.3 persons per square kilometre, which makes it the fifth lowest in Wales. This is significantly lower than the Welsh average of 150.1 persons per kilometre square<sup>8</sup>.

10.9 There are three major towns in Carmarthenshire which form a pivotal role at the centre of the LDP's Growth Areas. The three towns of Llanelli, Carmarthen and Ammanford are home to 25% of the County's population. 60% of the population live in rural areas, which form 53% of the County<sup>9</sup>.

10.10 **39.3%** of LSOAs within the local authority of **Carmarthenshire** are classed as "**Urban city and town**" in the 2011 urban-rural classification of small area geographies, this is the **highest** proportion within Carmarthenshire.



Source: Office for National Statistics

## Migration

10.11 The following illustrates the role migration plays within Carmarthenshire with as a rule in migration from the rest of the UK compensating in numerical terms for ongoing issues in terms of out migration. The following illustrates the migration pattern between 2007 and 2016.

<sup>8</sup> Stats Wales: <https://statswales.gov.wales/Catalogue/Population-and-Migration/Population/Density/populationdensity-by-localauthority-year>

<sup>9</sup> Carmarthenshire Draft Wellbeing Plan: <http://www.thecarmarthenshirewewant.wales/media/8285/carms-well-being-plan-final-draft-051017-english.pdf>

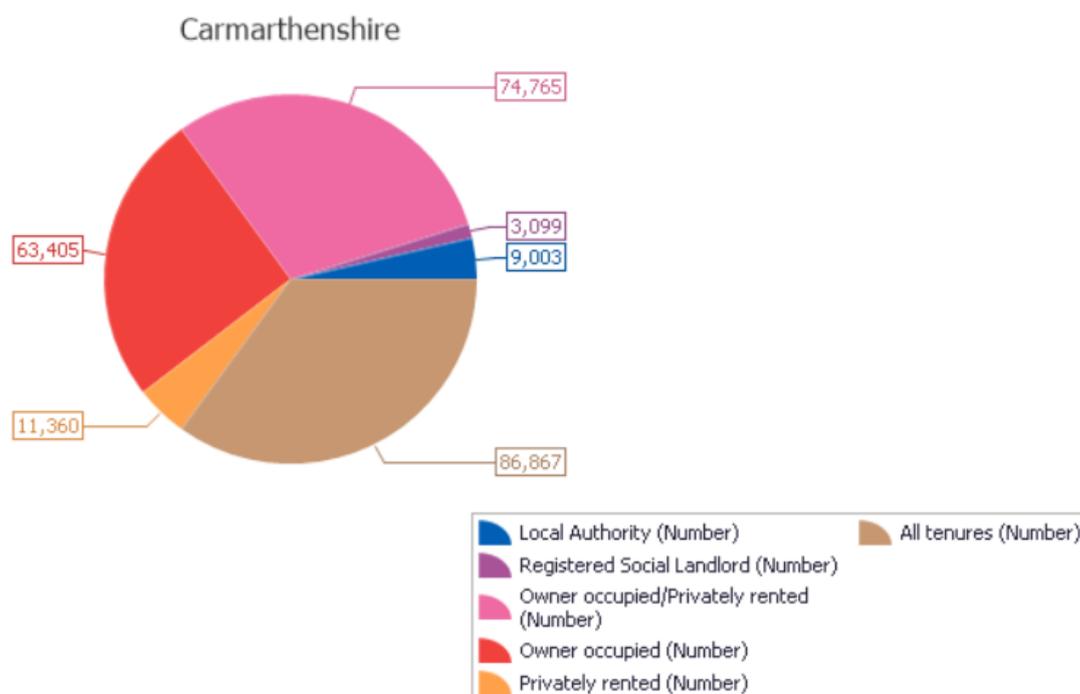
**Table: Migration between Wales and the rest of the UK by local authority, flow and period of change**

	2006 to 2007	2007 to 2008	2008 to 2009	2009 to 2010	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016
Inward Migration	6,780	6,190	5,920	5,690	6,020	6,470	6,220	6,290	6,320	6,700
Outward Migration	5,250	5,180	5,520	5,490	5,190	6,000	5,880	6,080	5,770	6,080
<b>Net Migration</b>	<b>130</b>	<b>30</b>	<b>80</b>	<b>630</b>	<b>-70</b>	<b>-30</b>	<b>-520</b>	<b>-480</b>	<b>10</b>	<b>350</b>

Source: StatsWales

## Housing Stock

10.12 The following indicates the dwelling stock estimates by tenure.



Source: Statswales

## 11 The Welsh Language

11.1 The Welsh language plays an important role in the social, cultural and economic life of Carmarthenshire's residents and visitors. The 2011 Census indicated that there were 78,048 Welsh speakers amongst Carmarthenshire's population. Carmarthenshire has the highest number of Welsh speakers in Wales and has the fourth highest proportion of Welsh speakers at 43.9% (2011 Census data). There is a significant variation in the numbers and proportions of Welsh speakers across Wales but on average 19% of the Welsh population are able to speak Welsh.

11.2 During the period between the 1991, 2001 and 2011 Censuses, the percentage of Welsh speakers in Carmarthenshire has decreased from 54.9% to 43.9%. Carmarthenshire also experienced the second largest decrease in the percentage of Welsh speakers between 1991 and 2001 at 4.5% (this was second only to Ceredigion who experienced a decrease of 7.1%). In the time between 2001 and 2011 Carmarthenshire experienced the highest decrease at 6.4%.

11.3 The Welsh Language Use Survey 2015, contains information by local authority on Welsh language ability and usage. The survey notes that 80,700 of Carmarthenshire's population noted that they could speak Welsh. This has increased since the 2011 Census results which showed that 78,048 of the population could speak Welsh.

11.4 The decline in the proportion of Welsh speakers since 1991 is not unique to Carmarthenshire and the decrease in Welsh speakers is a trend witnessed throughout the majority of Wales but in particular in the areas of Wales traditionally known as the Welsh heartlands ('Y Fro Gymraeg'). Other areas in the traditional heartlands such as Anglesey, Gwynedd and Ceredigion have also seen a decrease in Welsh speakers and the Welsh Government have raised concerns over the sustainability of the language in these traditionally Welsh-speaking areas.

11.5 The proportion of Welsh speakers varies across Carmarthenshire, below is a breakdown of the proportion of Welsh speakers in each Town and Community Ward as indicated in the 2011 Census.

Community Ward	% Welsh Speakers (2011 Census)
Abergwili	56.5
Abernant	51.9
Ammanford	51.5
Betws	53.4
Bro Dyffryn Cennen	52.8
Bronwydd	55.8
Carmarthen	37.6
Cenarth	43.2
Cilycwm	47.1
Cilymaenllwyd	55
Cwmaman	59.2
Cynwyl Elfed	52.6
Cynwyl Gaeo	46.1

Eglwysummin	26.7
Gorslas	64.1
Henllanfallteg	38.8
Kidwelly	44.4
Laugharne Township	20.1
Llanarthney	55.4
Llanboidy	43.3
Llanddarog	59.4
Llanddeusant	52.1
Llanddowror	25.4
Llandeilo	48.7
Llandovery	42.6
Llandybie	57.4
Llandyfaelog	56.8
Llanedi	45.2
Llanegwad	59.3
Llanelli (Town)	23.7
Llanelli Rural	32.8
Llanfair-ar-y-bryn	32.7
Llanfihangel Aberbythych	51.5
Llanfihangel Rhos-y-Corn	40.4
Llanfihangel-ar-arth	57
Llanfynydd	48.9
Llangadog	58.1
Llangain	44
Llangathen	51.7
Llangeler	54.5
Llangennech	39.9
Llangunnor	48
Llangyndeyrn	58.8
Llangynin	52.5
Llangynog	40
Llanllawddog	53.9
Llanllwni	58.9
Llannon	64.2
Llanpumsaint	53.3
Llansadwrn	39.9
Llansawel	47.9
Llansteffan	46.4
Llanwinio	46
Llanwrda	51
Llanybydder	57.2
Llanycrwys	46.7

Manordeilo & Salem	49.8
Meidrim	52.1
Myddfai	49.7
Newcastle Emlyn	53.7
Newchurch & Merthyr	56.9
Pembrey & Burry Port Town	31.6
Pencarreg	60.6
Pendine	18.2
Pontyberem	67.4
Quarter Bach	68.7
St Clears	50.3
St Ishmael	41
Talley	42.6
Trelech	59.7
Trimsaran	50.4
Whitland	43.4

## 12 Health and Well-being.

### Review of the Carmarthenshire Well Being Assessment 2017

12.1 Carmarthenshire is the third worst county in Wales for levels of childhood obesity with 30.7% of 4-5 year olds being overweight or obese, almost 5 percentage points higher than the Welsh average of 26.2%. Projections suggest an increase in trends for childhood obesity going forward with figures showing males between the ages of 2 – 15 being at greatest risk. There is a strong link between childhood and adulthood obesity and many of the associated chronic health problems such as Type 2 diabetes and coronary heart disease are likely to continue to also increase in the future therefore posing threats to the well-being of children now and in later life.

12.2 Obesity is more prevalent in disadvantaged communities and European research suggests increased prevalence in rural areas, although research in the UK has found no significant association. However there is some evidence that people who do engage in the natural environment are less likely to be overweight. Given Carmarthenshire's extensive natural assets and the additional positive effects on psychological and cultural well-being the environment offers, the promotion of opportunities to engage in the natural environment may be an area which can help improve well-being.

12.3 A fundamental means of tackling levels of obesity is engaging children in physical activity. Assessment engagement activity with primary school children showed being physically active to be the second most important factor for positive well-being of children aged 6 – 11, after connections with family and friends. The Carmarthenshire school sports survey 2015 identified similarly high levels of Engagement in sport suggesting a positive relationship with physical activity. It is noted that the Carmarthenshire Play Sufficiency Assessment reported that 90% of children stated that playing makes them feel happy and 49% reported that play made them feel active

12.4 It is stated that throughout adolescence, as curiosity meets opportunity, there are various experiences on offer to young people, not all of which can have positive outcomes or effects on well-being. It is noted that the highest reports of young people currently smoking at least weekly in Carmarthenshire were 8% of boys in year 9 and 19% of girls in year 11. Smoking amongst boys was more persistent throughout secondary school. In addition the highest number of students reporting having tried electronic cigarettes was over a third of girls aged 14 - 16. Although there has been national concern about levels of alcohol related crimes and incidents involving young people, Carmarthenshire has seen a steady decline in the number of such reported incidents from 87 in 2014 to 49 in 2016. From January to November 2016, 16% of drug offences in Carmarthenshire involved an offender under the age of 18 with the majority of offences (102 crimes) relating to possession of cannabis.

12.5 28% of Carmarthenshire's adults suffer from mental health issues, slightly above the Welsh average of 26%. Poor psychological and emotional wellbeing can act as a barrier to full participation in society. Issues such as confidence, anxiety, fatigue and stigma can limit an individual's capacity to interact with others or to find work for example.

12.6 It is stated that health has a significant effect on wellbeing. The 2011 census indicates that 16% of Carmarthenshire residents described their health as 'fair', 6% as 'bad' and 2% as 'very bad'. The 2017 survey probed this further by looking at impacts and found that, of those with a health issue affecting their well-being, 64% said they couldn't do the things they enjoy'; 41% said they need or rely on help to manage day to day and 32% said it 'puts a strain on their personal relationships'. In 2013, the number of Carmarthenshire residents aged 65 and

over diagnosed with dementia was 2,783. By 2030, it is predicted that this number will reach 4,371, a rise of 1,588, (57%) in line with the Welsh average.

12.7 Although the life-expectancy rate in Carmarthenshire is in line with the Wales average, there is a significant gap of 18.5 years between those from the least and most deprived areas. Likewise, as with infant mortality rates, premature death (under the age of 75) is substantially more common in deprived communities. This is particularly the case for males who have a 33% excess death rate compared to those from affluent communities. This demonstrates the impact of deprivation on physical well-being throughout life.

12.8 Responses to the assessment survey indicate that good health is the single most important factor to overall happiness, contentment and life satisfaction. Almost 8 in 10 (79%) respondents said it was important now, and 61% thought it would be important to them in the future.

### **Review of the Draft Well Being Plan - Public Service Board (2018)**

12.9 Some of the main matters identified are as follows:

- Life Expectancy is favourable- male is 78.5 years and female is 82.6 years;
- Average core for “life satisfaction” is 7.4 out of 10;
- 3 in 10 suffer from mental health issues; and
- 60% of adults reported as being overweight or obese (using BMI).

## 13 Education and Skills

### Review of the Carmarthenshire Well Being Assessment 2017

13.1 Research by The Institute of Education suggests that attending a good preschool and primary school can have more impact on children's academic progress than their gender or family background. Three quarters (76%) of Carmarthenshire's primary schools are classed as "green"(best performing in Wales) or "yellow" (effective) schools under the Welsh Government's School Categorisation with none in the red (in need of improvement) category. 87% of children achieved expected outcomes at Foundation phase and 89% at Key Stage Two. Studies have shown that emotional well-being and good attention skills are important factors in academic progression at primary school level and into the future

13.2 Carmarthenshire is the 7th highest performing authority in Wales for pupils achieving at least 5 GCSE's A\*-C however there continues to be significance in parity between the performance of pupils eligible for Free School Meals (FSM) and the general cohort. Likewise just 46% of LAC attained the same qualifications. This highlights the potentially negative effect poor socioeconomic and/or adverse childhood circumstances can have on young person's outcomes.

13.3 12.5% of Carmarthenshire's working age population currently have no qualifications however in the last three years no children have left compulsory education, training or work based learning without an approved external qualification in Carmarthenshire. Despite this 69 year 11 school leavers in 2016 were recorded as not in employment, education or training (NEET), which is an increase of 0.4% on the previous year. This demonstrates the importance of linking education to demands of the local labour market; details of which can be found in the Regional Employment and Skills Plan 2016.

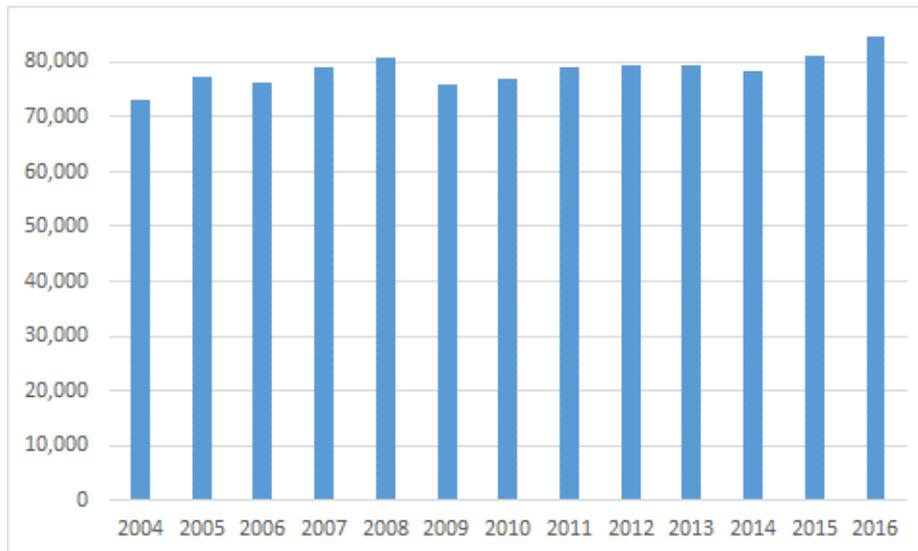
13.4 Retention of youth is a fundamental cornerstone of a sustainable economy and communities. However, more young people aged 15 – 29 left Carmarthenshire than entered in 2014-15, despite the County's university and further education campus's. This could be in part due to the sense of a lack of suitable job opportunities for young people in the County identified through the assessment survey. 50% of respondents aged 16–24 disagreed that there were suitable job opportunities for them in the local area.

13.5 Young people participating in the Youth Council Forum expressed a desire for more apprenticeships and companies taking on young people with a view to developing and training them. This stresses the significance of creating sustainable, quality and progressive jobs in Carmarthenshire to retain and attract young people to the County and which recognise that learning and development doesn't stop when you leave the school environment.

## 14 Economy

14.1 In 2016, 84,700 people were employed in Carmarthenshire. This was the second year in succession where the total had risen by 4% compared to the previous year. The trend in total employment is shown below (Source: Carmarthenshire Employment Sectoral Study).

**Figure : Employment Trends 2004 – 2016**



Source: Carmarthenshire Employment Sectoral Needs Study

14.2 The Office for National Statistics data for 2016 on employee jobs by industry for both Carmarthenshire and Wales is set out below.

<b>Employee Jobs by Industry – Carmarthenshire and Wales</b>		
	<b>Carmarthenshire (%)</b>	<b>Wales (%)</b>
B : Mining and quarrying	0.0	0.2
C : Manufacturing	11.9	11.4
D : Electricity, gas, steam and air conditioning supply	0.4	0.6
E : Water supply; sewerage, waste management and remediation activities	0.4	0.9
F : Construction	6.0	5.5
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	16.4	15.1
H : Transportation and storage	3.0	2.9
I : Accommodation and food service activities	9.0	8.9
J : Information and communication	1.2	2.3
K : Financial and insurance activities	0.9	2.3
L : Real estate activities	1.3	1.6
M : Professional, scientific and technical activities	3.0	4.2
N : Administrative and support service activities	5.2	6.6
O : Public administration and defence; compulsory social security	6.7	6.8
P : Education	10.4	10.1
Q : Human health and social work activities	19.4	16.1
R : Arts, entertainment and recreation	2.2	2.5
S : Other service activities	1.3	1.5

Source: <https://www.nomisweb.co.uk/reports/lmp/la/1946157392/report.aspx>

14.3 In 2016, over 30% of the total were employed in the public sector (e.g. in public administration, education, health and social services). 8,000 positions (11.9% of the total) were in the manufacturing sector and 11,000 (16.4% of the total) were employed in the wholesale and retail sector.

14.4 Self-employment also forms a high proportion of the total in Carmarthenshire with over 15,200 people categorised as self-employed in both 2015 and 2016. This trend towards small or 'micro' businesses is reflected in the ONS NOMIS data. The figure clearly shows that over 90% of private sector businesses / enterprise in the county have 9 or fewer employees. Statistics collated on the types of businesses in Carmarthenshire indicate that 'agriculture, forestry and fishing' still dominates with 28% of all businesses being in this category.

## The Visitor Economy

14.5 Tourism is a key component of Carmarthenshire's economy and a major source of employment and revenue supporting over 5,600 full time equivalent jobs either directly or indirectly and generating over £369m revenue to the County's economy annually (source STEAM (Scarborough Tourism Economic Activity) Trend Report 2016).

14.6 The below are key Statistics and trends (sourced from the STEAM Trend Report 2016);

% change on 2015 (£'s 2016)	2.7%
Total visitor days (Millions)	5.72
% change on 2015	1.2%
Staying visitor days (Millions)	3.57
% change on 2015	2.9%
Total visitor numbers (Millions)	3.08
% change on 2015	0.1%
Number of staying visitors (Millions)	0.93
% change on 2015	3.6%
Number of day visitors (Millions)	2.15
% change on 2015	-1.3%
Number of FTE jobs supported by tourism spend	5,638
% change on 2015	2.3%

14.7 In terms of tourism challenges for Carmarthenshire, the Destination Management Plan (DMP) outlines a range of issues, including a lack of a reasonable range of wet weather and entertainment facilities.

14.8 The DMP also outlines a range of opportunities, including the fact that Carmarthenshire is a strategic location as the gateway to the West of Wales and it has potential as a tourism base for South West Wales.

14.9 The DMP sets realistic targets for economic impact and seeks to prioritise scarce resources so that they can be used to best effect. It sets out a phased programme of projects and actions that are needed to overcome the weaknesses and threats, whilst capitalising on the strengths and opportunities to achieve sustainable growth in tourism. The steering group have responsibilities and accountabilities to deliver the 4 key priorities:

**Cycling** - The cycling market is growing rapidly and as demand rises, Carmarthenshire is taking advantage by providing new routes and facilities for potential visitors and has made significant developments in improving the opportunities for cyclists.

**Heritage and Culture** - Carmarthenshire coast and country is steeped in heritage and culture.

**Skills and training** - As part of the South West Wales Tourism Business Skills & Development Programme the Carmarthenshire Tourism Association (CTA) are arranging a wide range of workshops, one-to-one sessions and events – all tailored to the needs of the region's tourism industry.

**Events** - The County works hard to address seasonality and encourage tourism in shoulder season periods. The vast proportion of economic impact stated in the county's 2015 STEAM figure of £355 million was generated during peak holiday months rather than spread over twelve months.

14.10 Tourism has a spatial dimension within Carmarthenshire, with the post - industrial coastal area (including access to the All Wales Coastal Path) being home to larger scale regional attractions such as the Millennium Coastal Park and further inland, Ffos Las Racecourse and the northern ruralised areas such as the Brechfa Forest renowned for smaller scale high quality outdoor activity offers such as mountain biking. The south west (eg Pendine/Llansteffan) is characterised by coastal accommodation offer.

## 15 Social Fabric

### Review of the Carmarthenshire Well Being Assessment 2017

15.1 Of the 22 local authority areas in Wales, Carmarthenshire continues to have one of the lowest number of crimes per 1,000 population, ranking 5<sup>th</sup> again with a rate of 43.78 crimes per 1,000 population.

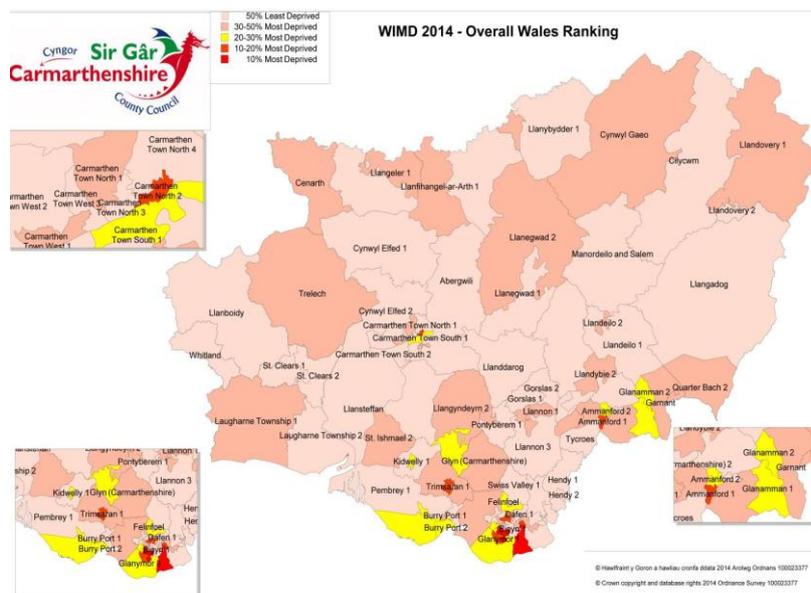
15.2 Feeling safe was considered a very important factor for social well-being by assessment survey respondents with 93% stating that feeling safe in their home was ‘very important’ to well-being and 89% that feeling safe in the community was likewise.

15.3 The survey identified a strong relationship between residents’ well-being and their surrounding environment although the exact nature of the relationship varies across age groups and community areas from providing recreational opportunities, to psychological positivity, health benefits and a connection to heritage and culture, all of which will be explored throughout this report. However, rurality can also pose challenges to wellbeing such as access to services and digital access which can impact both social and economic well-being.

15.4 36% of households across the county can be said to be living in poverty based on the Welsh Government definition of poverty as “households with less than 60% of the GB median income”, making Carmarthenshire levels the 8th highest in Wales. In addition, measures of the Wales Index of Multiple Deprivation (WIMD) 2014 indicate significant variance in the level of deprivation experienced across community areas.

### Wales Index of Multiple Deprivation (WIMD) 2014

15.5 The WIMD 2014 is based on fine-grained geography of Lower Super Output Areas (LSOAs). The WIMD 2014 is compiled from eight domains: Income; Employment; Health; Education; Housing; Access to Services; Physical Environment; and Community Safety and is published at LSOAs of which there are 112 in Carmarthenshire. 59 of these 112 LSOAs are within the 50% most deprived within Wales. Of the 10% most deprived wards within Wales, 5 are within Carmarthenshire – namely Tyisha 2, Bigyn 4, Llwynhendy 3, Glanymor 4 and Tyisha 3.



## **Ward Profiles**

15.6 Carmarthenshire is a diverse county. The county is made up of 58 electoral wards with 74 elected Members. Individual profiles have been prepared for each of these wards by the Council. The profile provides a summary of the key characteristics of the ward as well as valuable local information. The ward profiles draw upon a wide array of data sources, and their standardised layout enables the quick and easy comparison of areas, an investigation of patterns, and identification of variations. This is available here:

<http://www.carmarthenshire.gov.wales/home/council-democracy/research-statistics/electoral-ward-county-profiles/#.Wqu1xOlp70>

## **Fuel Poverty**

15.7 Information from the Department of Energy and Climate Change shows that 21% of households in Carmarthenshire are not connected to a mains gas supply which is traditionally used as a measure of fuel poverty. This is particularly prevalent in rural areas of the county. In some smaller, more remote rural communities this increases to 98% of households (Carmarthenshire Rural Poverty Study, 2015).

15.8 As a result rural residents often have higher dependency on more expensive sources of fuel such as oil, which is still the main source of fuel for 20,194 homes across the county (Census, 2011) and can be particularly expensive in older homes with insufficient insulation. In addition 1821 households in Carmarthenshire are without any central heating system (Census, 2011). It is stated that living in fuel poverty can not only have detrimental impact on economic well-being but also on physical health with increasing numbers of excess winter deaths relating to cardiovascular and respiratory diseases being predominantly linked to the cold.