



# ENVIRONMENT

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## WHAT IS ENVIRONMENTAL WELL-BEING?

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The Healthier Wales Well-being Goal contained within the Well-being of Future Generations (Wales) Act 2015 describes Wales as:

“ A society in which people’s physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood. An innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately. (including acting on climate change) ”

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In addition, the More Equal Wales Well-being Goal describes Wales as:

“ A nation which maintains and enhances a bio diverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change. ”

“ A society that enables people to fulfil their potential no matter what their background or circumstances (including their socio economic background and circumstances). ”

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Our landscape is shaped by its natural resources and how we use and interact with them. Similarly, those natural resources are critical to our wellbeing, providing direct and indirect health benefits and sustaining our future prosperity. A good quality environment provides us with many natural benefits that keep us happy and healthy such as clean air to breathe, water to drink, food, fuel, and wonderful spaces for us to exercise and relax in. It’s important therefore that we understand exactly how we benefit from our natural environment, so that we can make the most of the opportunities and to make more informed choices.

The County Borough of Neath Port Talbot (NPT) is comprised of the broad valleys of the Rivers Neath, Dulais and Tawe. There is a moderate amount of farming, mainly in the uplands, with the main towns and settlements in the flood plains. The Afan Valley, by contrast is steep sided, mainly coniferous plantation, with a ribbon of former coal mining communities. Industry has also shaped the coastal area with what would originally have been sand dunes attracting first iron, then chemical and petrochemical industries and the adjacent Sandfields being developed as housing for their employees. Both of the main river-mouths of the Neath and Afan are also heavily modified by docks, wharfs and revetments.

The natural environment has played an important part in the area's prosperity in its industrial past. This continues to be the case, but the focus has changed with the demise of heavy industry. The area has more recently become a hub for renewable energy developments. The high quality natural environment is also a significant attraction for visitors. In 2015, 2 million tourists visited the County Borough, drawn to natural assets like trail centres for mountain biking, Aberavon seafront, Margam Park and 'Waterfall Country'. These assets generated £110 million towards the local economy and increased local jobs by 8.4%.

(STEAM report 2015)

There are competing needs as we face a growing population, a desire for economic growth and new development pressures. A resilient environment can help us respond to these challenges as well as mitigate the effects of future risks such as climate change. Our natural resources are also finite. It's important, therefore, that we all appreciate how the environment and wildlife contribute to our wellbeing so that we use them in a way which doesn't destroy the very things that we love and value.



## WHAT IS ENVIRONMENTAL WELL-BEING?



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The following section provides an analysis of what we already know about the state of environmental well-being in NPT. The evidence used to inform the assessment includes sources of research, National Resource Wales's (NRW's) NPT environmental evidence pack, national indicators provided by the Welsh Government, other performance information, evidence collected to inform the Council's Local Development Plan and other statutory/national/local assessments that have been undertaken.

Environment Well-being can be broken down into five sub themes:

- Water
- Air
- Land
- Biodiversity
- Climate Change





## WATER

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### WHY IS WATER IMPORTANT FOR WELLBEING?

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We take it for granted, but water is one of our most basic and essential needs and without it there wouldn't be any life on our planet. On average, each person in the UK uses 150 litres of water per day, or the equivalent of two baths full. Clean water is vital to business and industry, the two major uses in the UK being for energy (electrical production) and farming. Water also shapes our environment creating some of the great features of the natural world and provides us with opportunities for recreation and relaxation. By working together to improve and maintain the quality and quantity of our watery(?) water? assets we can deliver natural benefits for the environment, the local economy and health and wellbeing for our communities.

On the flip side, water can also present us with problems. Flooding is the most frequent type of 'natural' disaster affecting Welsh homes and businesses and often disrupts the normal functioning of whole communities. The problem is estimated to cost the UK £1 billion per year. The consequences of flooding are not just financial, however, and 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. From a health perspective, quite often the worst affected are the more vulnerable in society.


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### Legend

 Unitary Authorities

EC Bathing Waters Classification

 Excellent

 Good

 Sufficient

WFD cycle 2 (2015) Rivers and canals

 Bad  
 Poor  
 Moderate  
 Good  
 High

WFD cycle 2 (2015) Transitional, coastal and lake

 Bad  
 Poor  
 Moderate  
 Good  
 High



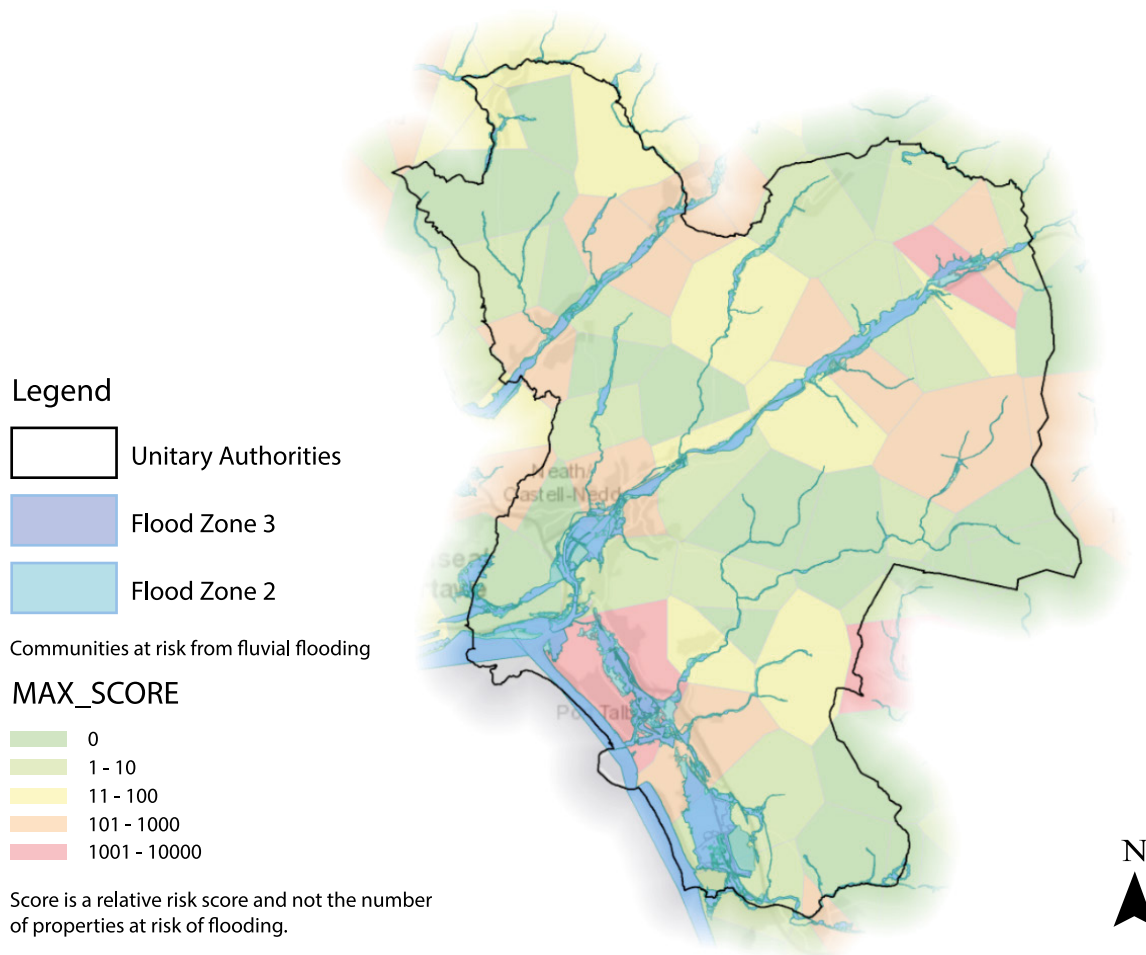
Just under half of the water bodies in the County Borough do not meet the required European quality standard. As well as legacy issues from past industrialisation, growing urbanisation is placing increasing pressure on the water environment.

The issues our rivers face include:-

- Mine-water from abandoned coal workings, contaminated land and man-made weirs impeding the passage of fish.
- Diffuse urban pollution
- Aged sewerage system and sewerage misconnections from housing and industrial estates.

The County Borough's potable water needs are met mainly by transfer from other catchments, but industrial needs, e.g. Tata, are met from riverine sources. There is currently no or only limited water at the high flows available for any new development needs.

Conversely, too much surface water can cause problems. The Western Wales Flood risk Management Plan identifies the County Borough Talbot as an area of significant flood risk and has four of the 'top ten communities at risk' from main river flooding are within the county: Port Talbot, Margam, Morfa Glas (Glynneath) and Resolven. Other communities considered at risk are Baglan, Glyncoirwg, Neath, Trebanos, and Ystalyfera. We know that looking ahead, traditional "hard" flood defences cannot be solely relied upon and need to look at alternatives including working with natural processes and implementing alternative land management practices to better manage surface water run-off.



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## WHY IS AIR IMPORTANT TO WELLBEING?

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It's often taken for granted, but poor air quality is the leading cause of the environmental burden of disease in Europe. Natural Resources Wales (2016) cite the Royal College of Physicians reporting that 40,000 additional deaths per year are attributable to poor air quality with a health cost of £20 billion per annum (February 2016). Long term exposure increases cardiovascular disorders, whilst short term exposure can exacerbate heart and lung problems. Similarly, children, the elderly and those with pre-existing conditions are the most susceptible to the problem. As well as the health impacts poor air quality also affects peoples' quality of life as well as their standard of living if they are prevented from working. The main sources of air pollution are man-made and the problems are greater in urban rather than rural areas.

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## WHAT ARE THE PRESSURES ON OUR AIR?

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There are four main issues of air quality concern in the County Borough:-

- Air quality (PM10 - particulate matter 10 micrometers or less in diameter) in Port Talbot.
- Traffic related air quality.
- Nickel from industrial processes.
- Nuisance dust from sites across the County Borough.

Air quality in Port Talbot is affected by a number of factors including the weather, topography, emission sources from both outside and inside the local area, and is particularly related to the steelworks and transport. An Air Quality Management Area (AQMA) was declared in Taibach/Margam in 2000. Air quality in Port Talbot has shown significant improvements in the last 10 years but further improvement is sought.

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▼ Average micrograms of PM10 at residential dwelling locations per m3

	Neath Port Talbot	Wales
2010	13	13
2011	14	14
2012	12	12
2013	14	14
2014	14	13

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Traffic related air quality is weather dependant, very local and constantly measured across the County Borough. Traffic pollution is a major problem across the UK. Monitoring has indicated the Victoria Gardens area of Neath and Swansea Road, Pontardawe, as areas requiring action. As a consequence of interventions, pollution levels at the latter location have decreased sufficiently to permit continuous monitoring to cease. Attempts to improve Victoria Gardens are ongoing.

Industrial nickel has long been of concern, particularly in the Swansea Valley. Great strides have been made in improving levels in recent years, which are now below or near the EU Target of 20 ng/m3.

Concentrations of PAHs exceed the UK Air Quality Objective of 0.25 ng/m3, but are less than the EU Target value of 1 ng/m3. Concentrations are increasing over time. Natural Resources Wales regulates the steelworks, which is the source of these emissions.

Nuisance dust is not a physical health risk but does cause people concern and is often seen as the biggest problem by local residents living close to sources e.g. opencast mine, steelworks, coal washery. Using the number of complaints as a measure, levels have improved over the past few years but we still strive to improve even further.

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## LAND



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### WHY IS LAND IMPORTANT TO WELLBEING?



The benefits we derive from our terrestrial environment are broad and multi-fold. They include growing food, fibre and fuel, provision of raw materials, as well as spiritual, recreational and cultural benefits from our local landscapes. The way in which we use and manage land has a feedback loop and itself impacts upon the future benefits which we are able to receive from it. Our challenge is to manage conflicting and competing interests such as agriculture, industry, housing, recreation etc. whilst maintaining and enhancing the biodiversity and landscape we value.

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### WHAT ARE THE PRESSURES ON OUR LAND?



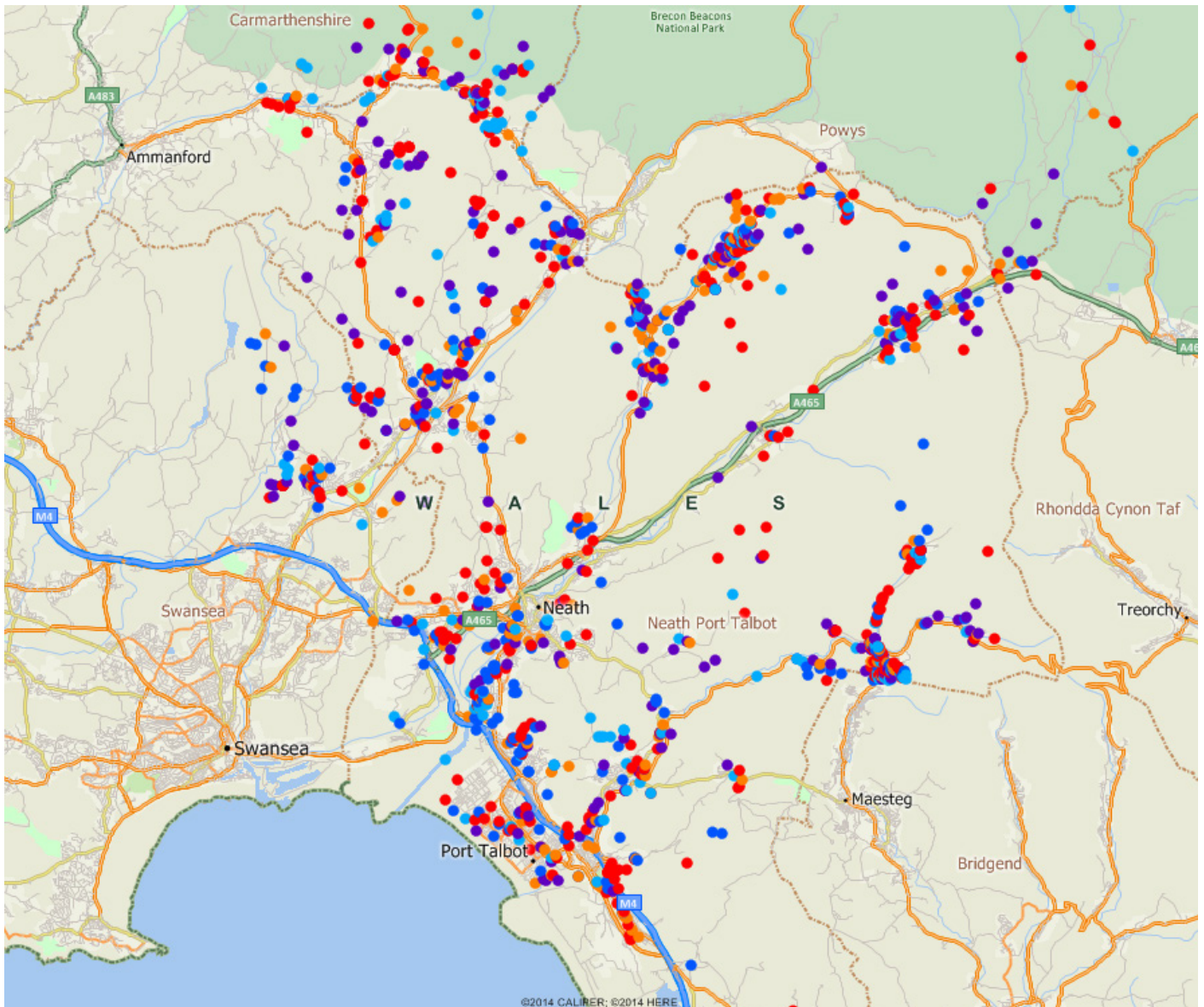
The area has a strong industrial heritage, with extensive mining for coal to meet the needs of iron and copper smelting, this followed with the development of the iron and subsequently steel making industry together with a diversification into oil and petrochemical industries. Some of our past choices were based upon very different needs and priorities and in some areas have left an ongoing legacy, e.g. contaminated land. Contamination can cause significant harm to ecosystems, humans, property as well as pollution of ground and surface waters. In redeveloping brownfield land it is important to ensure that all risks associated with potential land contamination have been addressed so that the land is suitable for use. We have already seen the successful redevelopment of a number of key sites in the County Borough including the Coed Darcy Urban Village and the Swansea University second campus. The County Borough Council is the lead body responsible for this matter and has set out its approach for addressing land contamination in its Contaminated Land Strategy (2015).

In other areas we may be compromising natural benefits because of where and how land is developed. The associated pressures include peat bog degradation, lack of soil conservation/management, application of fertilizers, herbicides and pesticides, habitat destruction and reduced habitat connectivity.

Wild fires are a problem in NPT that will be exacerbated by climate change. Wild fires impact local communities by damaging wildlife, forests and hillsides, restricting public access to green spaces, causing air pollution, and put considerable strain and cost on public resources.



The map, which plots grassland fires across NPT from 2012-16, shows distinct clustering in the Dulais, Afan, Neath and Swansea Valley areas.



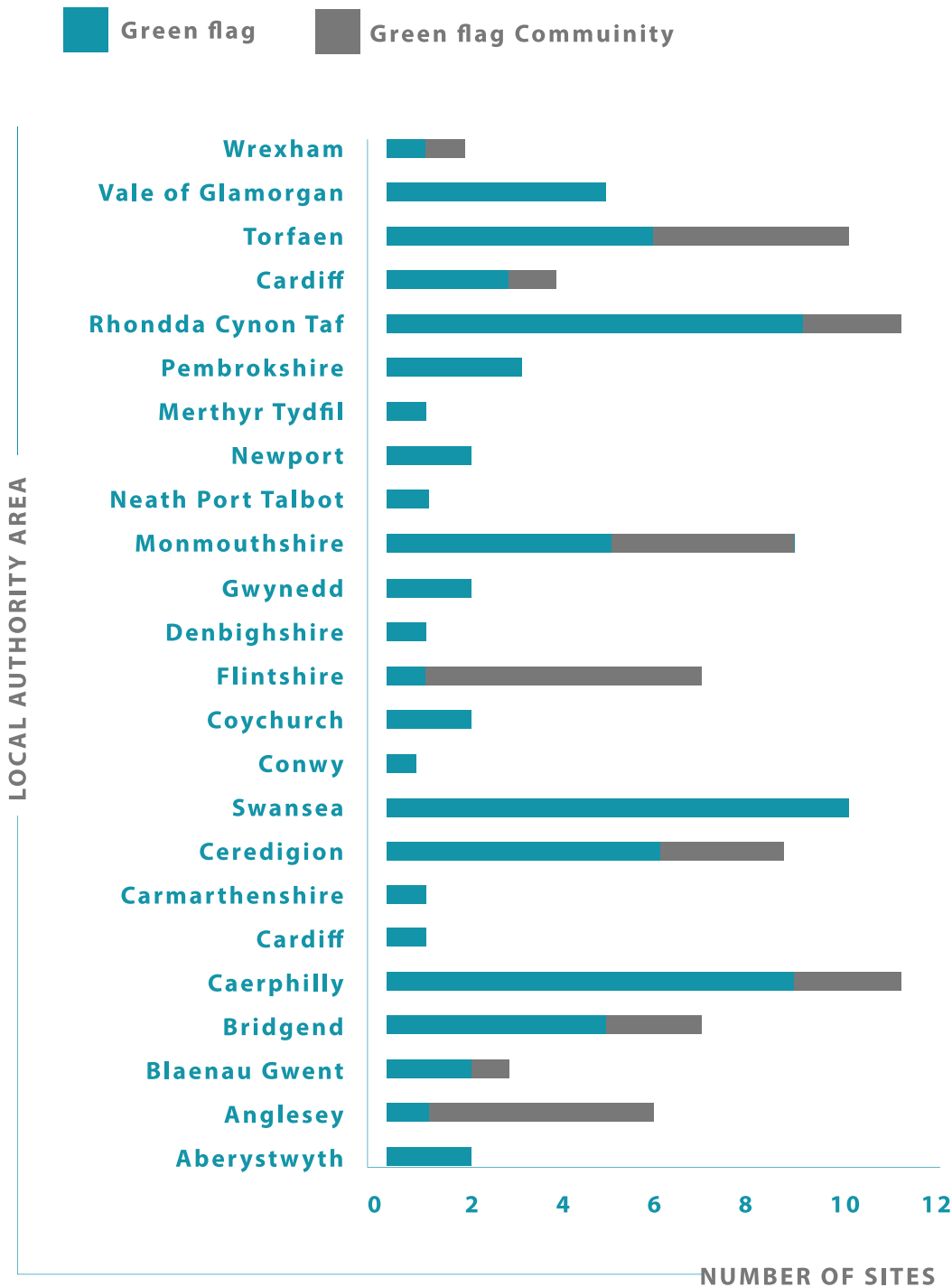
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The natural living environment enhances the quality of life for local people. It can improve peoples' mental wellbeing and also encourages outdoor exercise resulting in health improvements and reduced incidence of chronic disease. We need to examine access opportunities to better understand the barriers preventing people from enjoying natural open space.

Natural resources within urban areas, particularly green infrastructure - parks, amenity trees and community woodlands, rivers and ponds - can support communities (our social systems), providing opportunities for recreation, interaction and engagement. This helps to build social cohesion along with improved mental wellbeing and increased physical activity, both of which are of particular benefit in more deprived areas of NPT where social cohesion may be at a lower level.



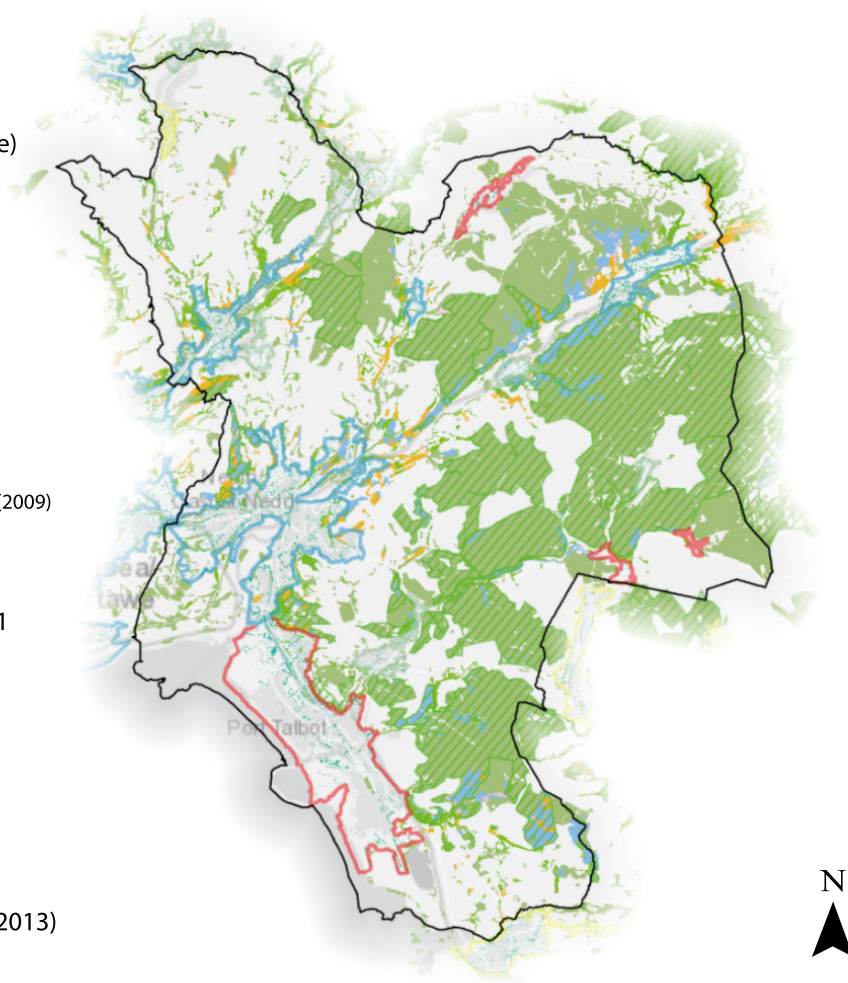
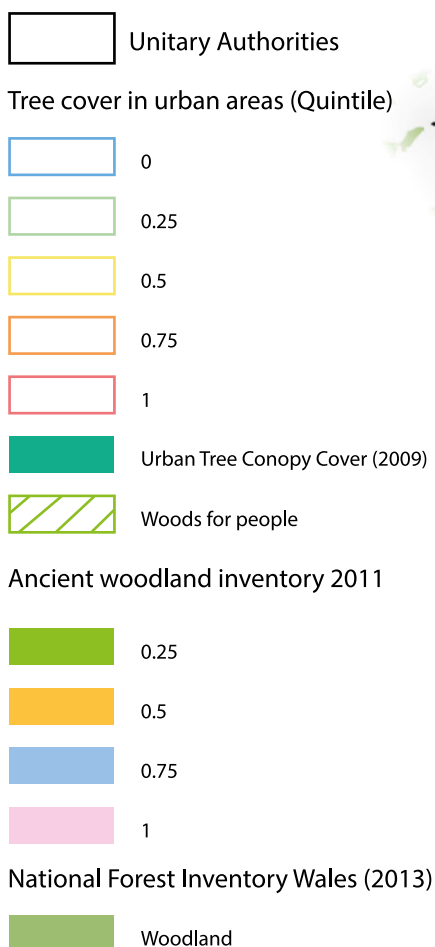
The map, which plots grassland fires across NPT from 2012-16, shows distinct clustering in the Dulais, Afan, Neath and Swansea Valley areas.



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Better green infrastructure and accessible green spaces offer a wide range of benefits for wellbeing including air and water purification, flood attenuation, carbon sequestration, temperature regulation as well as noise alleviation. There is no recent County Borough data on accessible natural greenspace, but supplementary planning guidance is currently being prepared by the local planning authority. Urban tree cover in the county rates well against the national average (16.8%), but there are some areas, e.g. Port Talbot, which fare less well at 8.7%.

## Legend



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A significant part of the County Borough (12900 ha, approximately 30%) is comprised of Welsh Government Woodland Estate which is managed by NRW. As well as providing commercial timber, these areas have high amenity value and Afan Forest Park is one of the most popular mountain bike trail centres in Wales. The forests in the County Borough have been seriously impacted by Phytophthora Ramorum or Larch Disease, which has resulted in large scale felling. Although these areas are being replanted it will take many years for the new woodlands to become established. Both agriculture and forestry are highly susceptible to climate change and we'll need to adapt our practices accordingly.

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### WHY IS BIODIVERSITY IMPORTANT TO WELLBEING?



Our economy, health and well-being depend on healthy, resilient ecosystems, which provide us with our food, clean water and air, the raw materials and energy for our industries and protect us against hazards, such as flooding and climate change. Biodiversity is an integral part of ecosystem resilience and changes in the distribution and abundance of plants, animals, and microbes affect ecosystem functions and the capacity of those functions to deliver ecosystem services. Loss of species from ecosystems affect their ability to resist invasion by other species, affect production and nutrient cycling, and affect the reliability and stability of ecosystems. Therefore, biodiversity is essential to sustaining ecosystems that provide the vital natural benefits our lives depend on. Where biodiversity is lost and perhaps never fully recovered, it affects the capacity of ecosystems to adapt to changes and disturbances.

We must not forget either, that biodiversity has its own intrinsic value, and we have a moral obligation to protect it and prevent any further loss of habitats and species.

It is therefore vital that we maintain and enhance our biodiversity to ensure it remains healthy, resilient and capable of adapting to change.

Biodiversity is also a cultural service. People need and benefit from their connectedness to nature and the natural environment, whether that be for leisure and recreation, education or spiritually and from a sense of place.

Engagement from the neighbouring Tawe Natural Resources Management Trial (2016) which includes some of County Borough, demonstrated the importance local people place on being able to see, hear and experiencing wildlife. Conserving and restoring the nature that we have in NPT and Wales, is an essential investment for everyone's quality of life. Taking action now, working in partnership, we can achieve real lasting benefits for this and future generations despite its industrial past, NPT has a rich and diverse wildlife. Some of our important habitats are nationally and internally important, e.g. Crymlyn Bog and Pant y Sais Fen. Canals and rivers are important habitats, providing ecological connectivity.



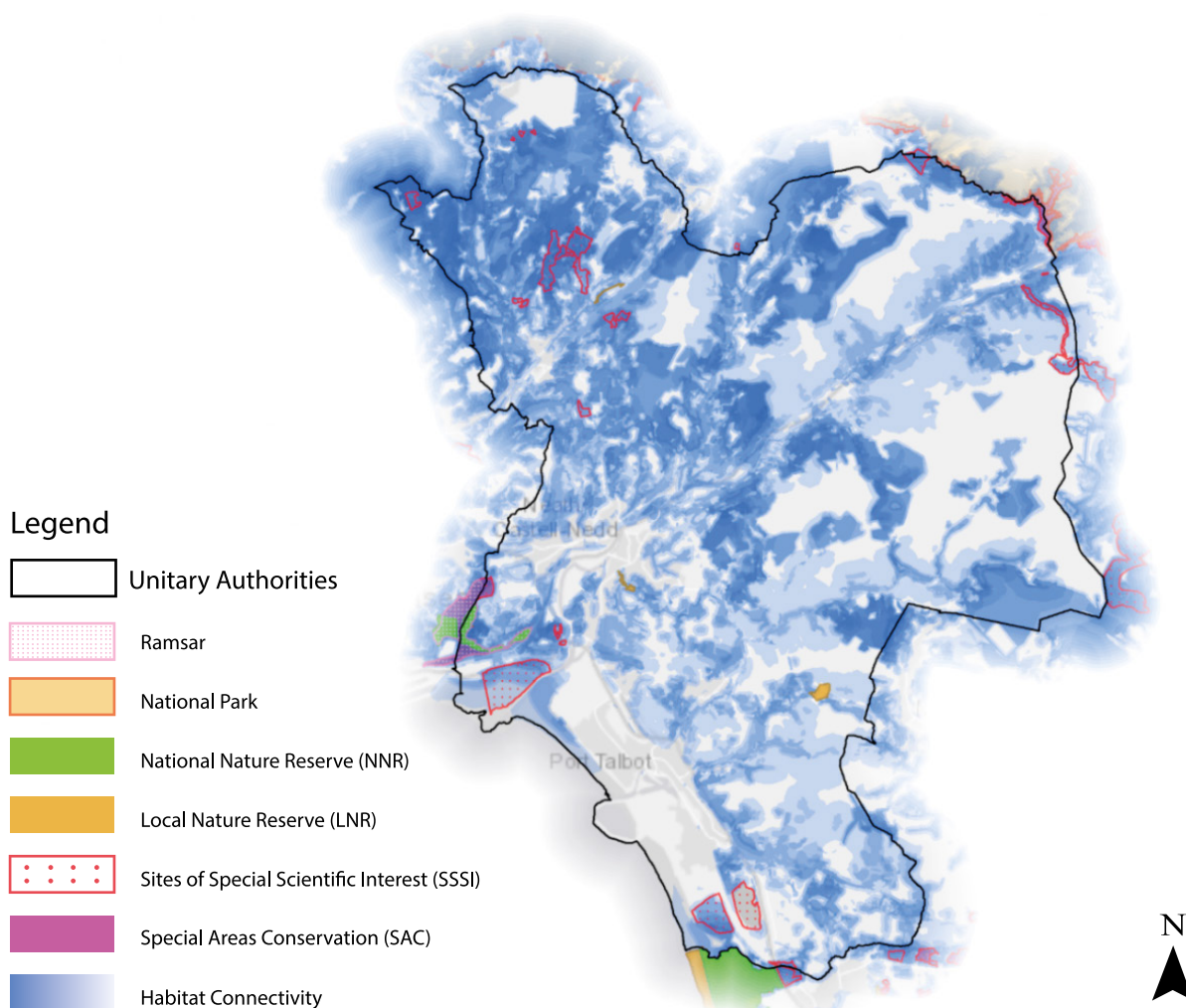


## WHAT ARE THE PRESSURES ON OUR BIODIVERSITY?

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Our biodiversity is under threat from a range of issues, but two of the greatest pressures are climate change and agriculture (ref State of Nature Report 2016). One of the contributing pressures is the fragmentation of habitats, which means that species are more isolated and less able to adapt to changes. Insensitive management and changes in land use and increasing urbanisation means that habitats and habitat connectivity is being lost. The picture is mixed however and some species are doing better than others, e.g. Red Kites.

Increasingly, invasive non-native species, such as Himalayan Balsam and Japanese Knotweed, are threatening local biodiversity as they can out compete our native species.



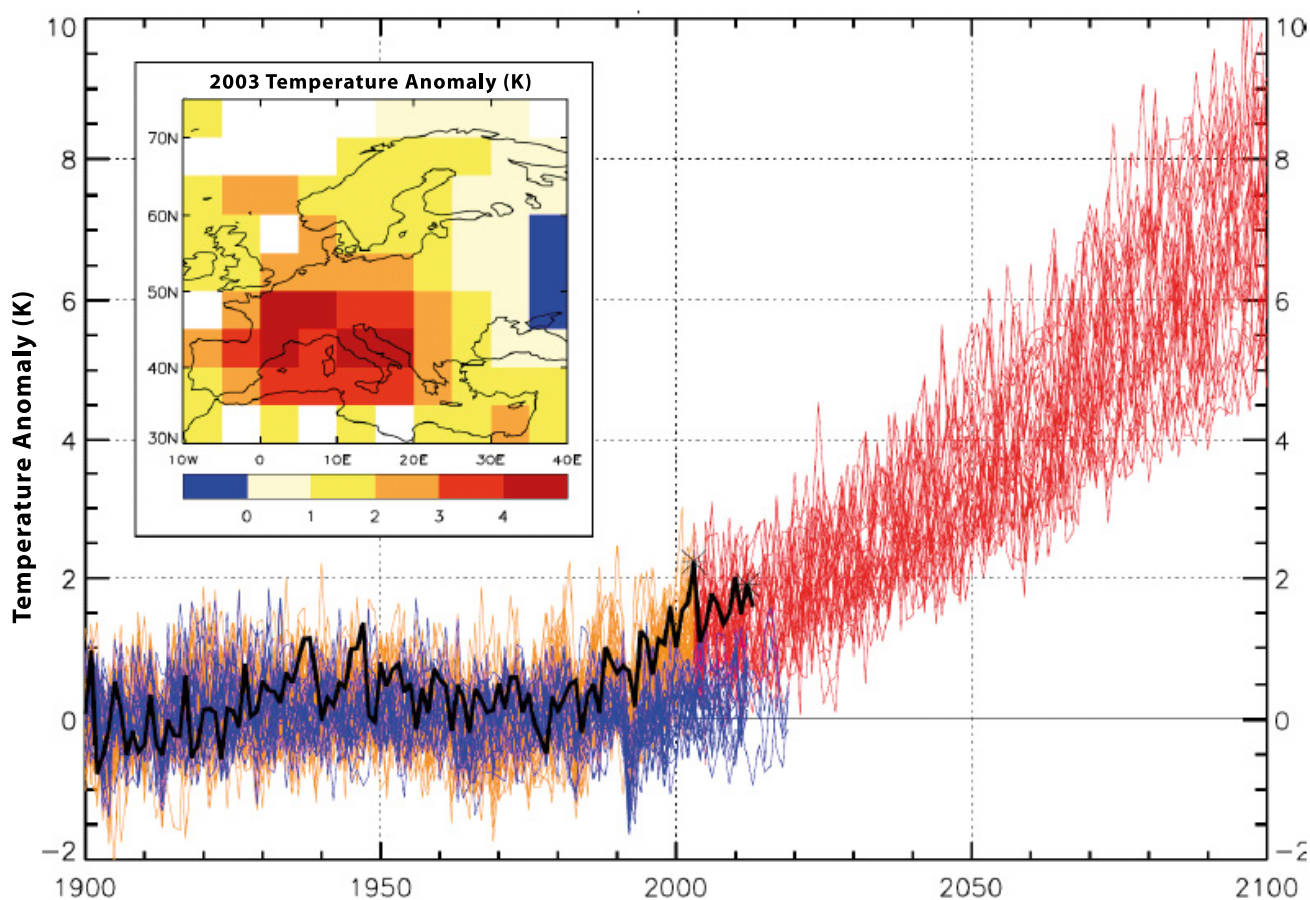
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## CLIMATE CHANGE

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Over-exploitation of the earth's natural resources, the burning of fossil fuel (like oil, coal and gas) and the resultant climate change are having impacts on the natural environment that are significant on a geological timescale. Global climate change is leading to rising temperatures and sea levels and an increase in the number of extreme weather events in a number of regions. Average temperatures in Wales are similar to the UK average which has risen in line with global changes. Extreme weather events have accompanied these rises in average temperature.



The combination of the warming that has already occurred, together with at least some further warming (as predicted by the latest climate change projections), means further adaptation to climate change will be required, including for Wales and the UK. Even in the best case scenario, there are likely to be significant national as well as global impacts beyond those already observed.

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Climate change in Wales will lead to: \_\_\_\_\_

- More intense rainfall events and flooding.
- More flooding of low-lying coastal areas.
- Hotter, drier summers, increased drought and wild fire risk.
- More extremely warm days.
- Milder, wetter winters.
- Less snowfall and frost.
- Lower groundwater levels.

## WHY IS BIODIVERSITY IMPORTANT TO WELLBEING? \_\_\_\_\_

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Climate change is happening now, it will impact on our wellbeing and the wellbeing of future generations. The Climate Change Risk Assessment 2017 lists the top risks to the UK as:

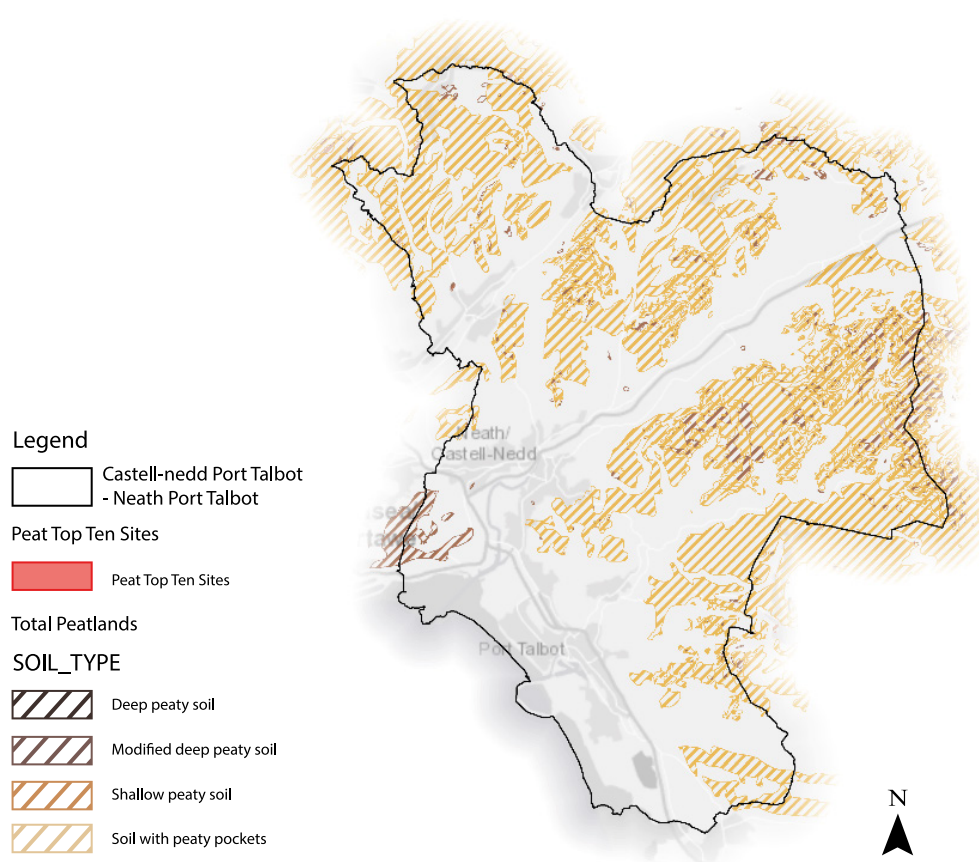
- Flooding and coastal change risks to communities, businesses and infrastructure.
- Risks to health, well-being and productivity from high and low temperatures.
- Risks of shortages in the public water supply, and for agriculture, energy generation and industry.
- Risks to natural capital, including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity.
- Risks to domestic and international food production and trade.
- New and emerging pests and diseases, and invasive non-native species affecting people, plants and animals.

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NPT has an extensive woodland estate (30%). In the context of climate change, forests are important because of their capacity to 'lock in' carbon that is produced from the burning of fossil fuels and the role woodlands play in climate change mitigation and adaptation. However, changes in climatic conditions will have wide-ranging implications for woodlands in Wales including how we manage our forests, the suitability and distribution of different tree species and the benefits we can derive from them. The ability of woodlands to adapt to climate change is a function of their ecological resilience and we must protect and manage them sustainably.

Peat bogs also play an important role in climate change mitigation and, like trees, 'lock in' carbon from the atmosphere. Many of these bogs have been damaged by historical development and at Pen Y Cymoedd there is work ongoing to restore these areas.

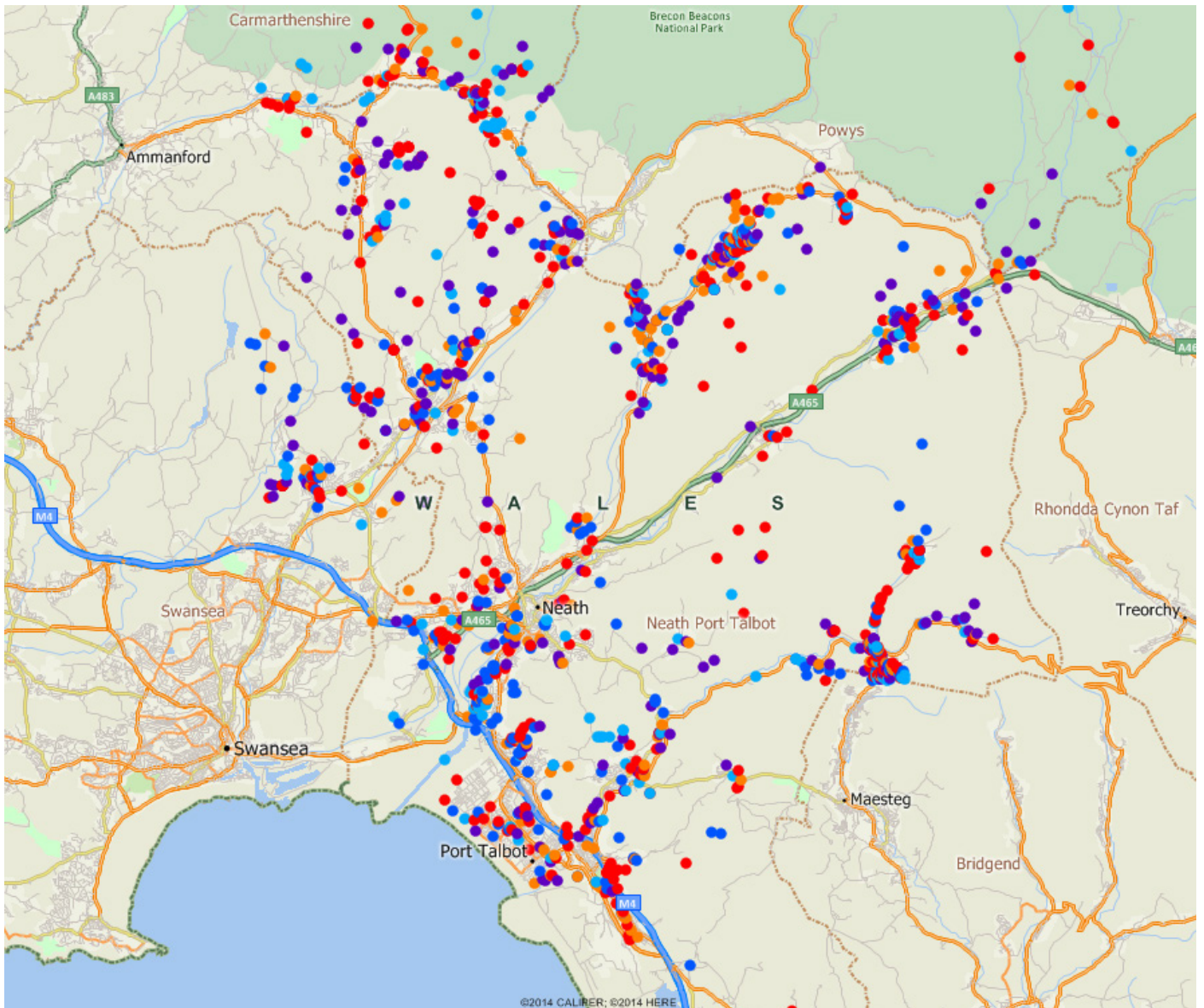


Climate change effects in coastal areas include changes to tidal levels due to sea-level rise and increased storminess leading to increases in wave energy. This poses risks from coastal erosion to infrastructure in areas such as Aberavon, Kenfig dunes and the industrial areas at Morfa, Margam.

In the County Borough, wild fires are an increasing problem. Climate change means hotter, drier weather and therefore more wild fires. These impact local communities by damaging wildlife, forests and hillsides, restricting public access to green spaces, causing air pollution, and put considerable strain and cost on public resources.



The map, which plots grassland fires across NPT from 2012-16, shows distinct clustering in the Dulais, Afan, Neath and Swansea Valley areas.



In NPT, CO2 emissions per resident are higher than the Wales average due to the heavy industry located in the area, however renewable energy production is increasing.

	Neath Port Talbot	Wales
2010	61.2	10.2
2011	54.2	9.2
2012	42.7	8.9
2013	62.9	9.7
2014	64.0	9.3

Pen y Cymoedd Wind Energy Project is the largest onshore windfarm in England and Wales with 76 turbines built on a site managed by Natural Resources Wales. The river Neath catchment presents hydropower opportunities, with a number already installed and further schemes possible.

Drier, hotter summers will mean the amount of water available within rivers will reduce. Water from rivers is vital for supporting the diverse ecosystems that live within them as well as supplying clean water for drinking, industry and agriculture. Climate change is expected to restrict the supply of water whilst population growth will add to demand.

In NPT, reducing river flows will cause problems for industry. There is limited water available for new abstractions within the Neath, Nedd Fechan and Mellte rivers. There is no water available for new abstractions within the Afan, Pelenna and Ffrwd Wyllt rivers; this means that there are currently restrictions on industrial abstractions in the County Broough. This issue will be exacerbated by climate change.

Protecting biodiversity in NPT can help us to adapt to climate change. Healthy ecosystems and protected areas are more resilient to climate change and more able to deliver us the natural benefits on which our well-being depends.

In NPT, nature based solutions can help adapt to climate change. Natural flood management, for example should be an integral part of the overall adaptation effort as well as constructing more traditional flood defences. Such approaches can also have wider benefits, such as protecting biodiversity and creating and improving green spaces for recreation and tourism.

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## YOU TOLD US

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The term “environmental well-being” has a variety of meanings amongst people living in NPT.

The Miller Report has demonstrated that having a clean environment was one of the most important determinants of environmental well-being. A quarter of people surveyed shared this sentiment, for example:

“ A clean environment with clean air, clean local watercourses and access to green spaces ”

A similar proportion referred to the outdoors – and specifically having access to or the ability to enjoy good quality recreational space, whether that be access to green spaces, parks, the countryside, coastline and other natural resources, as evidenced by the following two quotes:

“ Getting out to the countryside ”

“ Access to parks/open spaces without having to either pay to access them or pay to park. ”  
An environment free from air pollution

Furthermore, the need to maintain open spaces and specifically to keep them clean from litter was mentioned by one in ten respondents and discussed extensively during the workshops. Discussions about this theme tended to be concerned with the regular removal of litter, the provision of more dog fouling bins, and better education to prevent littering in the first place.

Lack of safe walking and cycling provision was raised by some respondents, whilst others mentioned the need for access to a car and appropriate car parking provision, with many calling for it to be free.

▼ What do you think this means or refers to?

▼ Your level of environmental well-being





Respondents were also concerned about pollution, with 14 per cent mentioning this when describing what environmental well-being meant to them.

The urban environment, and especially Neath town centre, came under the spotlight for negative reasons that certainly did not support environmental well-being. Buildings were deemed scruffy, there was 'nothing to do' especially for young people and empty shops were "a downer".

In another workshop, one elderly gentleman described how he had fostered twelve trees to contribute to environmental well-being in his area and talked of the value of planting wildflowers to support nature in what was otherwise "a green desert".

More generally, survey respondents wanted to see 'better' or 'more' or 'improved' amenity land, quality of outdoor spaces and leisure facilities in general. One quarter of the sample referred to there being less litter, and a cleaner environment. Of the survey respondents 13 per cent referred to 'pollution' when describing what could be improved, suggesting perhaps that perceptions of pollution are heightened in NPT (the largest proportion of respondents came from the Port Talbot community area).

Children raised concerns around community safety in terms of the general condition of local parks as well as poor pedestrian transport routes to schools for example. For those with additional learning needs there were concerns raised both in terms of access to outdoors as well as perhaps a lack of transport and/or awareness of outdoor provision.

Older people see clear benefits in being able to access the countryside and this encourages greater physical activity. Respondents expressed concerns around seeing litter and general lack of maintenance of infrastructure and space.

Our engagement with local people in this process so far, has helped us identify some emerging themes about what the people of NPT care about in their environment:

- The quality of their surroundings is a key influence on peoples' feelings of wellbeing, with good access to coastline, forestry, rivers, hills or parkland being considered as providing a significant boost to well-being. In some of the upper valley communities, such as the Afan Valley, relative economic poverty is offset to some extent by the high quality of physical landscape, whilst communities in the lower valleys and nearer the coast place a high value on access to the seashore. Unfortunately, many of the town centres and the built environment in Neath in particular fail to match these standards and many stakeholders felt unable to be proud of their local towns as they stand, with shop closures, poor standards of maintenance and excessive traffic.
- In terms of wider environmental issues, people appear to have taken ownership of the need to recycle, and there is extensive willingness to promote it further. There is widespread condemnation of the extent of littering and fly tipping in the area and a desire to see stronger penalties for those who offend in this way. Renewable energy is also generally supported, with some exceptions in areas where wind farms such as Pen y Cymoedd are being built at present. Air pollution is perceived to be a barrier to well-being in parts of the area, it is identified as a problem for some residents of Port Talbot, Neath and the Amman Valley. There are fears of flooding, especially in the Amman Valley and Pontardawe.

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## HOW WILL ENVIRONMENTAL WELL-BEING BE AFFECTED BY FUTURE TRENDS?

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### ANIMALS, PLANTS AND OTHER ORGANISMS

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- 56 per cent of the species have declined over recent decades. More than one in ten of all the species assessed are under threat of disappearing from our shores altogether.(State of Nature Report 2016 RSPB)
- Trends of extent and population for terrestrial, freshwater and marine species vary enormously; with some species increasing and some decreasing. For instance, both increases and decreases can be seen in birds, bats and many pollinator species (e.g. bees, butterflies) whilst for many species we do not have sufficient data on which to base any conclusions.
- There has been a marked reduction in the abundance of salmon in recent years, particularly in the southern regions of the species' range which is linked to increased mortality at sea. Although stocks in many of our industrial rivers have improved in the last 30 years, most stocks in Wales are severely challenged.
- All species are directly affected by changes in habitat quantity and quality. These changes are directly related to changes in the intensity of management regimes. Fragmentation and eutrophication create particular problems for many species.
- The CCRA17 Evidence Report<sup>17</sup> has identified risks to species and habitats due to their inability to respond to changing climatic conditions. There may also be opportunities from new species colonisations.

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### AIR QUALITY

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- Targets for nitrogen dioxide, particulate matter (PM), nickel and polycyclic aromatic hydrocarbons are being breached in Wales, posing a threat to human health and the natural environment.
- The decline in heavy industry alongside regulation has resulted in a reduction in emissions of some pollutants, such as particulate matter (PM). Other sources, that are subject to less or no regulatory control, such as transport, agriculture and domestic heating, have become more of a concern.
- PM and nitrogen dioxide concentrations in urban areas and adjacent to major roads are an issue for health.
- Peak ground level ozone concentrations have declined over the past 30 years. Over the same period, background concentrations have been steadily increasing across northern Europe by about 0.2ppb annually, leading to damage to some plant species.

- Ammonia remains an issue, both as a local air pollutant and as a contributor to the formation of secondary particulate matter. Concentrations of secondary particulate matter have risen in Wales in recent years, largely due to changes in agricultural practice.
- 90% of semi-natural nitrogen sensitive Welsh habitats are subject to nitrogen deposition in excess of critical load limits.
- Since controls on air pollution were introduced in the 1980s there has been a significant recovery in surface water quality from the effects of acidification.

## WATER

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- Climate change is predicted to affect the amount and distribution of rainfall; this has an impact on flows and water levels, drought and flood events; by 2050 river flows in winter may rise by 10-15% but in the summer and early autumn could reduce by over 50% and as much as 80% in some places.
- Droughts and flood events may become more common.
- By 2025 it is likely that groundwater recharge will decrease, resulting in decreased dry weather river flows and a general lowering of groundwater levels. This may have impacts on base-flow to rivers and wetlands in dry periods and affects small domestic and agricultural water supplies.
- The CCRA17 Evidence Report has identified risks to aquifers and habitats from salt water intrusion.
- Climate change effects include changes to tidal levels due to sea-level rise and increased storminess leading to increases in wave energy posing risks to infrastructure.
- Hydrological processes provide an important resource for wave, tidal stream and tidal range renewable energy.
- Within the Tawe to Cadoxton Management Catchment, 43% of surface water bodies are at good overall classification status, 52% at moderate and 5% at poor overall status. There are no water bodies at high or bad overall status. (Western Wales River Basin Management Plan, 2016)

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- Topsoil carbon concentrations are generally stable and there is ongoing recovery from soil acidification, it remains above the optimum levels in many (44%) agricultural fields. There has been little or no decline in elevated levels of soil contaminants from industry and transport. Although a significant decline in soil phosphorus levels has been seen for Improved Land. Soil invertebrate (mesofauna) numbers indicate no overall trend.
- The CCRA17 Evidence Report has identified risks to soils from increased seasonal aridity and wetness. Climate change related risks are threatening the many services that soils provide, notably those that relate to soil biota, soil organic matter, and soil erosion and compaction.





NEATH PORT TALBOT PUBLIC SERVICES BOARD  
**WELL-BEING ASSESSMENT**

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