



Vale of Glamorgan Well-being Assessment Evidence Report

Our Environment – Part 1

Note

The evidence reports produced to accompany the Vale of Glamorgan Well-being Assessment are intended to be used as ongoing working documents rather than public and as such are not edited in a final format.

The Vale of Glamorgan Well-being Assessment is comprised of a number of components as outlined below. We recognise that this is a large document and it is intended to form the evidence base for the Well-being Assessment which is published as an overview document. This document provides a place to set out the evidence used in the main assessment rather than to provide comprehensive interpretation and analysis.

It should be noted that sources of the information included can be found in the evidence and research directory that forms part of the package of documents that comprise the Vale of Glamorgan Well-being Assessment. The directory can be used to find further information in relation to the evidence presented here where it has not been included i.e. for other time periods, comparisons to other areas and the metadata that accompanies the dataset.

Vale of Glamorgan Well-being Assessment Components

In order to ensure the information produced is useable by a variety of audiences the Vale of Glamorgan assessment is comprised of a range of constituent parts to form a package of information as below:

- **An overview document** – This acts as the main document and is what the PSB considers to be the Well-being Assessment. It forms a summary of findings across the various sections of the assessment and makes links between them. This document also summarises potential areas for further ‘response’ analysis to inform the Well-being Plan in 2018, as determined by the PSB.
- **A detailed evidence report for each of the four sections**– These are longer more detailed documents bringing together a range of the data and information used to inform the main overview document and are intended to set out the evidence base used to inform the assessment rather than provide a comprehensive analysis.
- **An evidence and research directory** – A directory of links to the various resources used to inform the assessment should users wish to access even more information and raw data on a topic. This document should be used to find the source of information used in the detailed evidence reports. The Common Data Set and National Indicators have also been incorporated into this directory.
- **‘Let’s Talk’ Engagement Findings Report** – A detailed analysis report of the findings from the ‘Let’s Talk’ engagement exercise.
- **Three community area based reports** on each of the community areas used within the assessment – Barry, Eastern Vale and Western Vale.

Our Environment – Introduction

This report sets out the evidence used to inform both the 'Our Environment' section of the Vale of Glamorgan Well-being Assessment in addition to other sections of the assessment where strong links to the natural environment and well-being can be made.

This evidence report slightly differs in structure and format to the others used to inform the assessment and is comprised of two parts.

Part 1, this document, sets out the findings in relation to our environment that are presented in the main well-being assessment document plus a range of additional evidence/ data tables and graphs.

Part 2 [\(Insert Hyperlink\)](#) is an evidence pack put together by Natural Resources Wales (NRW) which presents a range of maps and analysis in relation to the Vale's environment and the links to well-being. A pack was developed for each Public Service Board by NRW and the Vale's pack has been made available to form part of the suite of documents that comprise the assessment.

Our Environment – Our Findings and Evidence

One of the Vale's greatest assets is the natural environment and throughout our engagement campaign the importance of the natural environment to our residents' well-being was clear. The environment underpins all aspects of life and is essential to our residents and the area's well-being.

In order to assess well-being within the Vale of Glamorgan we have divided the findings of our assessment into three key areas for well-being both now and in the future – *Having a Healthy and Active Future, Being Part of Safe and Inclusive Communities and Maximising Opportunities and Attainment*. The environment we live in is an essential part of all three of these aspects of well-being and throughout these sections of the assessment it is evident that links to the environment cannot be underestimated. It is therefore essential that we value and protect the environment in order to ensure the well-being of our future generations.

Recognising our environmental assets and heritage

The Vale benefits from a wide range of environmental resources, some recognised for their value by international and national designations such as the Severn Estuary and the Glamorgan Heritage Coast. There are a large number of national and locally important designated sites of nature conservation value which provide important habitats for local biodiversity including protected species. This includes 27 sites of Special Scientific Interest (SSSIs), The Severn Estuary Special Protection Area (SPA), RAMSAR and Special Area of Conservation (SAC) site, Dunraven Bay SAC and the adjoining Merthyr Mawr National Nature Reserve (NNR), part of the Kenfig SAC.

The Vale of Glamorgan Deposit Local Development Plan 2011 - 2026¹ sets out the vision, objectives, strategy and policies for managing growth and development in the Vale of Glamorgan whilst protecting and enhancing the environment. We must take opportunities to promote sustainable development and integrate positive measures to reduce the environmental impact whilst maximising the socio-economic benefits of development.

In addition to helping protect our natural environment, conservation areas ensure residents have access to countryside and areas of green space which are proven to have a significant effect on mental health and overall well-being. The Vale is also home to a number of historic features such as Ewenny Priory and Ogmore Castle.

¹ <http://www.valeofglamorgan.gov.uk/Documents/Living/Planning/Policy/LDP-2013/01-LDP-Deposit-Plan-Written-Statement-2013.pdf>

Climate Change

The [UK Climate Change Risk Assessment 2017 Evidence Report Summary for Wales](#) highlights a number of key risks for Wales arising from climate change. A number of these risks and the implications for the Vale of Glamorgan have also been identified throughout our assessment. Key risks for Wales include:

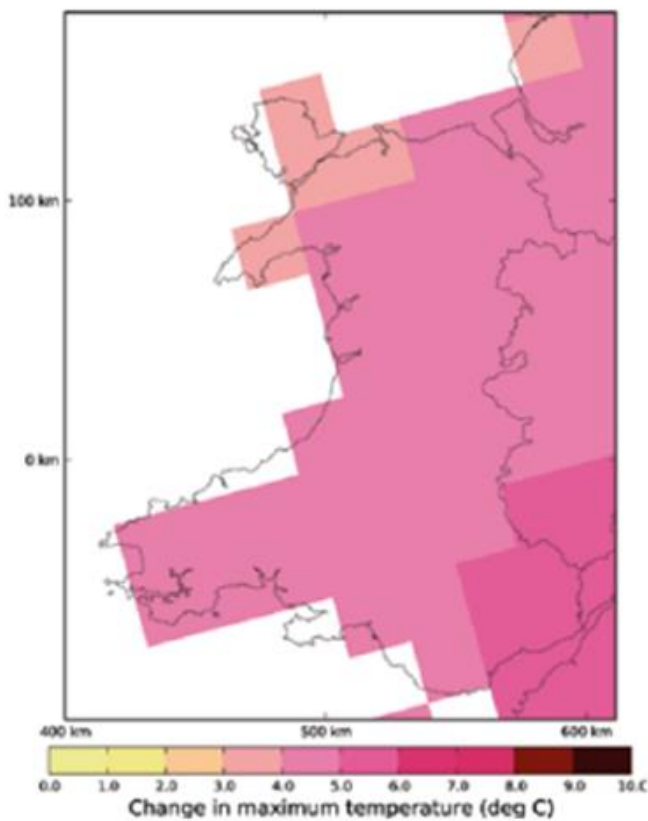
- Changes in soil conditions, biodiversity and landscape due to warmer, drier summers
- Reductions in river flows and water availability during the summer, affecting water supplies and the natural environment
- Increases in flooding on the coast and inland, affecting people, property and infrastructure
- Changes in coastal evolution including erosion and coastal squeeze affecting beaches, intertidal areas and other coastline features
- 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 was also a concern.

It may be suggested that although the impacts of climate change poses a number of risks to the Vale of Glamorgan and to Wales as a whole, there are some opportunities that may also arise. For example through the assessment we have highlighted that likely warmer temperatures present an opportunity to promote outdoor recreation and increase physical activity levels. The threat to food markets from climate change also presents an opportunity to promote a fresh and local food environment.

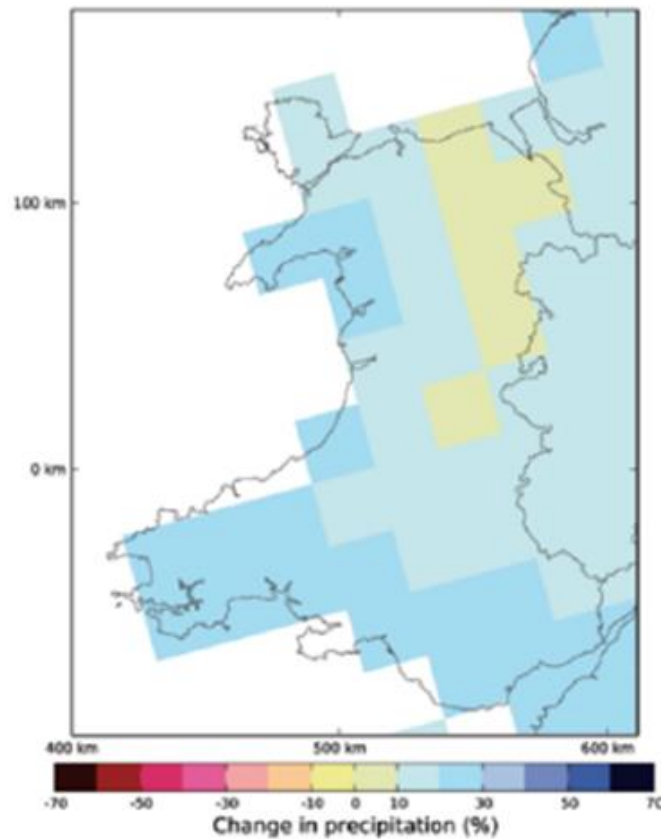
In the well-being survey the responses indicate that Vale residents have concerns regarding climate change and believe that it is our collective responsibility to protect the environment, that is that all public, private and voluntary sector organisations have a part to play in addition to the government and the public themselves. Of the 748 respondents who answered the question about concerns with climate change, 510 were either very/fairly concerned about climate change.

CO² emissions can have a significant impact on the environment and the future of climate change. CO² emissions can have a significant impact on the environment and the future of climate change. Emissions in the Vale of Glamorgan decreased from 1,250.6 kilotonnes in 2009 to 1,236.7 kilotonnes in 2014. The average CO² tonnes per resident in 2014 was 9.7 tonnes compared to 9.3 for Wales. This could be reflected by the higher than average levels of car ownership in the Vale of Glamorgan, in addition more residents commute to work via car than in other areas. The limited availability of public transport as an alternative was also highlighted throughout our engagement campaign particularly in rural areas of the Western Vale.

UK Climate Change Projections 2009 showed that under the medium emissions scenario, Wales would see an increase in mean winter temperatures of 2 degrees C and an increase in mean summer temperatures of 2.5 degrees C. Increase in temperatures could have a range of impacts in Wales and in the Vale of Glamorgan, particularly given the area's rural agricultural economy.



Summer max temp 2080s



Winter Rainfall by the 2080s

Under the medium emissions scenario Wales would also see an increase in mean winter precipitation of 14% and a decrease in mean summer precipitation of 17%.

Air Quality

Indicator data used to calculate the physical environment domain of the Welsh Index of Multiple Deprivation 2014 shows differences in air quality throughout the Vale of Glamorgan.

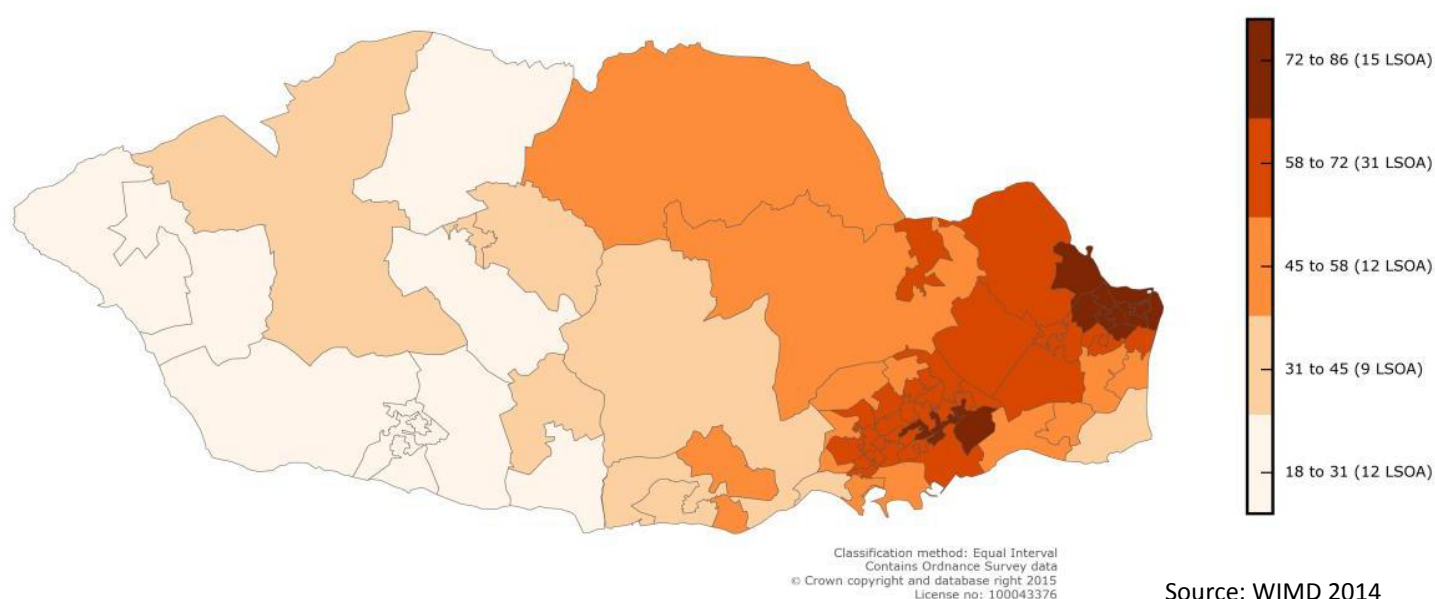
As would be expected, air emissions scores are much higher in the south and east of the county, where population densities, traffic volumes and proximity to heavy industry are likely to be higher than in the more rural areas of the county. This links to the idea that there is a clear difference in the Vale of Glamorgan between the generally less deprived rural areas and the urban developed areas to the south and east of the local authority.

Higher levels of emissions within the areas prone to poverty and deprivation can exacerbate already high levels of health inequality by increasing levels of respiratory disease and other illnesses.²

The Air Concentrations Indicator is calculated using a combination of concentration data in relation to a range of pollutants (modelled on air emission data) and Air Quality Management Areas. This indicator calculates the measurement of pollutants that could have a negative effect on human health and/or the environment, based on medical and scientific understanding. Results were weighted based on the number of residential addresses in the area. Poor air quality suggests proximity to certain activities such as traffic, domestic combustion and industrial sites – activities that could have a negative impact on quality of life, the local environment and health and have a detrimental effect on an individual's well-being. Close proximity to such activities indicates less access to green spaces and may impact on mental health resulting from stress associated with the intensity of industrially developed areas.

The physical environment domain of the Welsh Index of Multiple Deprivation 2014 used this 2012 Air Concentrations Indicator which on a scale of 1 to 100, 100 being more polluted, ranged from over 80 in some parts of Penarth and Llandough in the Eastern Vale to under 25 in parts of Llantwit Major and St. Bride's Major in the Western Vale.

Air Quality Concentration Score in the Vale of Glamorgan 2012



² Acute respiratory effects of particulate air pollution. Dockery, D. W. and Pope III, C. A. *Annu. Rev. Public Health*, 1994, 15:107-32.

Data in relation to the rate of limiting long term illness shows a higher rate of illness in LSOAs that also have air quality concentration scores and air emissions scores that are relatively high. Whilst the data is not robust enough to establish a direct link the weight of medical evidence which shows the effect of poor air quality on health would likely mean that some long-term health issues are caused and/or aggravated by the relatively poor air quality in those areas. Further examination of this data, looking specifically at respiratory illnesses, could make a more tangible link between the two indicators, and possibly establish a rate at which long-term limiting illness in the south east of the Vale of Glamorgan is impacted by poor air quality.

The Vale as a whole has one of the highest levels of man-made air pollution in Wales and is higher than the Welsh, Scottish and Northern Irish averages. This is estimated to contribute to approximately 50 deaths each year in the county³.

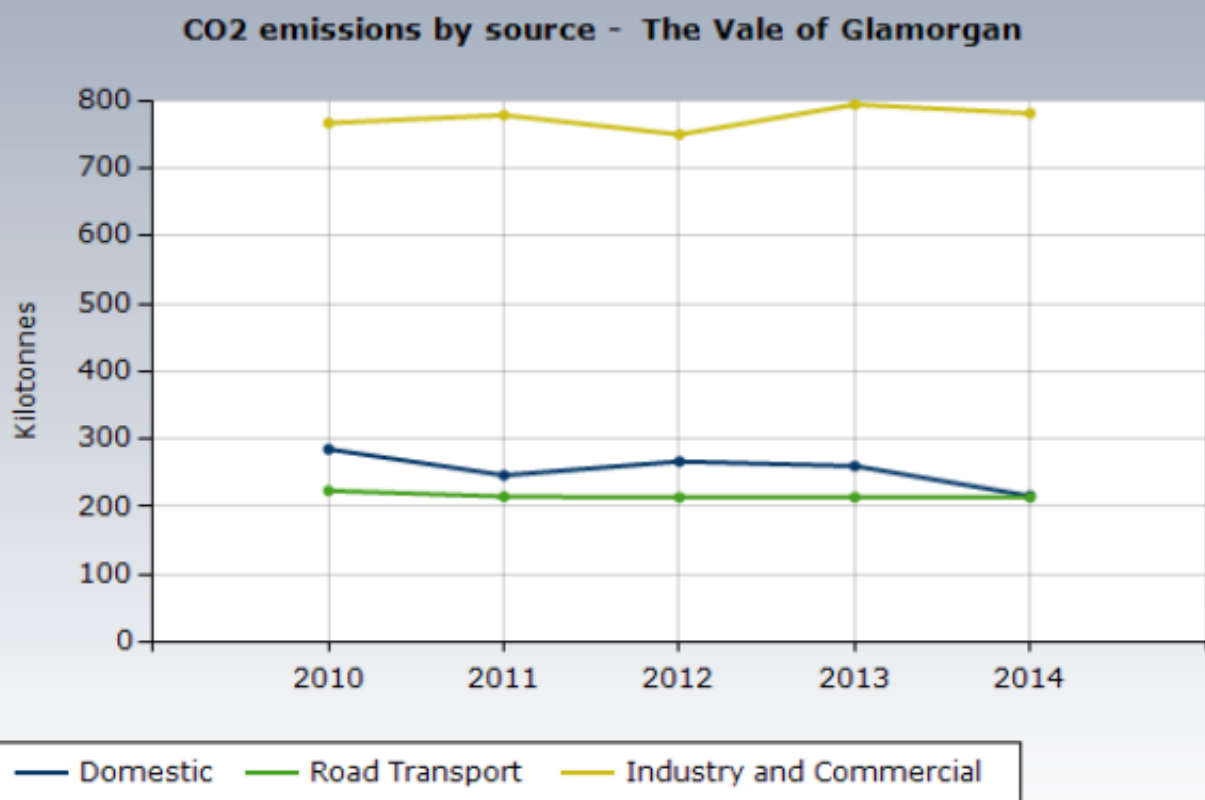
However, according to the 2016 Air Quality Progress Report, overall air quality across the Vale of Glamorgan complies with regulations to protect human health and meets the relevant air quality objectives. Evidence shows that Nitrogen Dioxide levels have seen a noticeable decrease or have remained stable during the 2015 monitoring period. Full details of the ratified data for the Air Quality Monitoring exercise undertaken in 2015 are available.⁴

Emissions

Climate change and air quality are impacted upon by an area's emissions and the following charts show data in relation to CO2 emissions in the Vale of Glamorgan.

³https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332854/PHE_CRCE_010.pdf

⁴http://www.valeofglamorgan.gov.uk/en/living/environment/environmental_protection/pollution/air_pollution/air_quality_review_assessment.aspx



Source: Department for Energy and Climate Change

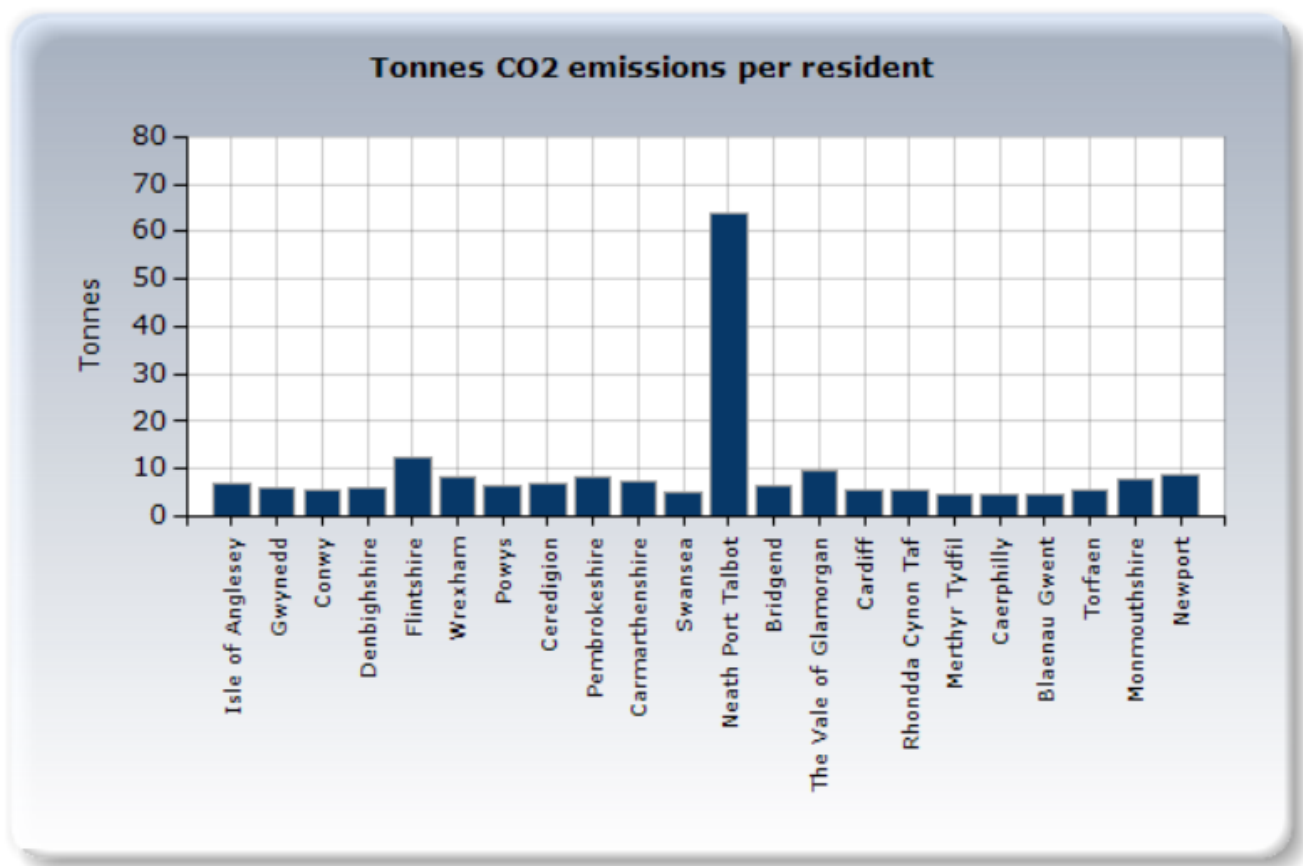
As per the above chart, the main source of CO₂ emissions in the Vale of Glamorgan, as for other areas is industry and commercial emissions. Data from the National Atmospheric Emissions Inventory (NAEI) shows a breakdown of sectors as below:

Co₂ Emissions in the Vale of Glamorgan by Sector - 2014

Sector Name	CO₂ (kt)
Industry & Commercial Electricity	118
Industry & Commercial Gas	46
Large Industrial Installations	558
Industrial & Commercial Other Fuels	46
Agricultural Combustion	14
Domestic Electricity	85
Domestic Gas	114
Domestic Other Fuels	17
Road Transport (A roads)	64
Road Transport (Motorways)	28
Road Transport (Minor roads)	115
Diesel Railways	9
Transport Other	6
LULUCF Net Emissions	16

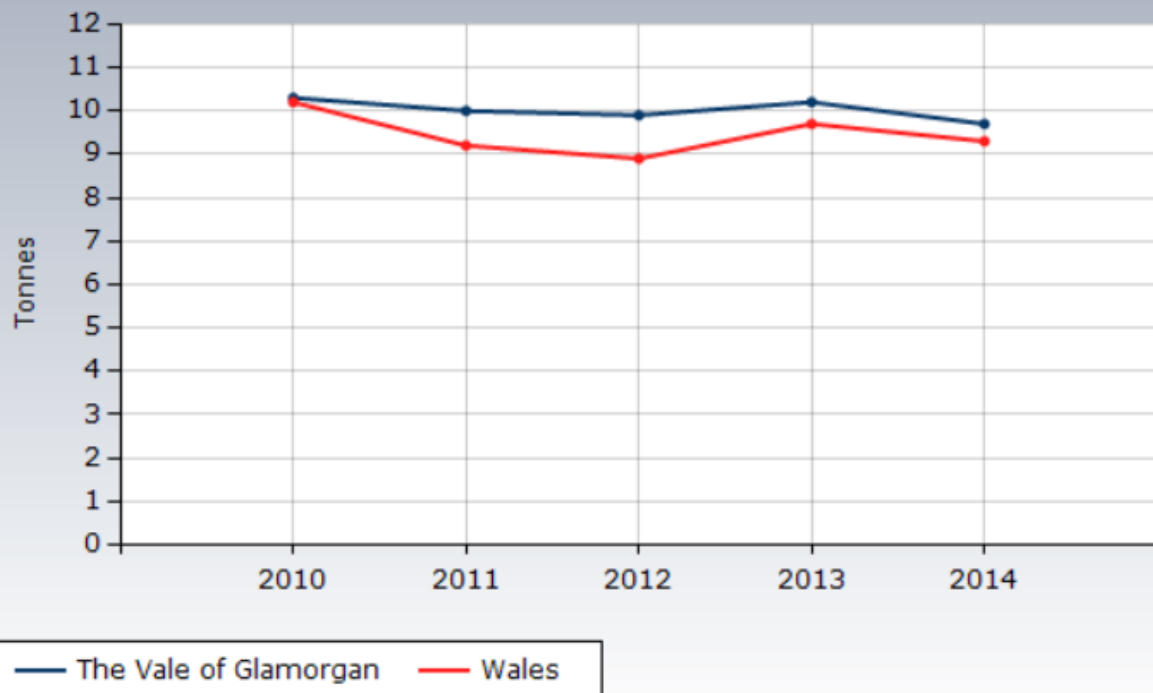
The NAEI cites the Vale of Glamorgan as having four large industrial installations, all of which will significantly contribute towards these CO2 emissions, – Aberthaw power station, MOD St. Athan and two sites operated by Dow Corning in Barry. Air quality in the Vale could also be impacted by sites bordering the Vale of Glamorgan but based in neighbouring local authorities such as the Ford plant in Bridgend, Forrest Wood Coating Plant in Rhondda Cynon Taf and the BT International Data Centre in Cardiff Bay.

When comparing levels of CO2 emissions per resident, the below charts shows that the Vale has slightly higher levels of emissions compared to a number of other local authorities in Wales and is therefore above the Welsh average.



Source: Department for Energy and Climate Change

Tonnes CO2 emissions per resident - The Vale of Glamorgan



Source: Department for Energy and Climate Change

Ecological and Carbon Footprint

Ecological footprint refers to the impact of human activities measured in terms of the area of biologically productive land and water required to produce the goods consumed and to assimilate the wastes generated in the area.

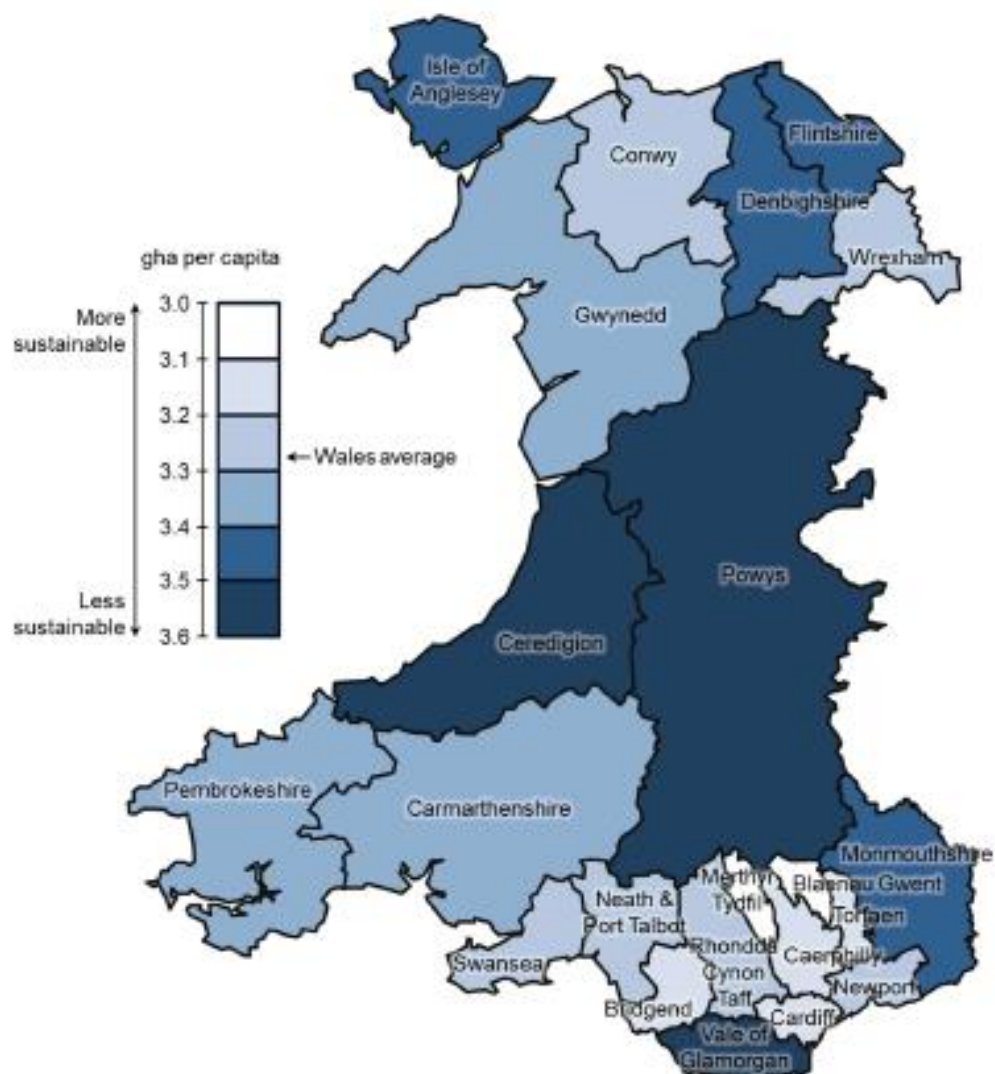
Wales' ecological footprint is estimated at 10.05 million global hectares (gha), roughly 5 times the size of Wales, or 3.28 global hectares per capita (gha/c).

At the current level of consumption, a number of key natural resources are being depleted faster than they can be replenished, and the planet's capacity to absorb our wastes is exceeded. In other words it is not sustainable in the long term, because we are exceeding the world's bio capacity. In order to sustain our current consumption in the long term we would require more than one planet Earth to provide the resources and absorb the wastes. In common with other developed countries, Wales has a much higher consumption rate than the global average. Previous comparative studies have found that the ecological footprint for Wales is marginally lower than the UK average..

The Vale of Glamorgan is within the top three local authorities in Wales with the highest ecological footprint along with Ceredigion and Powys. Those with the lowest ecological footprint are Merthyr Tydfil, Blaenau Gwent and Torfaen.

Ecological Footprint by Local Authority

Local Authority	gha/c	Local Authority	gha/c
Merthyr Tydfil	3.06	Conwy	3.28
Blaenau Gwent	3.10	Pembrokeshire	3.36
Torfaen	3.13	Carmarthenshire	3.36
Caerphilly	3.14	Gwynedd	3.38
Cardiff	3.16	Flintshire	3.41
Bridgend	3.20	Monmouthshire	3.42
Rhondda Cynon Taff	3.20	Denbighshire	3.44
Newport	3.20	Isle of Anglesey	3.46
Neath Port Talbot	3.20	Powys	3.53
Swansea	3.25	Vale of Glamorgan	3.53
Wrexham	3.27	Ceredigion	3.59
		Wales average	3.28



In the above map, the local authorities with the lowest environmental burden per capita are shown in lighter colours. These tend to be the areas with relatively high population density, particularly the valleys and the area stretching from Swansea and Newport. Those with a higher burden per capita are shown in darker colours. These tend to be the areas with sparse rural populations.

The data used to calculate the footprints only allows limited distinction between the counties. Some of the categories making large contributions to the footprint were calculated from national level data, for example private (household) transport and government capital expenditure on construction. These were calculated at a national level and, in the absence of county-level data, then attributed equally between the counties on a per capita basis. Of the data that were available at the county level, the most important category driving the difference between counties is 'electricity, gas and other fuels' consumed by households.

An area's Carbon Footprint is the amount of carbon dioxide released into the atmosphere as a result of the activities in the area. In general the local authorities with a high carbon footprint are also those with a high ecological footprint.

However, there are some exceptions, with the Vale of Glamorgan being one of these. The Vale has the second highest ecological footprint in Wales but only the 7th highest carbon footprint. This is explained by slight differences in the make-up of the ecological footprint between regions. For example, carbon land accounts for a slightly higher proportion of the ecological footprint of the Vale of Glamorgan (64%) than the national average (63%).

Carbon Footprint by Local Authority

Local Authority	t CO2e per capita	Local Authority	t CO2e per capita
Merthyr Tydfil	10.52	Conwy	11.18
Blaenau Gwent	10.64	Carmarthenshire	11.36
Caerphilly	10.64	Pembrokeshire	11.40
Cardiff	10.66	Gwynedd	11.48
Newport	10.77	Vale of Glamorgan	11.48
Torfaen	10.77	Monmouthshire	11.50
Bridgend	10.82	Flintshire	11.54
Neath Port Talbot	10.85	Denbighshire	11.60
Rhondda Cynon Taff	10.86	Isle of Anglesey	11.76
Swansea	11.02	Powys	11.90
Wrexham	11.04	Ceredigion	12.01
		Wales average	11.11

Managing our waters, seas and coast

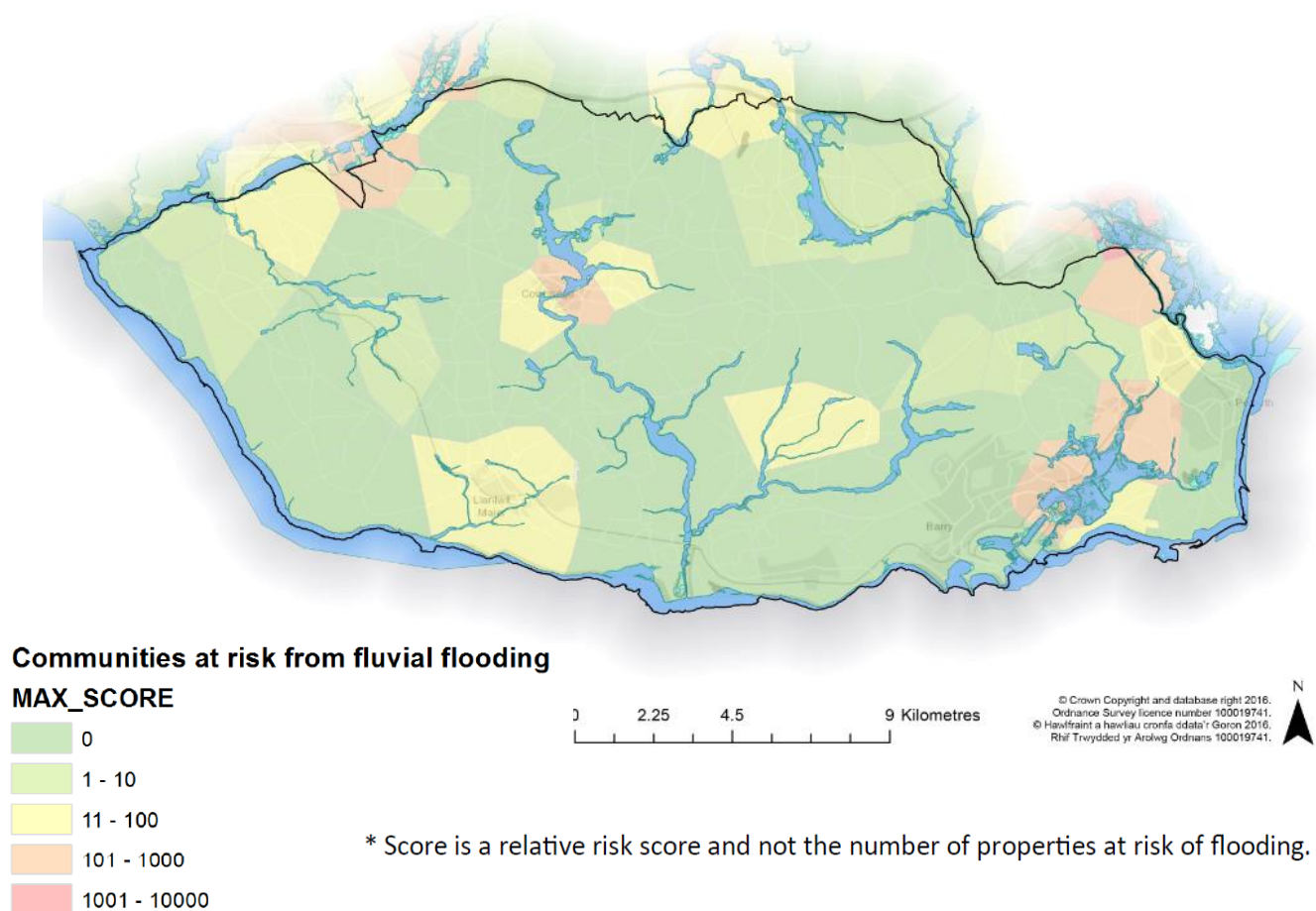
Coasts and seas provide jobs, food and opportunities for recreation which can bring a range of health benefits, energy generation and enjoyment of wildlife, landscape and cultural heritage. In addition, the 2015 GB Tourism Survey found that spending associated with an overnight visit to the Welsh coast amounted to around £800 million, around 41% of total tourism spending in Wales.

Part of the Vale's western coastline is designated as part of the Glamorgan Heritage Coast, the aim is to conserve, protect and enhance undeveloped coastline. The heritage coast also acts as a tourist attraction in addition to being an asset for Vale residents.

Our rivers, lakes, estuaries, coastline and beaches provide us with important natural benefits, many of which contribute to the well-being of local communities and the wider population. Natural benefits include access to drinking water, clean rivers and seas for recreation and relaxation, income generation from business and industry, tourism, green energy production and angling. In the Vale there are four bathing beaches which all pass the EC bathing waters classification. Other beaches and coastal waters are under pressure from a combination of diffuse rural pressures and urban pollution from sewage/misconnections in the developed areas.

Potential rises in sea levels as a result of climate change may pose a threat to our coastal environment as well as towns and villages situated on the coast. The Vale's Shoreline Management Plan paints a picture of erosion and cliff falls causing some small scale recession along the coastline. There is a need for limited long term intervention to prevent erosion in key areas such as Barry. The remainder of the coastline is subject to non- intrusive management to prevent further erosion.

Flooding is the most frequent type of natural disaster affecting homes, business and whole communities with financial consequences and a significant impact on physical and mental well-being. Due to climate change, winter rainfall in Wales is projected to increase by an average of about 14% by the 2050s. Flooding will therefore continue to be a threat to many communities. The communities at highest risk from flooding in the Vale of Glamorgan are Cowbridge, Dinas Powys and parts of Barry. Llantwit Major is also at risk as shown in the following map.



Source: Natural Resources Wales

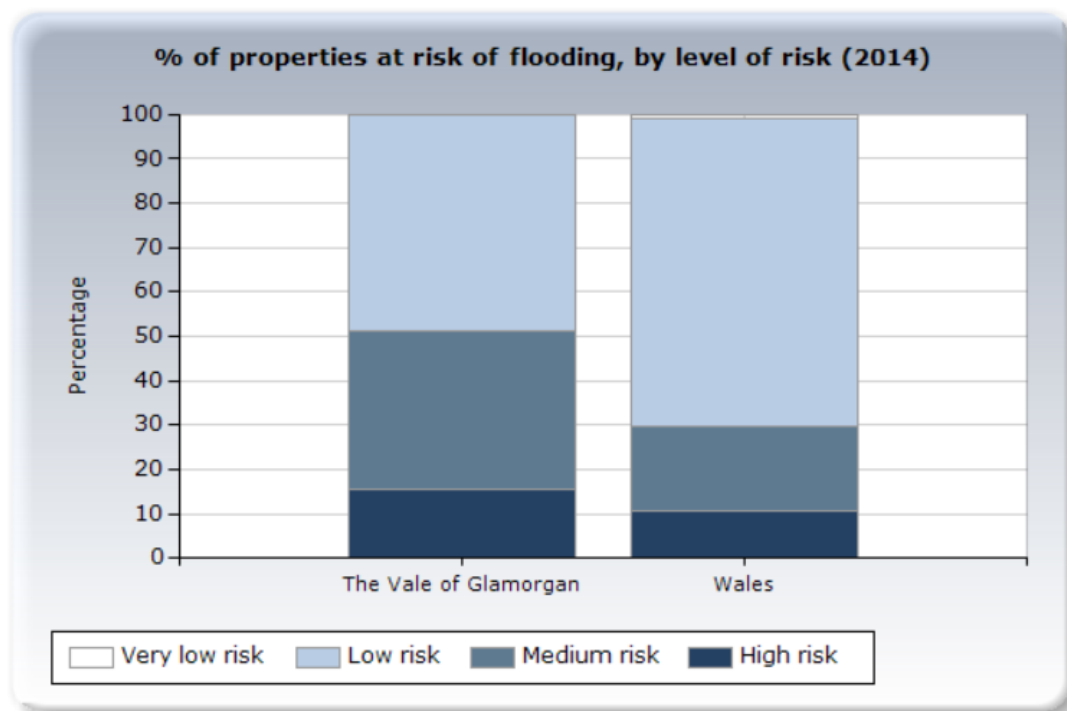
Increased resilience, the natural environment and well planned developments can help provide resilience to flooding.

In 2014 the percentage of properties in the Vale with a high risk of flooding was 0.6 % (Wales 1.1%). Properties with a medium risk were 1.4% (Wales 2%). The following table displays the number of properties at risk by category and local authority area.

Properties at risk of flooding 2014

	High	Medium	Low	Very Low
Isle of Anglesey	601	495	521	48
Gwynedd	1,731	1,706	5,460	76
Conwy	662	1,460	14,369	440
Denbighshire	1,240	1,768	12,504	111
Flintshire	1,227	1,143	9,377	18
Wrexham	413	541	1,263	67
Powys	2,764	4,372	5,232	201
Ceredigion	1,219	955	3,129	4
Pembrokeshire	526	338	1,513	1
Carmarthenshire	4,015	3,234	7,522	34
Swansea	1,849	1,287	2,484	4
Neath Port Talbot	947	2,613	10,196	27
Bridgend	1,001	1,581	2,342	29
Vale of Glamorgan	411	1,017	1,397	0
Cardiff	582	2,198	32,320	216
Rhondda Cynon Taf	519	4,039	5,795	10
Merthyr Tydfil	57	949	1,162	2
Caerphilly	198	1,995	4,863	6
Blaenau Gwent	144	1,434	794	0
Torfaen	74	2,221	1,381	19
Monmouthshire	761	989	5,543	9
Newport	688	3,144	16,939	14

Although the Vale of Glamorgan has a slightly lower than average percentage of properties at risk of flooding, when considering these properties by the level of risk, the percentage of properties at risk of flooding that are a high risk is higher in the Vale than the Welsh average as displayed in the following chart.



Source: Natural Resources Wales

Resilience of Ecosystems

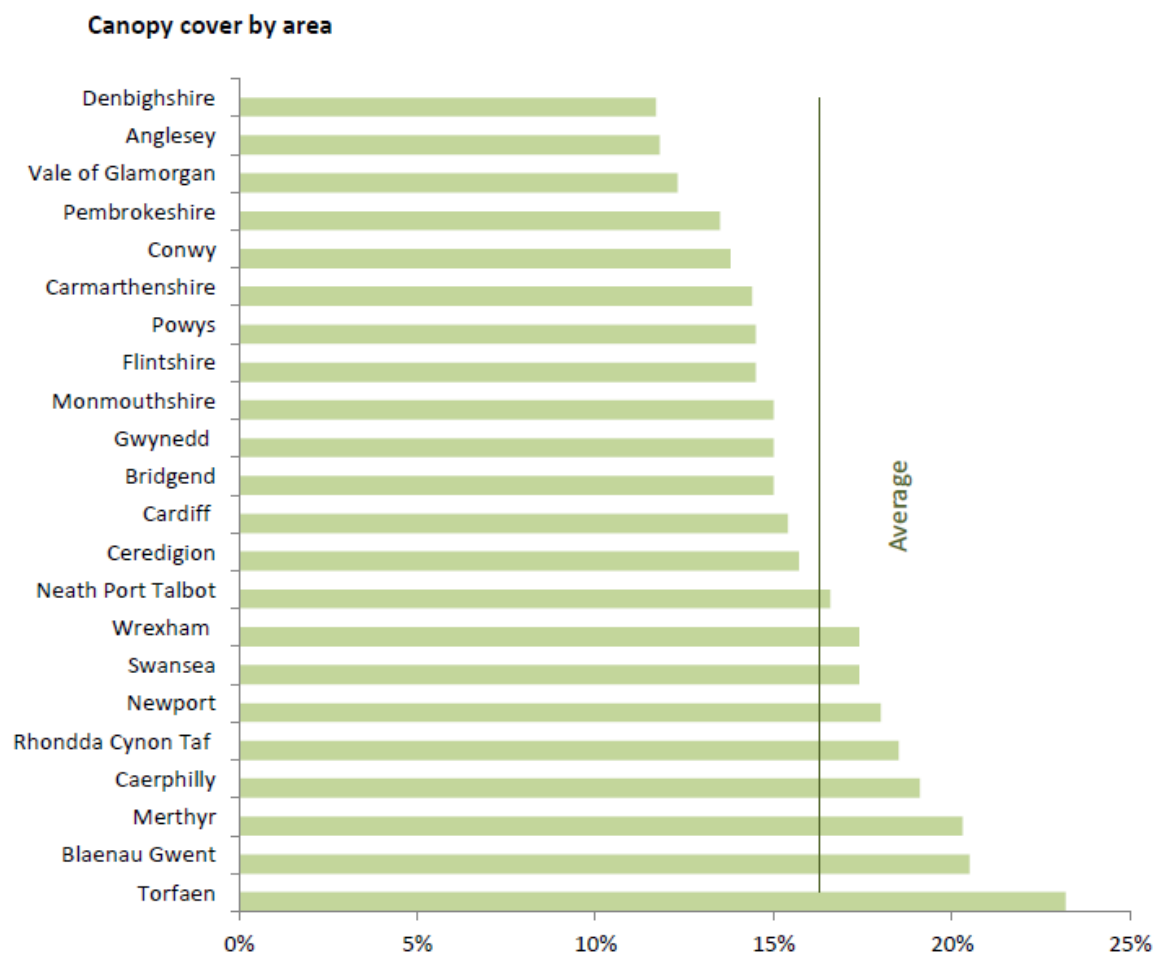
Animals, plants and other organisms and their habitats play many functional roles in ecosystems and the processes which underpin food production, clean water and pollination.

There are a wide variety of habitats in the Vale with several nationally important grassland SSSI and areas of high biological diversity. The Vale is home to a number of rare and threatened arable weeds and is one of the most important areas for butterflies in Wales as well as containing blocks of nationally important ancient woodland. Whilst supporting a wide variety of habitats, they are generally heavily fragmented as a result of past agricultural management, development pressure and habitat loss. As a result, less mobile species of animals and plants are less able to move within the landscape and adapt to the likely impact of climate change. Restoring, creating and managing semi-natural habitats appropriately can help to improve the opportunities for species to move, in turn, helping creating resilient and healthy ecosystems. Positive management of these habitats can also provide additional benefits for residents through attenuating water flows and reducing soil loss as well as providing interesting, rich and inspiring greenspaces for the benefit of residents.

Protected sites make a vital contribution to our economic prosperity and are places for scientific research and study. It has been estimated that protected sites contribute £128m annually to the Welsh economy.

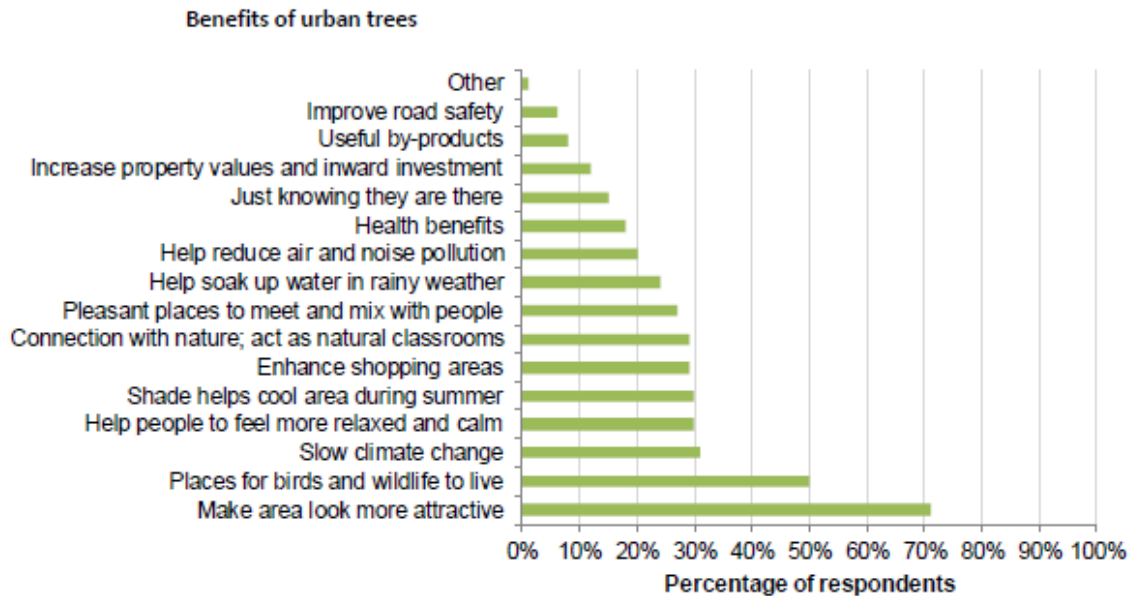
Greenspaces, Forests, Woods and Trees

The sustainable use of the natural environment can support social resilience by providing opportunities for interaction and engagement. Green spaces and trees can contribute to physical and mental wellbeing but are not always located close to the people who need them most. Tree cover in deprived areas tends to be lower and less diverse and this is a pattern that is reflected within the Vale of Glamorgan with the area having one of the lowest percentages of tree cover in Wales. However it is important to consider the characteristics of the Vale which is a low lying area with some of the best agricultural land in Wales.



Source: Tree Cover in Wales' Towns and Cities (2016)

Woodland and trees help regulate our climate, provide income and jobs, store carbon, contribute to reducing flood and low river flow risk, safeguard soils, improve air quality, reduce noise and regulate pests and diseases. They play a major role in pollination, soil formation, nutrient cycling, water cycling and oxygen production which are crucial to supporting well-being. Woodlands cover only 8.2% of the county which is below the Wales average of 14%. Nationally, woodlands are often in poor condition and fragmented.



Source: Public Opinion of Forestry Survey

Studies have shown that there are significant positive associations between mental and physical wellbeing and increased trees and green space in urban areas. For most people social interaction is significant in using local green space. There is also significant community interest in involvement in decision making about local green spaces.

The Let's Talk Well-being Survey asked a range of questions in relation to environmental well-being. Of the answers given to the question of satisfaction with environmental well-being, the highest proportion of answers for being very satisfied was for "access to open space" 416 (55.5%) respondents gave this answer. 386 (53.6%) of respondents answered that they were fairly satisfied with the "quality of the local environment".

Engagement undertaken at events has highlighted that the local environment is important to residents who value proximity and access to the countryside/seaside and green spaces.

Soils and Agriculture

Agriculture, soil and their management offer positive and negative impacts on well-being in the Vale, in terms of their economic and social value and environmental impacts. Soil is a finite resource that underpins the delivery of a wide range of crucial services such as food production, biodiversity, carbon and water storage. Unsustainable agricultural and land management practices can lead to significant environmental impacts such as soil loss through erosion leading to carbon losses, the pollution of watercourses and increased and more rapid surface water flows which can contribute to flood risk.

According to Natural Resources Wales' current knowledge there is very little 'deep peat' present in the Vale of Glamorgan. A small area has been recorded in Ystradowen where this site may benefit from consideration of the optimum management needed.

The environmental benefits of peat in the Vale are not being realised and appropriate management is needed to secure its carbon store, reduce carbon emissions, and restore its characteristic biodiversity in a part of Wales where this resource is very scarce.

Peatland habitats regulate our climate and the water cycle. Deep peat soils are important for mitigating climate change as they take up and store atmospheric carbon.

Waste and Cleanliness

Engagement undertaken at events highlighted that for many people litter/cleanliness and dog mess are issues in the Vale.

Despite this, the percentage of municipal waste sent for reuse/recycling/composting in the Vale of Glamorgan in 2015/16 was one of the highest rates in Wales and represents a significant improvement on previous year's figures.

Percentage of waste reused/ recycled/ composted – 2015/16

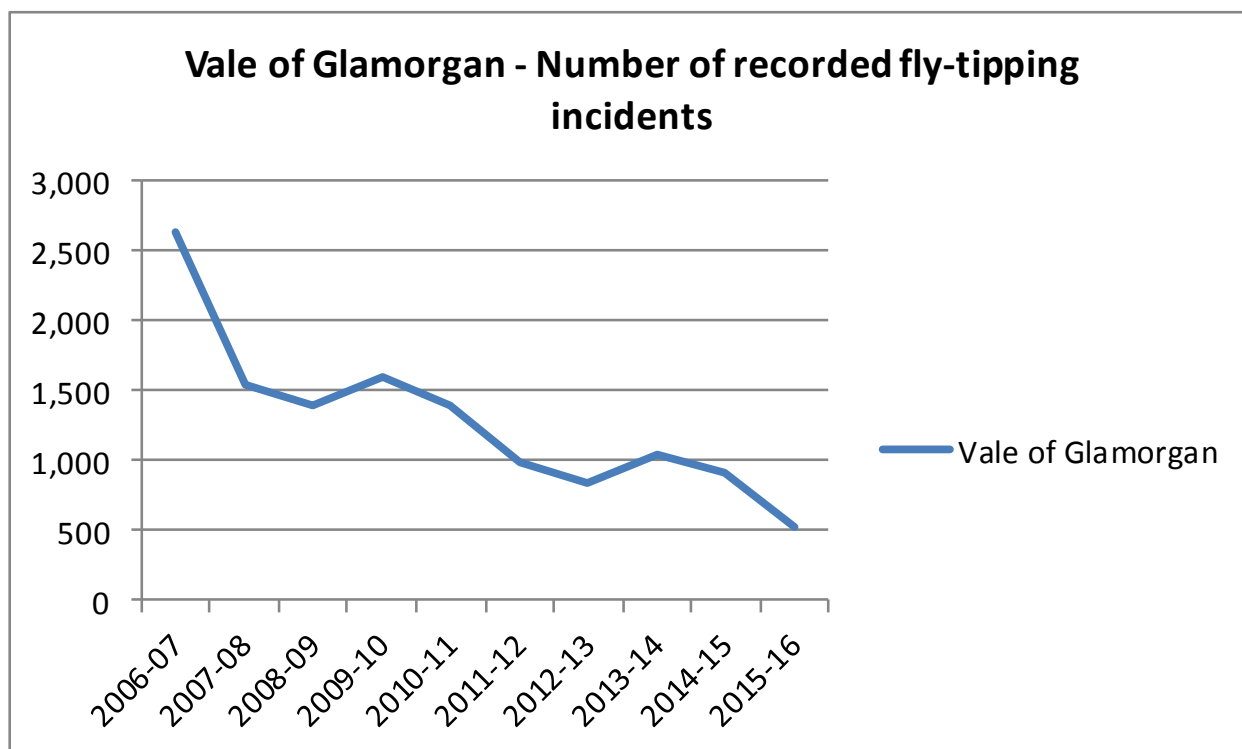
	Percentage of Household Waste Reused/Recycled	Percentage of Household Waste Composted	Percentage of Non-Household Waste Reused/Recycled	Percentage of Non-Household Waste Composted	Percentage of Waste Reused/Recycled/Composted
Ceredigion	33.1	16.6	17.8	0.6	68.1
Pembrokeshire	32.1	20.4	12.2	0.2	64.9
Vale of Glamorgan	36.9	22.5	5.2	0	64.5
Carmarthenshire	40.3	17.7	5.5	0	63.5
Denbighshire	32.1	23.8	6.6	0	62.4
Wrexham	31.7	19.1	11.2	0.4	62.3
Monmouthshire	30.5	22.3	8.6	0.4	61.9
Caerphilly	27	16.5	17.6	0.8	61.9
Merthyr Tydfil	31.6	12.6	16.8	0.6	61.6
Rhondda Cynon Taf	35.9	13.6	11	0	60.5
Wales	30.3	18	11.1	0.8	60.2
Conwy	25.5	18.8	11.9	3.4	59.7
Swansea	29	16.2	12.1	2.2	59.5
Isle of Anglesey	25.8	27.5	6.2	0	59.5
Powys	33.9	21.2	4	0	59.1
Bridgend	28.9	12.8	17.4	0	59
Gwynedd	20.8	19.7	14.6	3.6	58.7
Flintshire	22.2	22.9	13	0.4	58.5
Neath Port Talbot	30.8	19.4	7.8	0.3	58.3
Cardiff	29.1	16.4	10.9	1.8	58.2
Torfaen	34.7	15.1	7	0.7	57.4
Newport	28.7	14.8	13.4	0.2	57.1
Blaenau Gwent	31.1	11.2	6.5	0	48.7

In terms of the cleanliness index the figure for the Vale is 70% for 2015/16. The cleanliness index denotes the overall standard of cleanliness of adopted highways and relevant land within a local authority.

The number of fly tipping incidents in the Vale in 2014/15 was 906 which was an improvement on the 2013/14 figure of 1,048. Despite this improvement, our engagement campaign showed that fly tipping and littering was the issue that many residents felt was a problem in their area compared to a range of other issues associated with anti-social behaviour.

Number of fly tipping incidents

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Isle of Anglesey	1,530	2,613	1,999	1,585	1,045	801	1,103	1,320	1,767	1,831
Gwynedd	1,034	878	541	511	648	527	371	514	529	645
Conwy	1,328	1,336	1,580	1,009	1,361	1,055	935	925	980	1,078
Denbighshire	1,086	991	3,793	5,189	2,515	2,249	2,144	2,206	1,446	1,120
Flintshire	958	903	746	785	697	911	911	899	938	898
Wrexham	706	993	2,116	3,279	1,759	1,022	505	476	235	158
Powys	855	1,584	2,435	2,033	1,614	551	658	682	804	1,019
Ceredigion	441	480	356	317	327	270	253	317	446	390
Pembrokeshire	727	819	660	693	634	732	710	1,163	818	1,199
Carmarthenshire	1,649	1,215	1,487	1,619	1,542	1,516	1,363	1,438	1,306	972
Swansea	7,401	7,323	5,081	4,042	2,902	2,003	2,705	2,702	4,415	6,040
Neath Port Talbot	1,631	1,557	1,049	833	1,137	2,107	1,406	1,269	1,267	1,271
Bridgend	1,074	2,042	482	664	827	684	854	1,033	1,086	1,086
Vale of Glamorgan	2,630	1,546	1,391	1,598	1,388	979	833	1,048	906	532
Rhondda Cynon Taff	3,478	3,257	3,950	3,961	4,448	3,864	3,193	3,935	4,252	4,023
Merthyr Tydfil	1,547	1,482	1,567	1,354	850	1,128	1,416	1,320	1,010	1,682
Caerphilly	3,116	2,725	2,195	1,560	2,680	1,618	1,479	2,609	2,052	2,359
Blaenau Gwent	285	394	381	230	237	177	334	483	726	723
Torfaen	594	871	795	746	361	316	363	410	590	905
Monmouthshire	846	812	837	659	645	599	446	501	407	303
Newport	133	1,637	3,455	4,015	2,648	2,014	1,982	1,578	1,828	1,811
Cardiff	21,792	26,537	18,453	11,497	11,485	11,288	10,912	6,106	(r) 3,905	6,214



Recreation, Access and Tourism

There are 544 km of public rights of way including 61 km of the Wales Coast Path within the Vale of Glamorgan. 2% of the Vale's area is access land where people can walk anywhere instead of having to keep to linear paths.

Outdoor recreation can make a significant contribution to physical health and mental well-being and many activities can be free and improve social inclusion. Equitable access to the countryside, water and green space close to where people live is increasingly important, providing health, economic and social benefits and is an essential aspect of having a healthy and active future.

The Marmot Review highlights how “numerous studies point to the direct benefits of green space to both physical and mental health and well-being. Green spaces have been associated with a decrease in health complaints, blood pressure and cholesterol, improved mental health and reduced stress levels, perceived better general health and the ability to face problems. There is strong evidence that provision of green space effectively improves mental health”

Through the Let's Talk survey respondents were asked to identify why they spend time outside, 571 respondents selected “to enjoy the weather/scenery and wildlife” as the primary reason for spending time outside. Further popular answers selected were; “for health/exercise”, 494 respondents selected this answer and “to relax and unwind”, 486 respondents selected this answer.

The Local Development Plan (LDP) strategic policy in relation to transport is sustainable transport improvements that serve the economic, social and environmental needs of the Vale and priority will be given to schemes that improve highway safety and accessibility, public transport, walking and cycling.

The LTP complements the LDP and has been the subject of a Strategic Environmental Assessment. The LTP prioritises those forms of transport that are the most sustainable as identified in the following hierarchy:

- Pedestrians
- Cyclists
- Public transport
- Private motor vehicles

Objectives in the LTP include, increasing the number of cycle trips, increasing the number of park and ride spaces and users, reducing congestion and improving air quality at strategic junctions and improving accessibility to bus services.

A reduction in car use can promote good health and well-being, reduce the negative impacts on the environment that car travel can bring. Walking and enjoying the Vale's natural scenery and environment can also further contribute towards good well-being.

A sustainable transport infrastructure and services can contribute to reducing negative impacts that cars have on the environment, reducing congestion, improving health and wellbeing, better access to employment, health and education and other facilities and reduce the risk of road accidents.

The Vale is part of the capital region which is committed to a low carbon future, which has a transport network and mobility culture that positively contributes to a thriving economy and the health and wellbeing of its citizens and where sustainable transport is the option of choice.

The metro vision for the capital region is for a multi-modal rapid transit network integrating all transport modules offering the passenger a single ticket 'turn up and go' experience. The metro project has been allocated £62 million for planning work and delivery of other improvements to public transport in the region. Initial schemes include:

- Rail infrastructure improvements
- Station upgrades
- Park and ride schemes
- Improved bus routes
- Introduction of walking and cycling schemes

Attractive places not only help attract residents but tourists and help to improve the area's economic well-being. The provision of tourist and other attractions will also contribute to the cultural well-being of an area. The Vale's natural environment is one of the area's major assets, not only for increasing the well-being of our residents but for attracting tourism to the area.

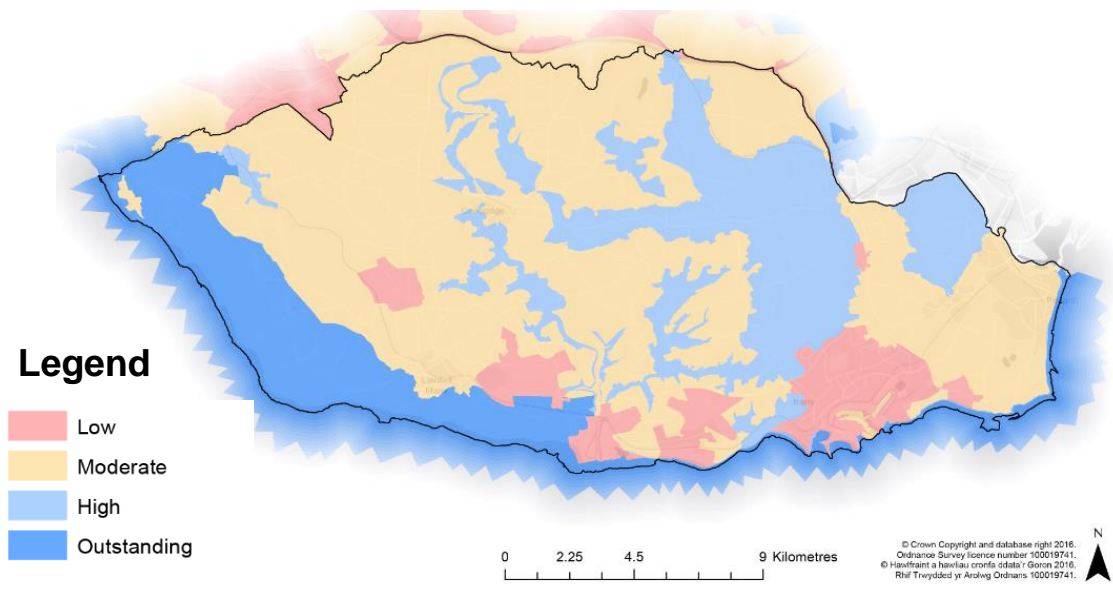
The total number of visitors to the Vale of Glamorgan for tourism purposes continues to increase. Since the STEAM Tourism report was produced in 2004 to 2015, there has been an 18.5% increase in visitors to the area. In addition, there has been a 64.8% increase in the economic impact of tourism in the Vale of Glamorgan during this time period and a 10.9% increase in total employment supported by the tourism industry.

The area has a range of attractions for tourists that utilise the natural environment including:

- The Glamorgan Heritage Coast, the Wales Coast Path and well established seaside resorts;
- Attractive Countryside and country parks;
- Unique heritage timeline of historic features, ranging from pre-historic and Roman remains to Norman castles and Celtic churches;
- A strong activity product on land and sea – golf, sea fishing, cycling, surfing and horse-riding;
- Well established network of walking routes.

Diversity of Landscapes

Landscapes are defined by the interrelationships between people, place and resources and reflect the complex diversity, nature and state of a range of natural resources, human influences, preferences and land use decisions. LANDMAP is an all-Wales landscape information resource where key landscape characteristics, qualities and influences of the landscape are recorded and evaluated. The map below shows the Vale of Glamorgan through this perspective and the quality of the Vale's landscapes.



Source: Natural Resources Wales

The Vale of Glamorgan is a unique authority with a mix of urban and rural areas. It is an area with a number of large industrial installations such as Aberthaw power station, MOD St. Athan and two sites operated by Dow Corning in Barry but also an area with a large rural economy. The Vale of Glamorgan is considered to have some of the best agricultural land in Wales.

The following tables provide a range of data in relation to the agricultural industry in the Vale of Glamorgan.

Year	Name	European Size Units	Area farmed	Grassland	Permanent pasture	Rough grazing	New grassland	Crops & horticulture	Barley	Wheat	Maize
2015	Vale of Glamorgan	13,573	26,891	19,018	15,196	724	3,097	6,585	1,257	2,611	496

Year	Name	Stockfeed	Other cereals	Potatoes	Horticulture	Other crops	Farm woodland	Other land	Livestock units	Total sheep	Breeding ewes
2015	Vale of Glamorgan	53	248	0	19	881	1,027	259	25,100	61,058	29,493

Year	Name	Rams	Lambs	Other sheep	Goats	Total cattle (survey)	Dairy breeding (survey)	Beef breeding (survey)	Bulls for service (survey)	Calves (survey)	Other cattle (survey)	Total cattle (CTS)
2015	Vale of Glamorgan	699	30,473	393	70	0	0	0	0	0	0	19,580

Year	Name	Dairy cows (CTS)	Beef cows (CTS)	Calves (CTS)	Other cattle (CTS)	Pigs	Poultry	Horses	Active farms	Responses	With grassland
2015	Vale of Glamorgan	3,831	3,310	5,749	6,690	200	1,372	1,802	407	84	387

Year	Name	With crops or horticulture	With cereals	With non-cereal crops	With horticulture	With sheep	With goats
2015	Vale of Glamorgan	81	42	56	19	184	21

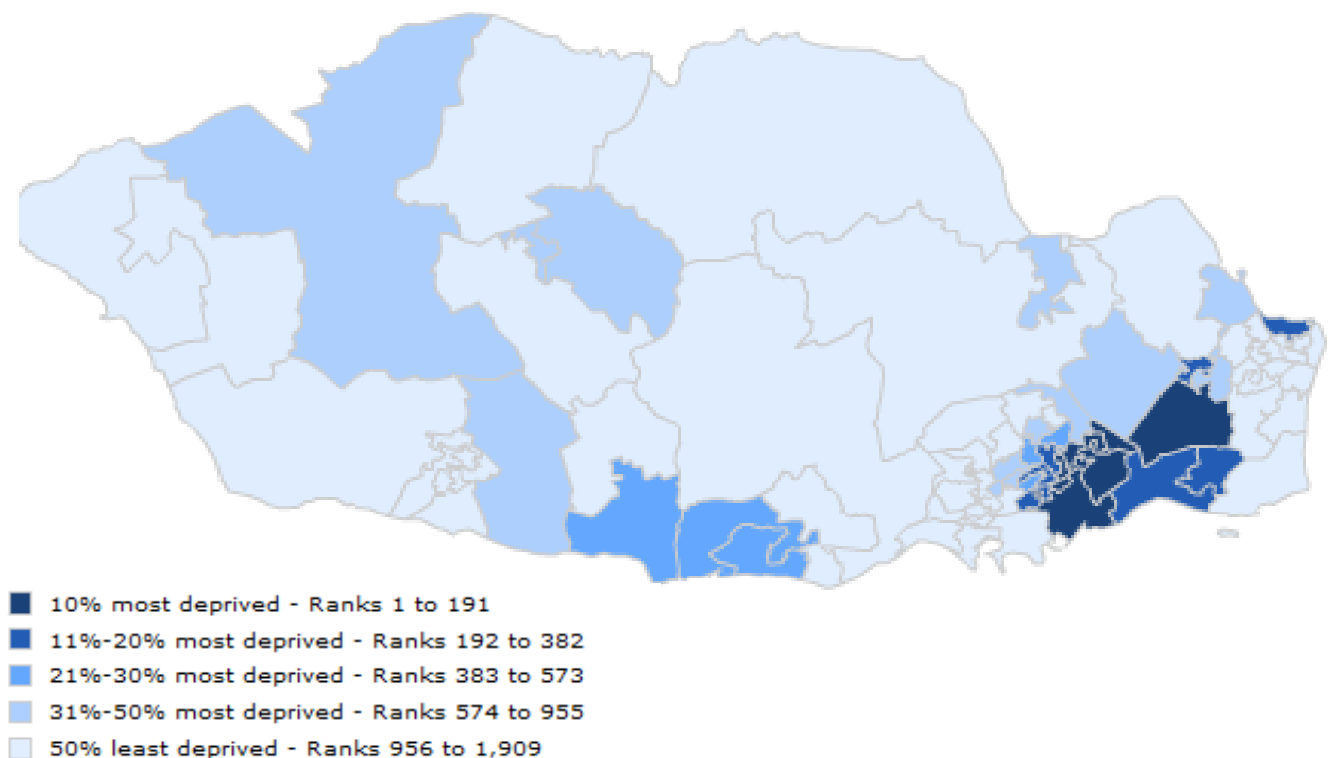
Year	Name	With cattle (Survey)	With dairy (Survey)	With beef (Survey)	With cattle (CTS)	With dairy cows (CTS)	With beef cows (CTS)	With pigs	With poultry
2015	Vale of Glamorgan	0	0	0	157	41	114	22	112

Source: Welsh Government Agricultural Small Area Statistics 2002-2015

Addressing some of our challenges

The Physical Environment domain of the Welsh Index of Multiple Deprivation measures factors in the local area that may impact on the wellbeing or quality of life of those living in an area. The indicators included are:

- Households at risk of flooding score;
- Estimated Air Quality (made up of two indicators Air Concentrations score and Air Emissions score); and
- Proximity to waste disposal and industrial sites score.



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Nine of the Vale's LSOAs are within the 10% of most deprived LSOAs within the physical environment domain of the Welsh Index of Multiple Deprivation. This is the domain where the Vale has the most LSOAs in the 10% most deprived LSOAs in Wales. 8 of these are found in Barry as follows (listed in order of most deprived):

- Cadoc 1
- Cadoc 2
- Cadoc 5
- Castleland 2H
- Court 1
- Cadoc 4

- Castleland 1
- Cadoc 3

The final LSOA within the 10% most deprived in Wales (and ranked 9th most deprived in the Vale for this domain) is Dinas Powys 4 in the Eastern Vale.

The 3 least deprived LSOAs in the Vale in relation to this domain are Llantwit Major 6, Llantwit Major 7 and Baruc 2.

Living within an area of environmental deprivation can have a negative impact on a range of factors associated with having good well-being and a range of socio-economic factors. Equally, socio-economic status impacts upon where a person may live and the environment that impacts upon so many other factors within their life. Environmental inequalities impact on health and well-being and can “conspire” with other factors to reinforce health inequalities for instance.

The Marmot Review highlights that “there are a number of key areas where socio-economic status correlated with environmental disadvantage. The evidence of the distribution of environmental burdens across the social scale analysed by the Review highlighted the disproportionate impact of environmental burdens on disadvantaged groups, in particular poor housing, higher rates of crime, poorer air quality, lack of green spaces and places for children to play, and more risks to safety from traffic as well as the negative effects of climate change.

Through the Let’s Talk campaign, in response to the survey question asking how resident’s environmental well-being may change in 5 years’ time, few respondents, 73 (9.7%) answered that they thought that environmental well-being would improve over the next 5 years. The highest proportion of respondents, 257 (34.2%) answered that they did not know whether environmental well-being would change over the next 5 years.

Climate change in addition to increasing mean/average temperatures also increases the frequency and likelihood of extreme weather events. The implications here are that we need to design schemes and ways of living that are able to cope with a wide range of conditions and not simply the projected “average” or “typical”. It is important that PSBs work together nationally to address these issues and the next challenge for all partners is rather than consider what the future might look like with regards to the state of the environment, to consider how we might deal with these challenges and protect our natural and built environment given that changes to our climate are almost inevitable at some stage in the future. It can be suggested that this is the biggest challenge to the PSB in relation to changing the types of questions we ask and consider in relation to our future environment.

Our Environment – Where we need to increase our evidence base?

The well-being assessment must be seen as an ongoing process of better understanding our communities in order to improve our residents' well-being and contribute to achieving the national well-being goals. The PSB will consider how it can ensure our evidence base can be kept 'live' and become a dynamic resource for everyone.

We will also continue to enhance the findings presented in this section of the assessment and recognise that further information is needed in relation to the following, either because robust data is unavailable at the present time or because analysis is still ongoing.

- Evidence in relation to agricultural land use in the Vale of Glamorgan and its links to other aspects of well-being including the Vale's economy.
- Evidence in relation to biodiversity in the Vale
- Information in relation to water quality particularly rivers in the Vale
- More information in relation to active travel and cycle/ footpath availability
- Location and quality of green spaces in the Vale
- The Vale's environment as a food producer and an energy producer