

Gwent Public Services Board

# Introduction

**Gwent Well-being Assessment**

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## SECTION 1 – WORKING TOGETHER TO IMPROVE WELL-BEING

### 1.1 The Well-Being of Future Generations (Wales) Act

In April 2016 Welsh Government introduced The Well-being of Future Generations (Wales) Act. This ground-breaking piece of legislation is about improving the social, economic, environmental and cultural well-being of our nation and the communities that make it what it is.

The Act sets out how public services in Wales need to think more about the long-term, work better with people and communities and each other, look to prevent problems and take a more joined-up approach. These are referred to as the five ways of working. By acting in this way we stand a much better chance of creating a place that we all want to live in, now and in the future.

To make sure that public services are all working towards the same vision, the Act puts in place seven well-being goals which you can see in Figure 1.

The individual public bodies that are bound by the Act need to set their own well-being objectives by 31 March each year. They must also come together in each local authority area as a Public Services Board (PSB) and set joint well-being objectives for that area as a whole. This is done every five years with the first produced in spring 2018.

The PSB is required to prepare and publish an assessment of the state of economic, social, environmental and cultural well-being in its area no later than a year before it publishes its local **Well-being Plan**. This assessment provided the evidence to identify key priorities and plan how to improve well-being both for now and for future generations. This is Gwent PSB's first Well-being Assessment and it is built from an extensive range of sources including census and statistical data, policy and research and qualitative evidence which captures people's opinions and perceptions as well as giving context to quantitative data and academic research.

In developing this assessment, we have kept in mind the Sustainable Development Principle, improving our social, economic, environmental and cultural well-being both now and in the future. We have used the five ways of working, **collaboration**, **integration**, **involvement**, **long term** and **prevention**, to guide our work. This means that while considering well-being in our communities now, we've also looked at how well-being could

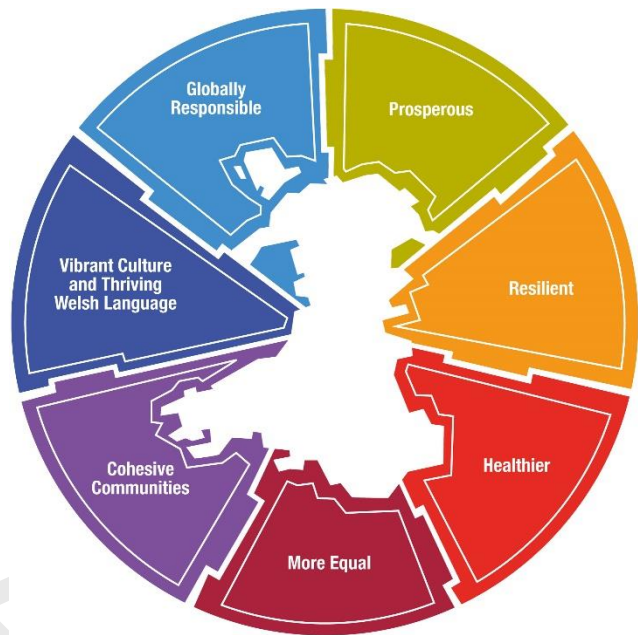


Figure 1: 7 Well-being Goals from the Well-being of Future Generations Act

be affected in the **future** and how we can **prevent** issues becoming worse. We've **worked together** to see what we're each doing in a community and how the information we have about a community affects what we do, individually and in partnership. Finally, but most importantly, we've **involved** our communities, professionals, businesses and others to identify the issues which are most important to them.






Figure 2: The 5 ways of working from the Well-being of Future Generations Act

## 1.2 Social Services and Wellbeing (Wales) Act

The Social Services and Wellbeing (Wales) Act 2014 established Regional Partnership Boards (RPBs) in each health board area. It requires the RPBs to produce a **Population Needs Assessment** (PNA) and Market Stability Report (MSR). The PNA focuses on the **needs of people requiring health and care support** in the local area. There are significant overlaps between the *Well-being* and *Population* assessments and, where we can we have worked collaboratively to give a holistic picture for Gwent. The principles underpinning the Social Services and Wellbeing Act – **voice and control, prevention and early intervention, promote wellbeing and partnership and integration** – are similar to the five ways of working set out in the Well-being of Future Generations Act.

## 1.3 About Gwent

<b>Area</b> 	The total area of Gwent is <b>158,500 hectares</b> – approximately <b>7.6%</b> of the total area of Wales.				
	<b>Blaenau-Gwent</b>	<b>Caerphilly</b>	<b>Monmouthshire</b>	<b>Newport</b>	<b>Torfaen</b>
	10,900	28,000	88,000	19,000	12,600
<b>Population</b> 	The estimated population of Gwent is <b>594,164</b> , approximately <b>19%</b> of the total population for Wales <sup>1</sup>				
	<b>Blaenau-Gwent</b>	<b>Caerphilly</b>	<b>Monmouthshire</b>	<b>Newport</b>	<b>Torfaen</b>
	69,862	181,075	94,590	154,676	93,961

<b>Population density</b>	The population density of Gwent is <b>3.75</b> persons per hectare. The population density is 1.52 people per hectare in Wales.				
	<b>Blaenau-Gwent</b>	<b>Caerphilly</b>	<b>Monmouthshire</b>	<b>Newport</b>	<b>Torfaen</b>
	6.4	6.5	1.07	8.14	7.46
<b>Dwellings</b> 	The dwelling count in Gwent is <b>275,882</b> approximately <b>18.2%</b> of the total number of dwellings in Wales <sup>2</sup> .				
	<b>Blaenau-Gwent</b>	<b>Caerphilly</b>	<b>Monmouthshire</b>	<b>Newport</b>	<b>Torfaen</b>
	33,663	81,837	44,499	72,325	43,558

Gwent covers the five local authority areas in South East Wales: Blaenau Gwent, Caerphilly, Monmouthshire, Newport and Torfaen, which prior to 1996 were borough councils within the county of Gwent. Since 1996, the five authorities have been unitary authorities, but a number of services and organisations still run on a Gwent footprint.

The geography of Gwent is varied and includes rural countryside areas, urban centres and the most easterly of the South Wales valleys.



Figure 3: Map showing location of Gwent within Wales and Figure 4: Map showing the 5 Gwent local authorities <sup>3</sup>

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## Blaenau Gwent

Situated in the valleys of South East Wales Blaenau Gwent is defined physically by high hillsides dividing three main valleys. These valleys are home to towns and villages which give the county borough a busy, urban feel, but Blaenau Gwent is actually largely rural.

With the industrial revolution and the establishment of ironworks, coal mining and steel making, the population of Blaenau Gwent grew from around 1,200 to well over 120,000 by the early 20th century. The people of Blaenau Gwent had a strong work and community ethic, demonstrated by them campaigning for improvements to their quality of life, such as establishing the first ever Board of Health and campaigning for electoral reform. Blaenau Gwent has a rich cultural heritage which is reflected in monuments, buildings, landscapes and people.

In past decades the people of Blaenau Gwent have faced many challenges, the closure of all the coal mines in the late 1980s, and the Ebbw Vale Steelworks in 2002 leading to many job losses. In an attempt to reduce the effect of this, significant effort has been put into changing the focus of the local economy towards the manufacturing and services industries. However, despite this, there has been an overall loss of jobs and many of our young people and families have had to move away in search of further education and employment. This is highlighted by a 5% reduction in the population between 1991 and 2011. Many working residents commute outside the borough to work and commuting distances have increased more than any local authority in Wales. The area has high levels of unemployment and a high percentage of people who are dependent on benefits.

In more recent times, the area has seen significant structural and environment improvement, following major levels of capital investment, and the greening of our valleys as nature recovers from the long-term scarring caused through our historical industries.



*Figure 3: (Left to right) Guardian of the valley at Six Bells, Tredegar Town Clock, Ebbw Vale General Offices and Coleg Gwent Campus.*

## Caerphilly

Covering an area stretching from the Brecon Beacons National Park in the north, to Cardiff and Newport in the south, the county borough is a little over 30km long and 17.5km wide. It is formed by the valleys of three rivers, the Rhymney, Sirhowy and Ebbw and is a mixture of urban and rural communities. Three quarters of the county borough is used for agriculture and forestry. There are five principal centres within Caerphilly county borough' Caerphilly, Blackwood, Risca, Bargoed and Ystrad Mynach, plus four local centres of Newbridge, Rhymney, Nelson and Bedwas. These are the major centres for employment and, retail, provision of services and centres of population.

People are widely dispersed amongst fifty small towns and villages with the main settlements largely reflecting the area's rich coal mining heritage.

Caerphilly has an expanding economy and benefits through good transport links to Cardiff but there are significant levels of unemployment and poor health.



*Figure 4: (Left to right) Caerphilly Castle, Cyclists at Cwmcarn Forest, Sultan at Penallta Park*

## **Monmouthshire**

Occupying a strategic position between the major centres in South Wales and the South West of England and the Midlands. The main settlements are Abergavenny, Chepstow, Monmouth, Caldicot, Usk and Magor/Undy, with approximately half of the total population living in wards defined as being in urban areas. Monmouthshire's distinctive settlement pattern arises from its historic market towns and villages and their relationship with the surrounding rural areas. A good road network connects Monmouthshire to major population centres such as Cardiff, Newport and Bristol and many of the population take advantage of these links to commute out of the area for employment opportunities.

The county is predominantly rural and has a rich and diverse landscape stretching from the coastline of the Gwent Levels in the south, and the uplands of the Brecon Beacons National Park in the north, to the picturesque river corridor of the Wye Valley Area of Outstanding Beauty in the east. The county contains some good quality agricultural land and has a high proportion of farming land. Monmouthshire is generally a prosperous area offering a high quality of life for its residents. However, Monmouthshire does have hidden pockets of deprivation starker when they are compared with areas of relative wealth.



*Figure 5: (Left to right) Abergavenny Food Festival, Autumn in the Wye Valley, from Eagles Nest, and Caldicot Castle*

## Newport

Newport City is the third largest urban centre in Wales and is a multi-cultural city with its own unique atmosphere, where traditional industries sit alongside new electronics and financial service sectors. It is a vibrant, forward-thinking city steeped in a rich industrial heritage, dating from the 19th century when its important strategic location was first recognised. The first settlers in the Newport area arrived during the Bronze Age and evidence of this has survived to present day, particularly on the coastal levels. During the Roman occupation, Caerleon became a principal military base and substantial excavated remains can be seen, including the amphitheatre, baths and barracks occupied by the Roman Legion. During the Industrial Revolution of the late 18th and 19th centuries, the city grew substantially, firstly with the development of the canal network and then with the railways, enabling vast quantities of coal to be exported, along with iron and steel products. In more modern times, steelmaking was a mainstay of the economy through the 20th century, along with its port. However, much of the heavy industry went into decline towards the end of the century as steelmaking at Llanwern Steelworks, for example, ceased in 2001, resulting in the loss of 1,300 jobs.



*Figure 6: (Left to right) Southern Distributor Road Bridge in Newport, Beechwood Park, Newport, and the Transporter Bridge.*

## **Torfaen**

Torfaen is the most easterly of the South Wales urbanised valleys. Geographically the area runs from the Heads of the Valleys in the north to the M4 corridor in the south with three main settlements, Blaenavon, Pontypool and Cwmbran. Pontypool and Blaenavon were originally established to exploit the abundant non-renewable charcoal, coal and iron resources in the area. As those heavy industries declined over the past 100 years, so did the prosperity of those areas.

The World Heritage Site town of Blaenavon has a population of around 6,500<sup>4</sup> is furthest north in the borough and is famous for the Big Pit Coal Mining Museum and Europe's best preserved 18th century ironworks. The former industrial town of Pontypool with its traditional indoor and outdoor market is the next largest settlement located in the heart of the borough, and with the various communities that surround it, has a population of around 37,700<sup>5</sup>. In the south of the borough, Cwmbran is unique in being the only New Town in Wales, being designated in 1949 and designed as a distinctive, progressive and modern town offering new opportunities for its residents. Much of the southern parts of

the county borough are now urbanised around Cwmbran, which has the largest population of each of the three settlement areas with around 49,800<sup>6</sup>. Cwmbran Shopping Centre attracts large numbers of shopping visitors from the wider area of Gwent and the M4 corridor.







Figure 7: Aerial photo of Cwmbran, The Folly at Pontypool, The World Heritage Centre, Blaenavon.

## 1.4 About the communities

Understanding how the population might change in the future can help us think about key well-being challenges and opportunities.

### Population projections

<div>Overall population</div> <div></div>	<div>The overall population in Gwent is projected to <b>increase</b> by <b>6.2 %</b> between 2019 and 2043, roughly similar to the Welsh average (5.2%). For Gwent this would mean <b>36,987</b> extra people<sup>7</sup>.</div> <table><tr><th>Blaenau-Gwent</th><th>Caerphilly</th><th>Monmouthshire</th><th>Newport</th><th>Torfaen</th></tr><tr><td>-415 people (0.6 %)</td><td>3,645 people (2.0%)</td><td>6,789 people (7.2%)</td><td>22,103 people (14.3%)</td><td>4,865 people (5.2%)</td></tr></table>	Blaenau-Gwent	Caerphilly	Monmouthshire	Newport	Torfaen	-415 people (0.6 %)	3,645 people (2.0%)	6,789 people (7.2%)	22,103 people (14.3%)	4,865 people (5.2%)
Blaenau-Gwent	Caerphilly	Monmouthshire	Newport	Torfaen							
-415 people (0.6 %)	3,645 people (2.0%)	6,789 people (7.2%)	22,103 people (14.3%)	4,865 people (5.2%)							
<div>Aged 16-64</div> <div></div>	<div>The number of people aged 16-64 living in Gwent is projected to slightly <b>rise</b> by <b>0.7%</b> by 2043, similar to the Welsh average (-0.5%). For Gwent this would mean <b>2,367</b> extra people in this age range<sup>8</sup>.</div> <table><tr><th>Blaenau-Gwent</th><th>Caerphilly</th><th>Monmouthshire</th><th>Newport</th><th>Torfaen</th></tr><tr><td>-2,568 people (-5.9%)</td><td>-3,487 (-3.1%)</td><td>-1,723 (-3.1%)</td><td>10,125 people (10.6%)</td><td>19 people (0%)</td></tr></table>	Blaenau-Gwent	Caerphilly	Monmouthshire	Newport	Torfaen	-2,568 people (-5.9%)	-3,487 (-3.1%)	-1,723 (-3.1%)	10,125 people (10.6%)	19 people (0%)
Blaenau-Gwent	Caerphilly	Monmouthshire	Newport	Torfaen							
-2,568 people (-5.9%)	-3,487 (-3.1%)	-1,723 (-3.1%)	10,125 people (10.6%)	19 people (0%)							
<div>Aged 65 and over</div> <div></div>	<div>The number of people aged 65 and over living in Gwent is projected to <b>increase</b> by <b>31.2%</b> between 2019 and 2043, roughly similar to the Welsh average (29%). For Gwent this could mean an extra <b>37,263</b> people in this age range<sup>9</sup>.</div> <table><tr><th>Blaenau-Gwent</th><th>Caerphilly</th><th>Monmouthshire</th><th>Newport</th><th>Torfaen</th></tr></table>	Blaenau-Gwent	Caerphilly	Monmouthshire	Newport	Torfaen					
Blaenau-Gwent	Caerphilly	Monmouthshire	Newport	Torfaen							

	3,250 (23.2%)	9,653 (27.2%)	9,161 (38.4%)	9,810 (36.8%)	5,389 (28.0%)
<b>Aged 85 and over</b>	<p>The number of people aged 85 and over living in Gwent is projected to <b>increase</b> by <b>74%</b> between 2019 and 2043, slightly higher to the Welsh average (69.5%). For Gwent this could mean an extra <b>10,615</b> people in this age range<sup>10</sup>.</p>				
	<b>Blaenau-Gwent</b>	<b>Caerphilly</b>	<b>Monmouthshire</b>	<b>Newport</b>	<b>Torfaen</b>
	860 (57.0%)	3,145 (82.6%)	2,993 (91.5%)	1,895 (57.5%)	1,722 (69.9%)

## 1.5 Gwent Public Services Board



In 2020 Wales Audit Office published their Review of Public Services Boards<sup>11</sup> which looked at operational arrangements and which partners were involved in the work. The report concluded that “Public Services Boards are unlikely to realise their potential unless they are given freedom to work more flexibly and think and act differently”.



Welsh Government and the Welsh Local Government Association also highlighted the role of PSBs in simplifying and aligning strategic partnerships<sup>12</sup>.

The five PSBs in Gwent currently have **24 well-being objectives** between them, many of which are similar in theme, but are being delivered separately from each other. With a new cycle of well-being assessments about to begin, the Leaders and Chief Executives of the five local authorities plus the Chairs and/or Chief Officers of the five other major public services in Gwent, identified an opportunity to **simplify** and **strengthen** existing partnership arrangements by bringing all the public services together into one **regional PSB for Gwent**.

With collective responsibility for improving well-being, the move to a regional PSB makes it easier for partners to actively get involved, to add value and avoid duplicative activity. By enabling better **integration** and **collaboration**, the PSB can evolve, building on good practice, to make better use of **resources** and increasing **capacity** – so the focus is on doing more of what matters – **improving well-being**.

Central to the new arrangement is a recognition that the communities that make up Gwent are all unique with different sets of conditions that have an influence on the well-being of the people living and working there. Alongside building a regional, integrated picture of well-

being, we will reflect on well-being challenges and opportunities at the local level, accounting for the strengths of both individuals and communities.

The establishment of a regional PSB brings a more strategic direction and overview to the local partnership arrangements that are already in place. Each area has its own local operational and strategic structures in place for delivery and accountability and Local Delivery Groups are being established to ensure that local priorities and activities continue to be delivered.

### **1.6 Current regional and local priorities**

As part of planning for the next 25 years and beyond, the first cycle of Well-being Plans set out how we are collectively responding to some of the key issues identified when we assessed local well-being in 2016/17.

Our existing priorities set out how we are working together to improve well-being for people and places both now and for future generations, so that we can deliver our long-term vision.

PSBs are soon to come to the end of the first cycle of assessing, planning and delivering their local well-being objectives. Work will continue to deliver these existing plans until 2023, with progress being reported annually.

This Well-being Assessment is an opportunity for us to determine if our well-being objectives are still the right ones, if we need to be doing more of some things and less of others, and how we can best work together through the new Gwent PSB in a way that positively builds on what has gone before.

## Gwent Well-being Assessment

Blaenau-Gwent	Caerphilly	Monmouthshire	Newport	Torfaen
To look after and protect the natural environment.	Enabling our communities to be resilient and sustainable.	Protect and enhance the resilience of our natural environment whilst mitigating and adapting to the impact of climate change.	Newport has healthy, safe and resilient environments with an integrated sustainable travel network.	Develop a functional, connected network of natural areas that support the current and future well-being needs of local populations. Develop mitigation and adaptation responses to the impacts of climate change.
Safe and friendly communities.				Create safe, confident communities and promote community cohesion.
The best start in life for everyone.	Giving our future generations the best start in life.	Provide children and young people with the best possible start in life.		Provide children and young people with the best possible start in life.
To encourage healthy lifestyles.		Respond to the challenges associated with demographic change.	Everyone belongs to resilient, friendly, connected communities and feels confident and empowered to improve their well-being.	Support healthy lifestyles and enable people to age well.
To forge new pathways to prosperity.	Empowering and enabling all our residents to achieve their own potential.	Develop opportunities for communities and businesses to be part of an economically thriving and well-connected county.	Everyone has the skills and opportunities they need to develop, prosper and contribute to a thriving, sustainable city. Everyone feels good about living, working, visiting and investing in our unique city.	Tackle the inter generational patterns of poverty and develop economic resilience. Improve local skills through work-force planning, training, apprenticeships, and volunteering opportunities.
	A shared commitment to improving the way we work together.			

Figure 6: The current (2018-23) well-being objectives of the 5 Gwent PSBs

In addition to the local well-being objectives, the five PSBs in Gwent have been working together on a small number of regional work-streams that are more likely to be achieved on a regional rather than local area basis. These include exploring future scenarios that are likely to impact our communities and working together through Climate Ready Gwent.

Gwent Strategic Wellbeing Assessment Group (GSWAG) brings together key officers from Natural Resources Wales, South Wales Fire & Rescue, Gwent Police and the five local authorities. Originally set up to help prepare the first Well-being Assessments, GSWAG has continued to work together, identifying and co-ordinating these strategic priorities.

### 1.7 How this Well-being Assessment has been undertaken

This joint Well-being Assessment draws on the knowledge and experience each of the Public Services Boards gained when producing the last assessments in 2017. We've learnt from each other about what worked well, and what didn't, so that the assessment is as good as we can make it.

Producing a joint assessment is a bit different from producing one for each of the council areas. There are aspects that are best considered at a regional (Gwent) level, and others that are more local, affecting individual communities or areas.

The assessment has been produced around the four well-being themes set out in the Well-being of Future Generations (Wales) Act; Social, Economic, Environmental and Cultural. Under

each of the themes you will find regional information, followed by Community Area Assessments. Maps and links within this assessment will help you to find your community, or area of interest.

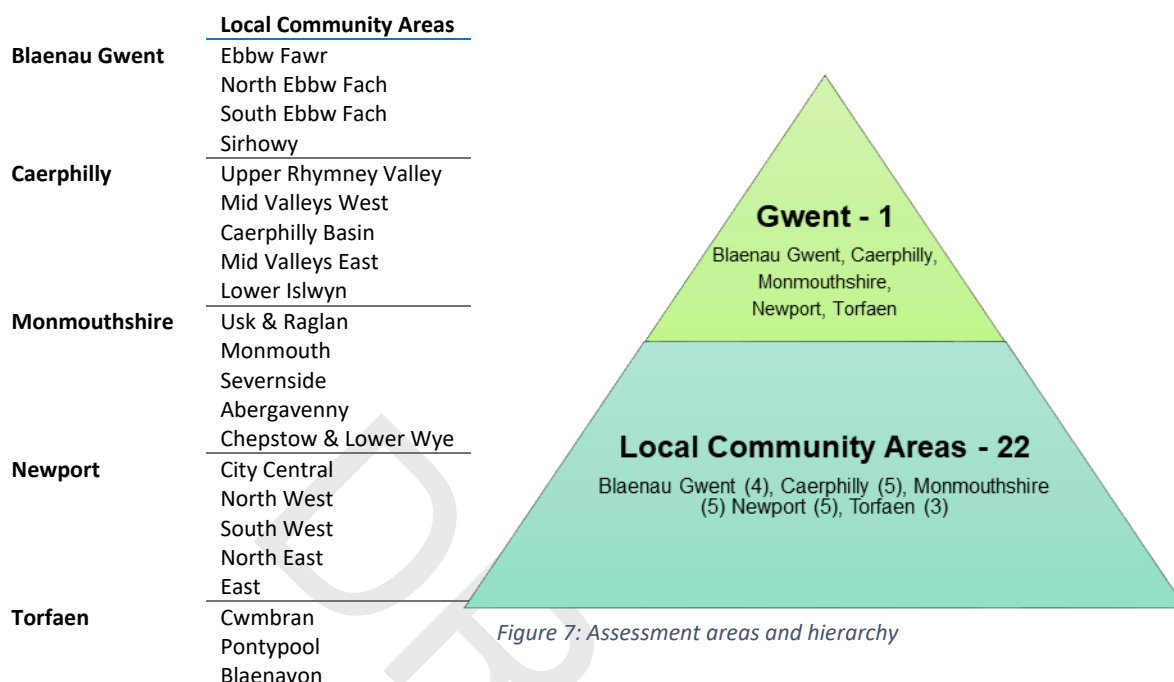


Figure 7: Assessment areas and hierarchy

The assessment brings together a range of information to help explain what Gwent and its communities look like and what is important in planning for the future. We've used data collected at both national and local levels, spoken to many of those working in the organisations providing services, as well as to people and communities living and working in an area.

Working together the public bodies in Gwent have collected, analysed and tested this information to produce this assessment. We've involved our communities to get a better understanding of people's experiences and appreciate how we can all work together to improve well-being, focusing on the strengths of our people and places.

## 1.8 Covid pandemic context

Covid-19 affected all of us. Many of us will have had Covid-19, or known people who did, and sadly some of us will have known people who passed away because of it. Lockdowns and furlough have led people to home school, stop using public transport and drive more, or even to lose their jobs. Everyone's opinions will have been coloured in some way by the pandemic.

In a similar way some of the data has been affected by the response to the pandemic. Hospital waiting lists is an obvious example, as staff and resources were diverted to treat people with Covid-19. But there have been economic and social impacts too, businesses have been closed or working at limited capacity, people haven't been able to travel, meet friends and family or have days out.

In developing this assessment we have considered how the pandemic, as well as other factors, may impact on well-being in the future. Many of the issues we've identified are likely to become far more serious as we recover from the effects of the pandemic. There is risk that inequality in our communities will widen which has the potential to influence every aspect of our well-being.

As a result, some of the information in the assessment may not be what we would have expected before the pandemic, and so we've had to think about whether data has been changed because of the pandemic before considering what it means for an area or community.

Because of the ongoing Covid-19 restrictions we have had to involve our communities in different ways. When we were preparing the last assessment we were able to meet with people face-to-face. This time we have had to rely on far more on the internet, social media and other remote methods of engaging with people. While this may suit some people, we accept that it doesn't suit everyone and we have tried to find ways of engaging people where they live or work wherever possible. For more information about how we involved people in the production of this assessment see the Engagement Section ([hyperlink](#)).

## 1.9 Future Gwent

The Welsh Government produces a Future Trends Report every five years, to help public bodies in Wales think about the long-term challenges and opportunities facing Wales. We have considered this report while producing this assessment and used it to help us think about how these trends will affect the well-being of our communities in years to come, for the better and worse. It has also helped us to identify those parts of our communities that are most vulnerable to negative changes. This allows public services to plan together accordingly, identifying cost effective and preventative local actions that are fit for the future.

We have developed a shared understanding of the inequalities that exist in, and within our communities and how these might change in the future. We understand the importance of ensuring children and young people have the best start in life and the need to tackle patterns of poverty that continue from one generation and the next so that these differences get smaller over time.

We have considered future changes to the population of our area. For example, while more older people in our communities may increase the demand for services it may also mean that more people are able to support their communities through volunteering.

We have thought about what sustainable, local economic growth will mean to Gwent, what skills future workforces might need, and the impact of technological advancement on our communities. Covid-19 has seen more of our services moving online, and we know this is predicted to continue. Although this brings various benefits, we also understand that there is a risk of people being left behind by this shift, so we will be mindful of this when looking at future service delivery.

We have reflected on wider planetary health and environmental limits, issues like food supply, habitat loss and clean air, and what using only our fair share means to providing the

resources that future generations will need to support themselves. We have also thought about our readiness for a changing climate.

We have also looked at how these trends might interact with each other, recognising that everything is connected and influenced by a range of social, economic, environmental and cultural factors.

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## References

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<sup>1</sup> ONS mid-2019 population estimates

<sup>2</sup> Gwent Authorities dwelling data. GeoPlace 2021

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<sup>4</sup> ONS mid-2019 population estimates

<sup>5</sup> ONS mid-2019 population estimates

<sup>6</sup> ONS mid-2019 population estimates

<sup>7</sup> Local authority 2018-based population projections, Welsh Government

<sup>8</sup> Local authority 2018-based population projections, Welsh Government

<sup>9</sup> Local authority 2018-based population projections, Welsh Government

<sup>10</sup> Local authority 2018-based population projections, Welsh Government

<sup>11</sup> Review of Public Services Boards, Auditor General for Wales. 08 October 2019

<sup>12</sup> Review of Strategic Partnerships. Welsh Local Government Association. June 2019

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## OUR APPROACH TO INVOLVEMENT

### 1.1 Involvement and the Sustainable Development Principle

Involvement is one of the key sustainable development principles as sustainable development must be done in conjunction with communities and wider stakeholders. The views of communities on how resources are used to meet needs of current and future generations are essential to allow public, private, and voluntary sector partners to take decisions about how they deliver programmes and projects within, and, alongside communities. This is particularly true for sections of our communities who are less heard, such as those with protected characteristics.

The Gwent Public Services Board (PSB) has a duty to work jointly toward achieving the seven national well-being goals. This must include assessing the state of well-being in the region, including assessing community strengths, to inform the setting of objectives that contribute to well-being, and identifying the reasonable steps needed to meet those objectives. The Public Services Board must ensure that it is involving people throughout this process to understand their needs and aspirations for the future of the area in which they live. Effective communication and engagement are crucial if the Public Services Board are to deliver a high-quality response to the issues facing communities now and in the future. It is also important to maintain a continuous dialogue with communities and provide feedback on how their ideas have helped to shape the well-being plan.

### 1.2 The Processes We Followed

A group of engagement and communications professionals from across the Public Services Board member organisations was convened, as the Gwent PSB Communications and Engagement Group, to develop the involvement processes necessary to gather community views to support this assessment.

To enable consistency across the partners involved in the engagement process a common set of questions was developed, building on the approach taken when undertaking the previous local assessment in 2017/18. This enabled us to see whether the views of communities had changed since the last well-being assessment. A stakeholder mapping exercise established the key groups and organisations we needed to target and prevented duplication by the many partners involved in the group. The former Public Services Boards in the region have a range of existing well-being objectives and it was important to understand whether these were still important to communities, as well as provide feedback on work that had happened to deliver the existing objectives. Each former board area was

therefore able to refer to their existing well-being plans, which run until May 2023. Two common questions were used when referring to the existing plans:

- **Are these well-being objectives still important to you?**
- **Has anything changed?**

The following questions were used as the basis for the well-being survey and for local engagement sessions. Supplemental questions were used to develop the conversation and tease out ideas.

- **What is special/good about your community/where you live?**
  - Supplemental prompt- Tell us about the positives of where you live.
- **What would make it a better place?**
- **What things are important to you and your family?**
  - Supplemental prompt- Places, services, facilities, community groups/activities.
  - Supplemental question- How safe do you feel in your community?
  - Supplemental question- How can we support and care for older people in the future?
- **What would you want your community to look like in the future?**
  - Supplemental prompt- It is important for us to know what our communities want for the future.
- **How could your community work with us to make that happen?**

People were also asked if they would like to stay involved and were given the option of providing contact details.

The primary engagement tool was a SNAP-based on-line survey which was available in English, Welsh, Arabic, Bengali, Hungarian, Mandarin, Polish, Romanian, Slovak, Turkish and Urdu, as the main and minority ethnic languages in the region. The survey period ran from the 16<sup>th</sup> August 2021 to the 30<sup>th</sup> September 2021.

Paper copies of the survey were made available in communities using postcards with a QR (quick response) link to the online survey which were distributed to venues such as libraries, doctors' surgeries, and leisure centres.

Stakeholder self-directed packs were developed to enable and encourage interested organisations to feed into the survey with a simple slide deck and instructions aimed at adults and young people. Individual Youth Forums and 50+ Groups were asked to engage with their members. Groups representing people with protected characteristics were particularly encouraged to contribute to the survey, as well as engage in a way that was meaningful to them, for example, via on-line discussion.

Social media was used to advertise the on-line survey, and to generate an ongoing conversation with one question from the common question set released each week through the social media channels of the member organisations.

Public bodies, as members of the Gwent Public Services Board, are major employers and so the survey was circulated to staff, many of whom will live in the region. However, people who work in the region were also encouraged to respond.

Some member organisations were able to either run, or piggy-back, face-to-face engagement events. Although this wasn't possible for all, as explained in the following section.

Direct engagement took place with the voluntary sector and representatives of town and community councils in some areas. Efforts were also made to engage in specific geographies/communities and in some cases, virtual engagement events were run using the question set as the basis for the sessions.

### 1.3 Quantifying and Analysing the Response

A total of 1,713 respondents took part in the Gwent Well-being Survey providing a large amount of qualitative information during the first engagement period. To manage this effectively, a graduate student was employed from the University of South Wales Springboard Plus+ Programme to sort and analyse the responses thematically and geographically. Going forward, the need for qualitative analysis software to further assist the process, and subsequent engagement stages, has been identified and is currently being procured. It will be used to provide greater insight as the Gwent Public Services Board moves from assessment to planning over the course of 2022.

### 1.4 Reflections on Involvement

Well-being is a subjective concept that means different things to different people and those perceptions are influenced by personal experience, including their experience of dealing with individual Public Services Board member organisations. Despite exercises being presented as 'on behalf of the board', responses are inevitably influenced by whichever organisation's social media channels they appear on. For example, questions posted on police social media channels were likely to elucidate responses on crime and disorder; questions posted on local authority channels were likely to receive responses related to council services.

The engagement exercises described above took place during the second summer/autumn period of the COVID-19 pandemic and the tools used to engage were very much influenced by the need to maintain social distancing and prevent risk to participants. At the time,

organisations delivering the elements of the engagement were largely restricted to virtual and digital engagement rather than in-person engagement. Very few face-to-face engagement exercises took place and where they did, they tended to be outdoors. It was simply not possible to gather a room full of people to share and exchange views in a safe way. Council services, other than those that required direct in-person interaction, were being delivered remotely. This meant less footfall to offices and less opportunity to engage. Town centres were quieter over the first engagement period as people avoided public places. The engagement professionals reflected that when the previous well-being plans were being developed, the face-to-face, open, two-way conversations yielded greater interest, far more content and a higher number of 'engagements'.

Some sections of society were very difficult to reach, for example, young people where engagement would ordinarily have taken place in schools and at summer events. As none of the councils were running their typical programme of summer events during 2021 this was not possible, or very limited, depending on the individual council and the decisions they had taken. Where face-to-face engagement was possible, it was noted that people seemed less inclined to pick up a paper survey than usual, or to speak to an interviewer for any length of time, and this is assumed to be because of a fear of infection and altered behaviour.

While more and more people became comfortable with digital communication, and video messaging during the pandemic, it is not the preferred method of communication for many. Many public sector organisations were unable to use 'Zoom', (one of the more prevalent and publicly familiar video calling tools), due to data protection concerns and so 'Microsoft Teams' was used for some engagement. 'Teams' is less well-understood by the public which may have put many people off accepting a link to a 'Teams' meeting. Social media was used as much as possible and the main engagement tool, the SNAP survey, was promoted in this way as well as through more traditional channels for those less comfortable with digital communication. However, it has to be acknowledged that digital exclusion would have been an issue. Many public access internet points, such as libraries, remained closed. Delivering education virtually throughout the pandemic had already highlighted the digital disparity across communities with socio-economically disadvantaged people more likely to rely on mobile data packages than home Wi-Fi. In addition, anecdotally, professionals reported a sense of 'digital fatigue' in communities. Many people were working from home virtually, with a general instruction from Welsh Government to continue to do so. Attending virtual events at the end of the working day would have been less attractive.

Some partners were able to offer prize draws as an incentive to participate but even this did not gather much additional interest. Many organisations had been conducting surveys of clients, service users, and the general public, as organisations adapted to new ways of delivering services and were using social media surveys to understand people's perception of the pandemic and recovery. This too may have influenced the lower number of returns to the SNAP survey than would otherwise have been expected; a possible case of 'survey fatigue'.

## 1.5 Using the Engagement Outputs

Despite the challenges, we were able to gather rich sources of qualitative data and views from the residents in the region. Those people who engaged did so at a deeper level than a potentially fleeting conversation at a summer event. Their views have been thematically and geographically sorted to feed into the relevant sections of this local assessment of well-being. In addition, input that was particularly relevant to one Public Services Board member, or another, has fed into individual public body service planning.

Two questions were specifically aimed at illuminating other engagement exercises being undertaken at the same time:

- Supplemental question- How safe do you feel in your community?
- Supplemental question- How can we support and care for older people in the future?

The responses to these have fed into the Police and Crime Plan 2022-2026; and the Social Services and Well-being Act 2014 population needs assessment- for those needing care and support, respectively.

For the remainder of this local assessment of well-being the qualitative views of communities and stakeholders have been used to illuminate the Social, Economic, Environmental and Cultural chapters. The key sections to understand these views are the 'What People are Telling Us' sections. Where particularly insightful comments have been gathered these are used to summarise the general feeling of a group of people and provide the 'voice' of communities and are interspersed throughout the narrative. The views of professionals and stakeholders from partner organisation, recognised as a 'community of experts', will be gathered during the spring of 2022 to be included in the final local assessment of well-being by May 2022.

Community Area Assessments are an important part of this assessment as the Public Services Board must assess the well-being of sub-geographies, below the local authority level, that reflect the differences between communities and areas. The Gwent region has been divided into 22 community areas and through postcode and other analysis, the views of residents within these community areas has been sorted so that differing perceptions can be understood. The region is large, and just as the data varies with communities, their views and perceptions also vary. All board members followed the processes set out at 1.2 above. However, some local variations in approach will have occurred and where local engagements exercises happened in a slightly different way, the output is summarised in the Community Area Assessments.

## 1.6 The Continued Dialogue with Communities

The Gwent Public Services Board is a new organisation, and the residual former boards will continue to deliver the existing well-being plans until 2023. The engagement has been conducted regionally, but within and by, the member organisations. The openness and transparency of the Board and ongoing dialogue with people who have given their views will be maintained through a new Gwent Public Services Board website with contact points. In addition, a Twitter feed, @gwentpsb, and Facebook account, Gwent Public Services Board, have been developed. The website and social media accounts will become increasingly important as the Board moves from assessment to planning. In particular, testing whether its chosen well-being objectives are the right ones with communities.

It will be key that the Gwent Public Services Board implements a longer-term communications and engagement plan throughout the forthcoming well-being plan and, beyond 2023 to engage and involves communities and stakeholders in delivery.

## SOCIAL WELL-BEING

### Introduction

This section of the report focuses on **social well-being** in Gwent. It looks at people's **health**, the **housing** and **communities** they live in and how **safe** and **cohesive** they are. It tells us about **transport** and how people **travel** around Gwent and beyond. It also considers **education outcomes** how these can impact on **long-term** well-being.

It highlights the **inequalities** that exist in our communities around health, housing and education and that these are often **interconnected**; that **housing quality** can impact on **health** and poor health can impact on **educational performance** and people's ability to find or sustain **employment**.

We also know that the cost of and access to **transport** is an issue for some and that how people travel can also have an impact on **health** – directly by incorporating opportunities for walking or cycling, or indirectly from the **air pollution** caused by traffic. How **safe** people feel can also impact on how comfortable they feel taking public transport or going for a walk.

The need for children and young people to have the **best start in life** is clear and we know that much of the inequality and **poor life circumstances** experienced in our communities is **preventable** or its impact can be reduced. We also know that the most disadvantaged in our communities are more likely to experience some of the negative impacts of a **changing climate** –whilst milder winters will help to reduce **fuel poverty**, we know that much of our **housing** stock has **poor thermal efficiency** and is harder and more **expensive** to heat in cold weather or cool in hot weather. The UK climate risk assessment identifies that cold is expected to remain a significant cause of death<sup>i</sup>.

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<sup>i</sup> UK Climate Change Risk Assessment 2017, Synthesis report: priorities for the next five years. Committee on Climate Change.

# SOCIAL WELL-BEING CHAPTER – CRIME AND COMMUNITY SAFETY

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## 1. Introduction

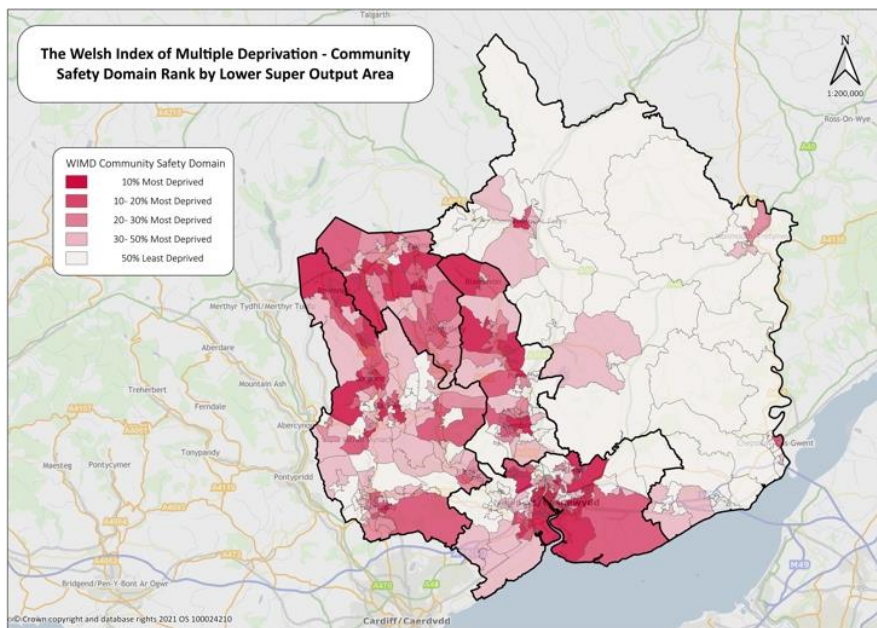
This section tells us about, crime, community safety, fire and road safety and about the cohesiveness of our communities in Gwent.

We want people in Gwent to live in inclusive communities where they feel safe and able to be involved and influence the things that affect them. Getting involved in cultural and recreational activities can be a good way of getting to know people. Taking part in activities that improve the local area, such as managing a communal green space, litter picking, organising or participating in local events can also help bring people and communities together. Community energy projects can provide useful income that can be invested back into the places people live, making them more efficient and nicer places to be, as well as increasing the production of clean energy. Covid-19 has seen our communities coming together to support the most vulnerable in innovative and resourceful ways.

Reducing the impact of crime and anti-social behaviour (ASB) on local businesses will help the economy to thrive and will improve how people feel about where they live. Tackling crimes such as fly-tipping, will make our green spaces safer for people to meet up and enjoy. Improving road safety will support businesses who rely on the local infrastructure to move raw materials, goods and deliver services as well as reducing the burden on our emergency services. Safe, active travel routes, particularly those which provide commuting potential, will reduce the cost of travel and allow more people to realise the health benefits of being active.

Community safety, how much crime, disorder and anti-social behaviour affect us and our communities, is an important issue for us all. It's not just about solving crimes, but also about looking at what can be done to prevent these activities happening altogether. Public services across Gwent are already working together through community hubs and local partnerships to support victims and those affected by crime and anti-social behaviour, understand the root causes and find solutions to these issues.

## 2. Community safety WIMD



The WIMD community safety domain is constructed from indicators which include criminal damage, violent crime, anti-social behaviour, burglary, theft and fire incidences.

Stow Hill 3 LSOA in Newport is the 2<sup>nd</sup> most deprived in Wales with the highest factors being criminal damage (7.64 per 100 people), anti-social behaviour (16.68 per 100 people) and theft (3.7 per 100 people).

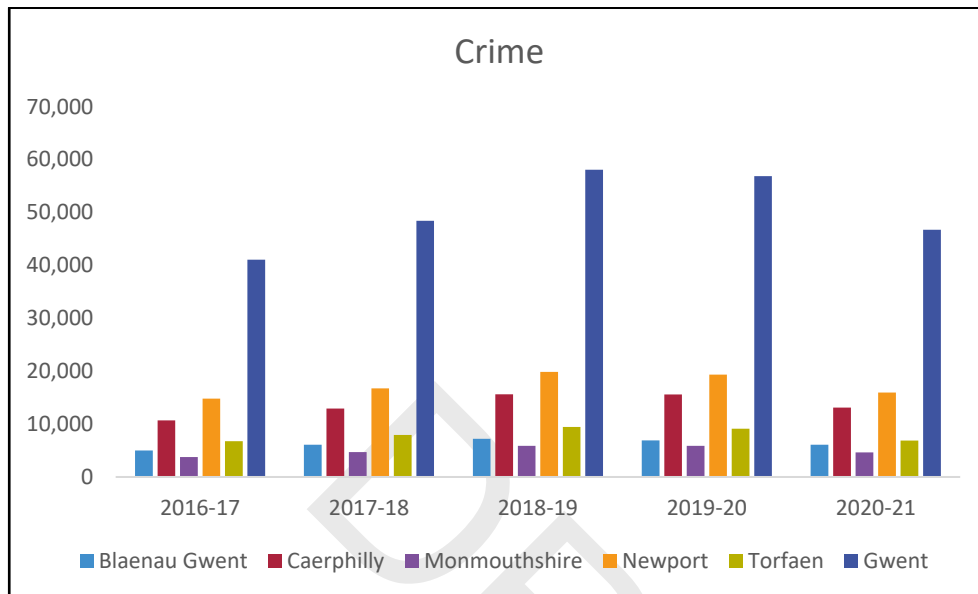
## 3. Police Recorded Crime

The Safer Gwent Strategic Assessment provides a snapshot of issues affecting the safety of people living in Gwent. It aims to support evidence-based decision making, both for Gwent and locally, about the priorities for the coming year. We have used this information, along with the strategic assessments relating to combating substance misuse, and reducing reoffending to tell us about crime in Gwent.

Deprivation and inequalities between different areas and the residents of Gwent may increase the likelihood of becoming a victim of crime or becoming an offender. Offending behaviour can, in many instances, be traced back to social and family such as alcohol, drug abuse, crime or domestic violence. Gwent some of our most deprived communities are close to those with less deprivation.

This may help to explain the disproportionate and differing levels of actual, and perceived, crime and antisocial behaviour in the region.

### 3.1 Overall crime



*Figure S2: Overall crime in Gwent 2016-17 to 2020-21. Source: Gwent Police. Is this from the Safer Gwent Strategic Assessment? Need a reference*

Overall crime levels in Gwent, and each of the constituent local authorities, increased between 2016 and 2019, before decreasing in the following two years (2019-20 and 2020-21) although this may in part be due to the restrictions in place as a result of the Coronavirus pandemic. In general, Monmouthshire had the lowest levels of overall crime across the time period, whilst Newport had the highest levels.

Future businesses, organisations and people living in Gwent may experience more of certain types of crime including cyber-crime.

### 3.2 Criminal damage and arson

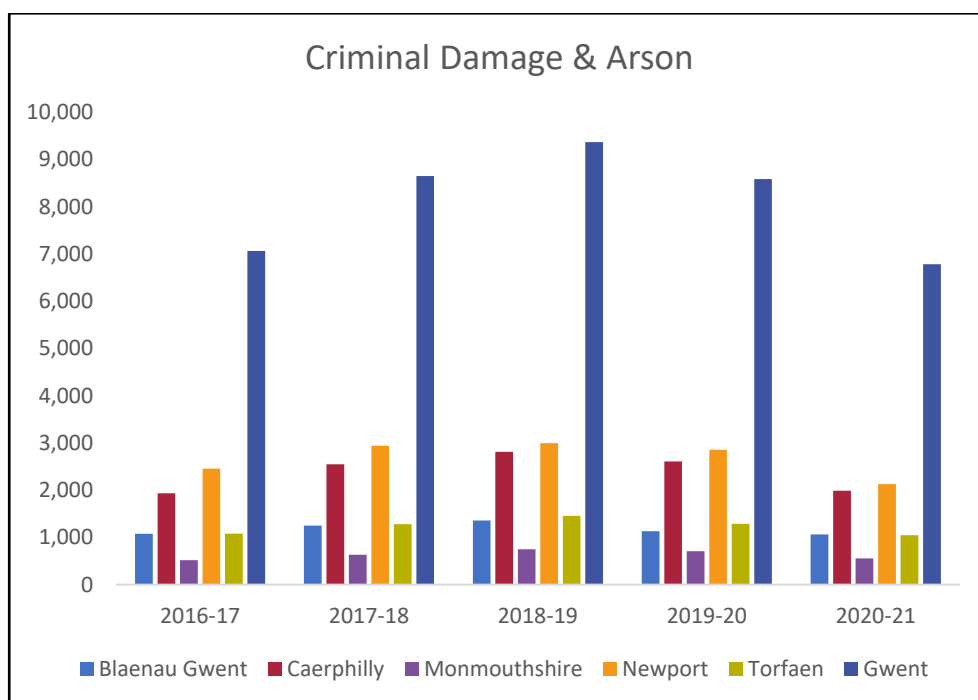


Figure S2: Criminal Damage & Arson in Gwent 2016-17 to 2020-21 Source: Gwent Police

The types of crimes included in figure S2 include damage to buildings and vehicles as well as deliberate damage by fire and showed a similar pattern to other crime during 2016 – 2021. Monmouthshire again had the lowest number of crimes of this type, whilst Newport had the highest number, closely followed by Caerphilly.

### 3.3 Anti-social behaviour

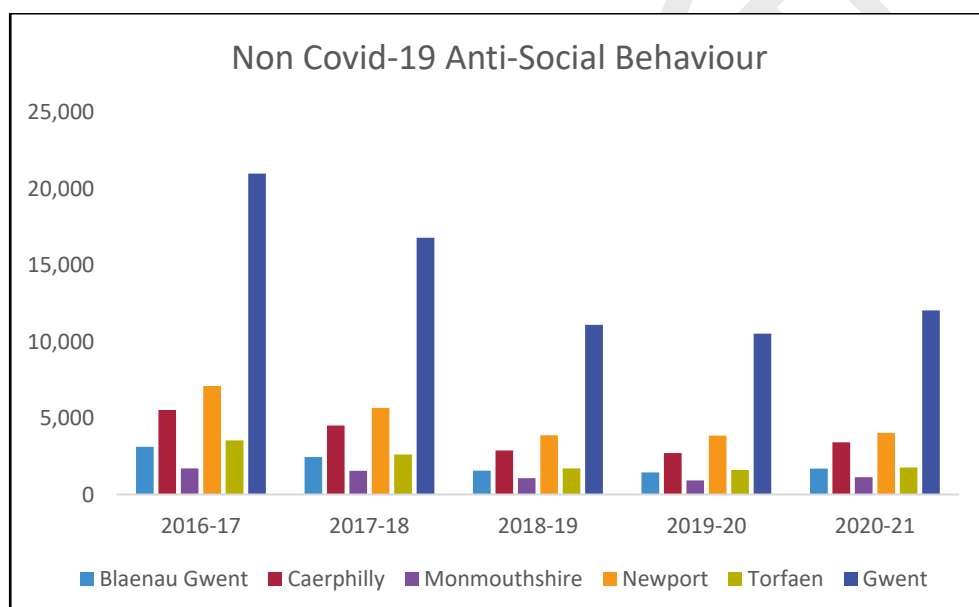


Figure S3: Non Covid-19 Anti-Social Behaviour in Gwent 2016-2017 to 2020-21 Source: Gwent Police

This includes personal, environmental and nuisance anti-social behaviour, but not those related to Covid-19, as this would only have taken place in 2020-21. The number of this type of crime fell significantly between 2016-17 and 2019-20, although they increased slightly in 2020-21. Again Monmouthshire had fewest crimes of this type in every year, whilst Newport had the most.

### 3.4 Hate crime

Hate Crime is defined as 'Any criminal offence which is perceived by the victim or any other person, to be motivated by hostility or prejudice based on a person's race or perceived race; religion or perceived religion; sexual orientation or perceived sexual orientation; disability or perceived disability and any crime motivated by hostility or prejudice against a person who is transgender or perceived to be transgender.'<sup>i</sup>

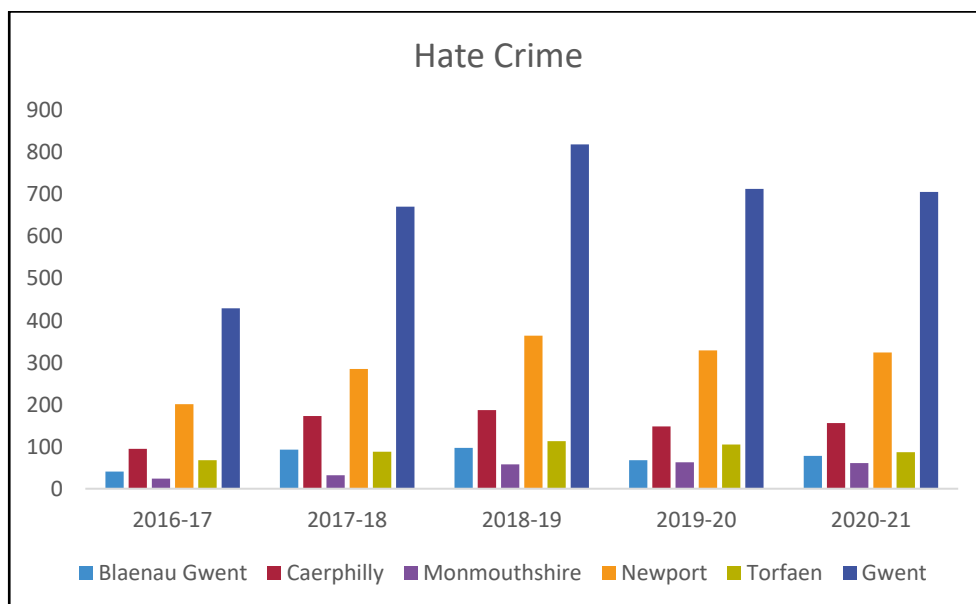


Figure S1: Hate Crime in Gwent 2016-17 to 2020-21 Source: Gwent Police

Figure S4 shows that the number of crimes of this type followed a similar pattern to other crimes. Once again Monmouthshire had the lowest number of crimes of this type and Newport had the highest, possibly due to the greater diversity in Newport. There may also be links to greater deprivation and the ability to take part in community activities, the resettlement of refugees or the proximity to main transport routes enabling people with different cultures and values to visit the area.

Volunteering can be a good way for people to meet and support the community.

### 3.5 Youth offending

The criminal justice system treats children and young people differently from adults. The age of criminal responsibility in England and Wales is 10 years old. This means that children under 10 can't be arrested or charged with a crime, however there are other punishments available to children under 10 who break the law. Children between 10 and 17 can be arrested and taken to court if they commit a crime.

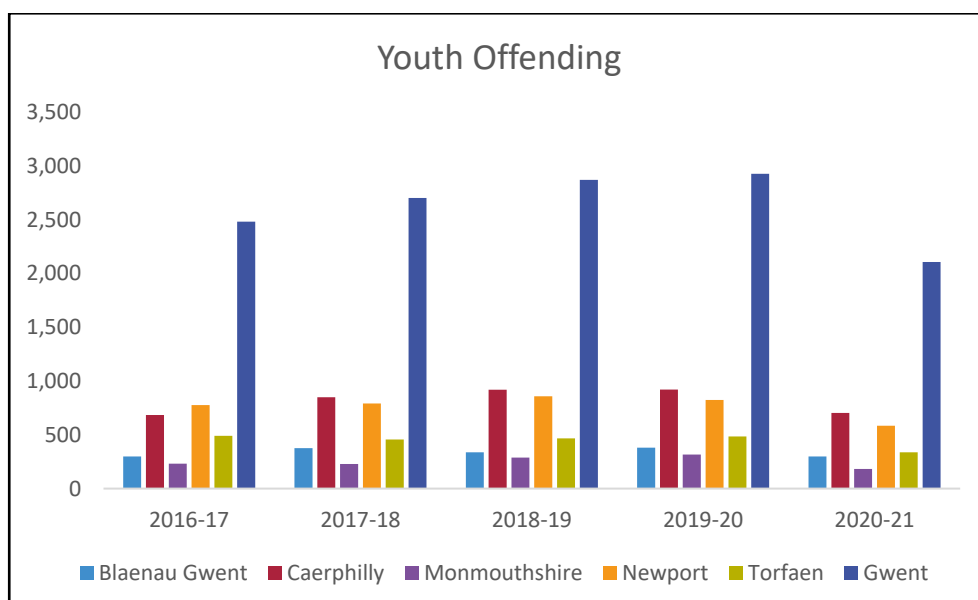


Figure S2: Youth Offending in Gwent 2016-17 to 2020-21 Source: Gwent Police

Figure S5 shows the number of crimes committed by children and young people between the ages of 10 and 17 across Gwent between 2016 and 2021. Overall the number of crimes increased gradually over the first four years of the time period, before falling significantly in 2020-21, probably in a large part due to the various Covid-19 lockdowns. The same trend was seen in each of the local authority areas of Gwent over the time period. Monmouthshire had the lowest whilst Caerphilly had the highest number in four out of the five years of the time period.

### 3.6 Child criminal exploitation

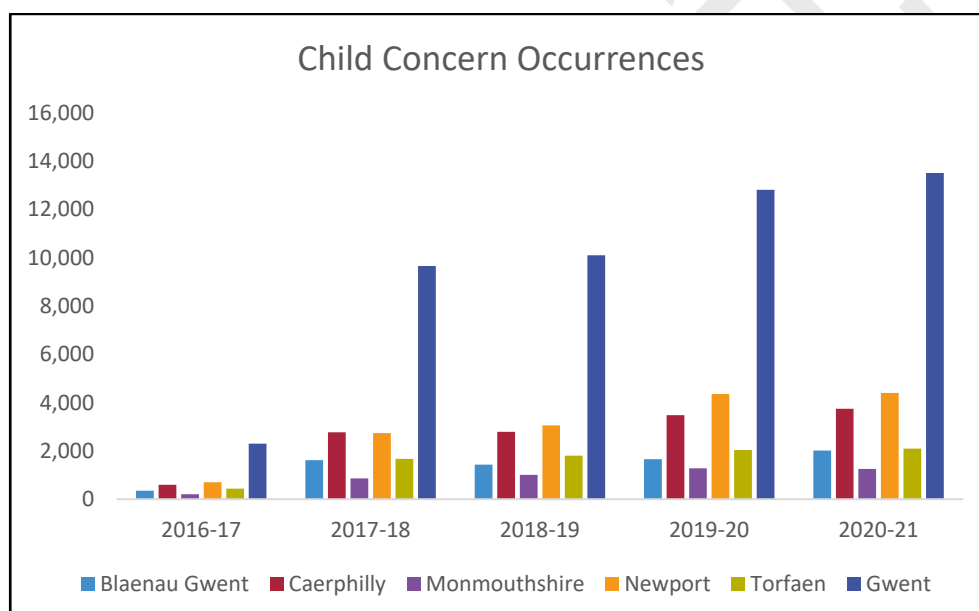


Figure S3: Child Concern Occurrences in Gwent 2016-17 to 2020-21 Source: Gwent Police

A child concern is if he/she is unlikely to achieve or maintain, or have the opportunity of achieving or maintaining a reasonable standard of health or development without the provision for him/her

by a local authority. Also his/her health is likely to be significantly impaired, or further impaired without the provision for him/her of such services.

Figure S6 evidences that the number of occurrences of this type of crime in Gwent increased significantly between 2016-17 and 2017-18 and continued to increase every year until 2020-21. This trend is repeated in the local authority areas of Caerphilly, Newport and Torfaen. In Blaenau Gwent local authority area the number of occurrences fell in 2017-18 but then increased once again from 2018-19 onwards. In the Monmouthshire local authority area the number of occurrences increased over the time period, although the increases were not as large as those seen in the other areas.

Child criminal exploitation occurs where an individual or group takes advantage of an imbalance of power to coerce, control, manipulate or deceive a child or young person under the age of 18. The victim may have been criminally exploited even if the activity appears consensual. Child criminal exploitation is not always through physical contact, it can also use technology. Criminal exploitation often happens alongside sexual or other forms of exploitation. Child criminal exploitation is broader than activities such as county lines and includes, children forced to work on cannabis farms, to commit theft, shoplift or pickpocket, or to threaten other young people.

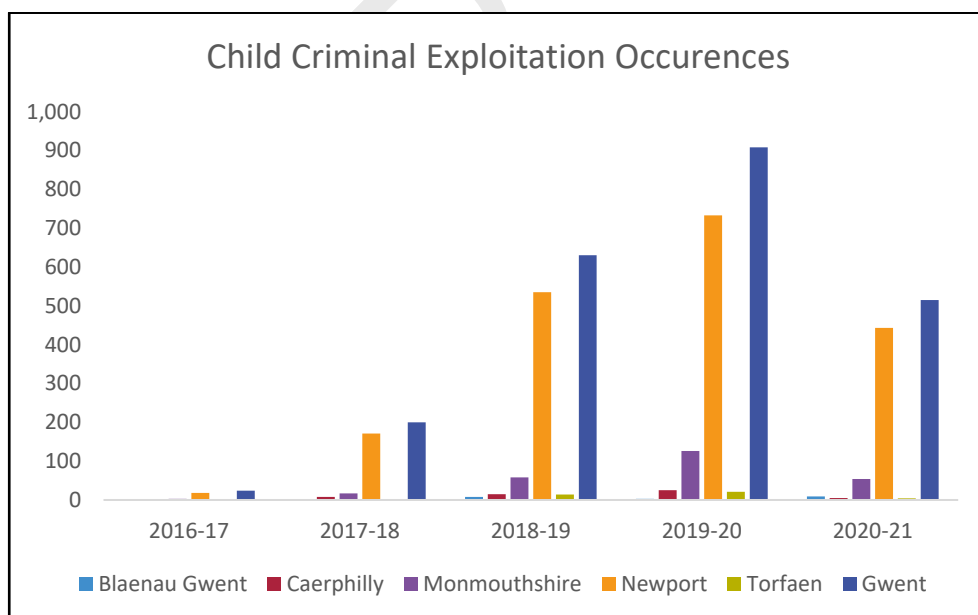


Figure S7: Child Criminal Exploitation in Gwent 2016-17 to 2020-21 Source: Gwent Police

Figure S7 shows that there was a significant increase in the number of Child criminal exploitation occurrences within Gwent between 2016-17 and 2019-20, before a significant fall in 2020-21. The vast majority of these occurred in the Newport local authority area, with a small number in the Monmouthshire local authority area, from 2018-19 onwards.

Child sexual exploitation is a form of child sexual abuse, where an individual or group takes advantage of an imbalance of power to coerce, manipulate or deceive a child or young person under the age of 18 into sexual activity (a) in exchange for something the victim needs or wants; and/or (b) for the financial advantage or increased status of the perpetrator or facilitator. The victim may have been sexually exploited even if it appears consensual. Child sexual exploitation does not always involve physical contact and can also occur through the use of technology.

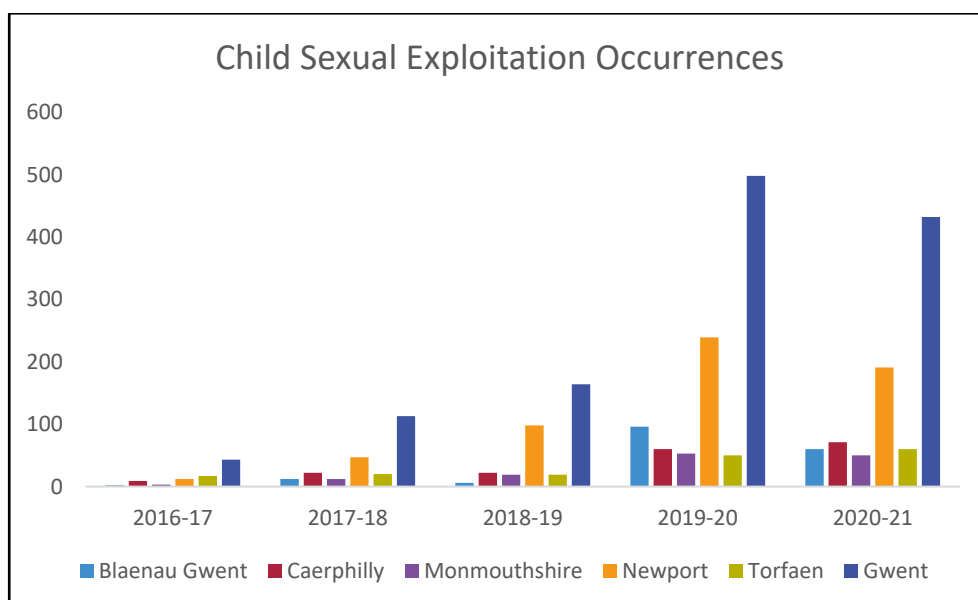


Figure S8: Child Sexual Exploitation in Gwent 2016-17 to 2020-21 Source: Gwent Police

Figure S8 shows that the number of Child sexual exploitation occurrences within Gwent increased substantially between 2016-17 and 2019-20, with the number more than doubling between 2018-19 and 2019-20. The number of occurrences of this crime type fell in 2020-21. The number of occurrences is highest in the Newport local authority area across the whole time period, although numbers in the other local authority areas in Gwent increased substantially in 2019-20 and 2020-21.

### 3.7 Cyber crime

Cyber-dependent crimes (or 'pure' cyber crimes) are **offences that can only be committed using a computer, computer networks or other form of information communications technology (ICT)**. These acts include the spread of viruses or other malware, hacking and distributed denial of service (DDoS) attacks.

**Other crimes which are carried out online, but could be committed without the use of the internet**, such as sexual grooming, stalking or harassment, bullying, and financial or romance fraud, are called cyber-enabled crimes

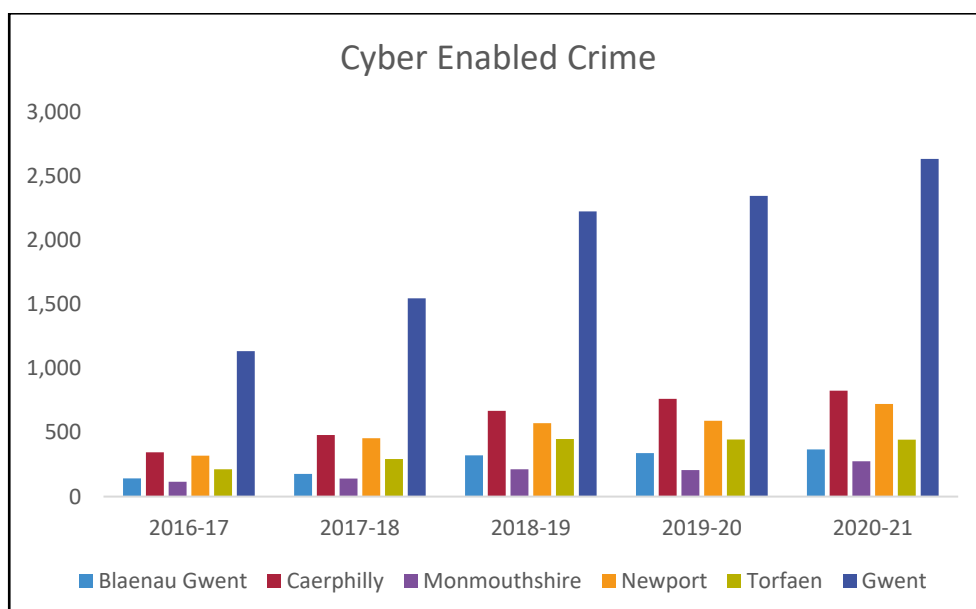


Figure S9: Cyber Enabled Crime in Gwent 2016-17 to 2020-21 Source: Gwent Police

Figure S9 shows that cyber-enabled crime is a growing problem in Gwent, with numbers increasing every year between 2016-17 and 2020-21. The same trend is seen in every local authority area across Gwent over the time period. Monmouthshire has the lowest number of occurrences of this crime type and Caerphilly local authority area has the highest number, closely followed by Newport.

**As well as being digitally inclusive, future Gwent needs to be to cyber-secure.**

There are a number of schemes in place to try to improve community safety and reduce crime in the Gwent area. One example of this is Heddlu Bach.

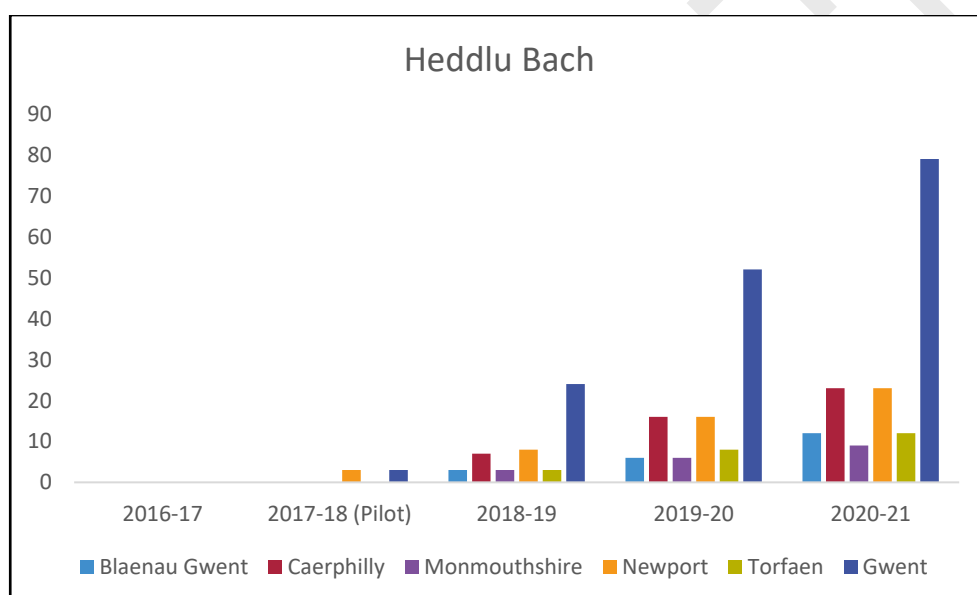


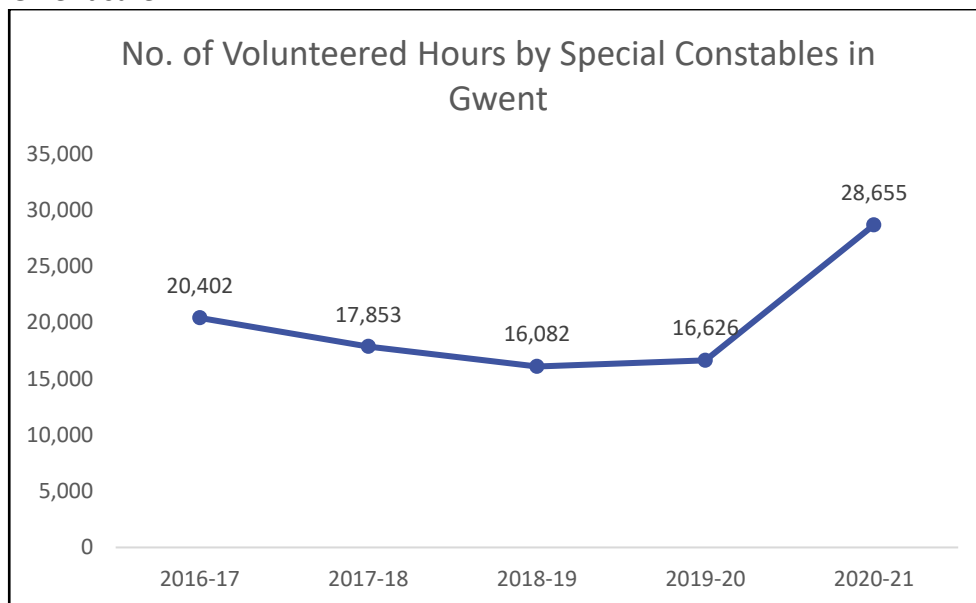
Figure S4: Number of schools involved in Heddlu Bach in Gwent 2016-17 to 2020-21 Source: Gwent Police

The Heddlu Bach scheme is a fun and interactive volunteering programme delivered jointly by Gwent Police and schools, for children aged between 9 to 11 years old. Children and schools who participate help tackle local issues, highlighted by the children in their own community. They work

alongside local Neighbourhood Policing Teams on crime prevention initiatives and taking ownership of the tasks, whilst having fun and building confidence.

Heddlu Bach began as a pilot in Newport in 2016-17 with 3 schools involved increasing to 79 schools across Gwent over the following three years. Caerphilly and Newport local authority areas have the highest number of schools participating, with 23 in each area by 2020-21.

Volunteers for the Special Constabulary come from a diverse range of backgrounds, experiences and communities. Although they are volunteers Special Constables have full police powers, uniform and equipment, and work alongside full-time Police Officers and Community Support Officers to keep Gwent safe.



*Figure S5: Number of volunteered hours by Special Constables in Gwent 2016-17 to 2020-21* Source: Gwent Police

Figure S11 shows that across Gwent the total number of volunteered hours by Special Constables gradually fell between 2016-17 and 2018-19 before a small increase in 2019-20. However, there was a significant increase in the number of hours volunteered in 2020-21, possibly due to individuals being furloughed from their usual working roles and having more time available to them to be able to volunteer.

The Strategic Assessment recognises that whilst every attempt has been made to gather timely, accurate and relevant information, there may be gaps due to lack of available data, under-reporting or issues with data quality. The majority of the analysis is based on data recorded by the Police. Where an issue is known to be significantly under-reported, this only presents part of the picture. This specifically applies to:

- Hate Crime or Incidents
- Domestic Abuse
- Sexual Violence
- Anti-Social Behaviour
- Low level personal thefts

- Shoplifting
- Criminal Damage

*Future trends and challenges*

DRAFT

### 3.8 Violence against Women, Domestic Abuse and Sexual Violence (VAWDASV)

The Violence against Women, Domestic Abuse and Sexual Violence (Wales) Act 2015 aims to improve the public sector response to violence against women, gender-based violence, domestic abuse, and sexual violence. VAWDASV occurs in all social classes and is equally prevalent in both rural and urban parts of Gwent. It is classless and affects all people across all protected characteristics as detailed in the Equality Act 2010. The Gwent VAWDASV Strategy was published in May 2018 setting out a strategic approach to how the Gwent region would improve arrangements for the prevention, protection and support for individuals affected by such violence and abuse, and contribute to the consistency, quality and joining-up of service provision in Wales.

The Violence against Women, Domestic Abuse and Sexual Violence (Wales) Act 2015 incorporates all aspects of VAWDASV including:

- Female Genital Mutilation (FGM)
- Forced Marriage
- 'Honour' Based Abuse (HBA)
- Trafficking
- Domestic Abuse
- Sexual Violence including Rape and Sexual Harassment
- Sexually Exploited People within the Sex Industry
- Stalking and Harassment

Being affected by VAWDASV is often linked to causing both physical and mental ill health. Through consultation with survivors and partner agencies the importance of supporting individuals holistically is seen as vital but is sometimes difficult. Working alongside mental health, substance misuse and VAWDASV services can enable support that is more effective and save victims and survivors from repeating their experiences at each separate assessment.

There are a number of specialist agencies and organisations working in Gwent to support those effected by VAWDASV, including BAWSO, Cyfannol Women's Aid, Hafan Cymru, , Llamau, New Pathways and Phoenix DAS.

In Gwent in 2020-21:

- 92 women and 54 children accessed refuges
- 318 children & young people accessed direct community-based support for children & young people affected by domestic abuse
- 235 women and 4 men accessed community-based housing related support
- 256 women and 2 men accessed early intervention family safety support
- 263 women and 48 men accessed homelessness prevention support

Sessions in schools and community groups for young people were delivered in addition to the formal support provided.

In Gwent there is a strong and long history of statutory and expert sector organisations, including many of the PSB partners, working in partnership to commission the specialist services to prevent, protect and support those affected by VAWDASV. These are provided by a range of specialist sector organisations which each cater for different groups.

Service	Summary of services provided in Gwent
Barnardos	Whole Family Support programme for survivors, perpetrators and children/young people
BAWSO	BAME specialist provision for those affected by all aspects of VAWDASV
Cyfannol Women's Aid	VAWDASV services including refuge, move on, drop in, community outreach, educational work, group work, counselling, ISVA, sexual exploitation advocacy service, and specialist children and young people interventions
Gwent Regional IDVA Service	Provides intensive 1-2-1 support to domestic abuse victims assessed as high-risk of harm and murder
Hafan Cymru	Housing related support for those affected by Domestic Abuse. Includes Spectrum Programme, promoting healthy relationships in schools across Gwent and Wales
Llamau	Refuges and community-based support for those affected by domestic abuse and/or homelessness, plus training
New Pathways	Sexual violence services, sexual assault referral centre, Liberate anti-slavery project, training, SURE Mental Health
Phoenix Domestic Abuse Services	Support for perpetrators and victims/survivors of Domestic Abuse, including children and young people

Figure S6: Summary of VAWDASV services provided in Gwent

Support is also provided by Gwent Police, Connect Gwent, the Victim Care Unit and Umbrella Cymru.

The region has embedded processes to support those assessed at high risk of domestic abuse, including the Multi-Agency Risk Assessment Conference (MARAC). A MARAC is an information sharing and risk management meeting attended by the Police and other key partner agencies. The aims of the meeting are to increase the safety of the victims, identify and manage their risks and establish if the perpetrator is a significant risk to individuals and the wider community

Victims and survivors of domestic abuse who are at high risk of serious harm or murder, can also access an Independent Domestic Violence Advisor. Within Gwent, this service is jointly funded by Gwent Police and Crime Commissioner's Office and Welsh Government, through the Regional VAWDASV annual revenue grant. Gwent continues to raise awareness of the signs and symptoms of VAWDASV including training, and work to maintain, adapt and improve working structures and sharing lessons learnt.

Operation Encompass was initiated in Gwent Schools in March 2019 to help children involved in families where domestic abuse is reported. It allows the Police to share information on incidents involving children with local schools early the next school day, enabling schools to provide a supportive response. Research shows that children who are experiencing traumatic events, and may be victims or witnesses of domestic abuse, are more likely to become involved in violent crime, abuse, drug taking and experience long term issues with their mental or physical health. This early intervention aims to support these children and young people in an environment they feel safe in, allowing them to express their concerns and help with wellbeing.

Experiencing violence or abuse of any kind is traumatic and incidents have severe and lasting impacts on a person's physical and mental health needs, their behaviour, and interpersonal skills. It also has a significant impact on a person's ability to process what is happening to them, to think

logically, forward plan or problem solve. It can also leave the person with no sense of time, confused timelines and can disrupt memory recall. Survivors need trauma-informed practical support to help them make sense of what has happened as well as to navigate the services and systems, such as the criminal justice system, children's social care or housing, they need to recover and move forward.

Mental health concerns for victims, survivors, and perpetrators of VAWDASV is a key area, along with the mental health impact on children and young people of incidents experienced. Demand on mental health services from current and historic experiences of VAWDASV is increasing.

The Covid-19 pandemic and associated restrictions have exacerbated all issues in relation to VAWDASV, due to reduced calls and referrals to services, individuals living with perpetrators and unable to access help and support, and increased calls to national helplines Childline.

## MARAC Cases 2019 /2020 Comparison

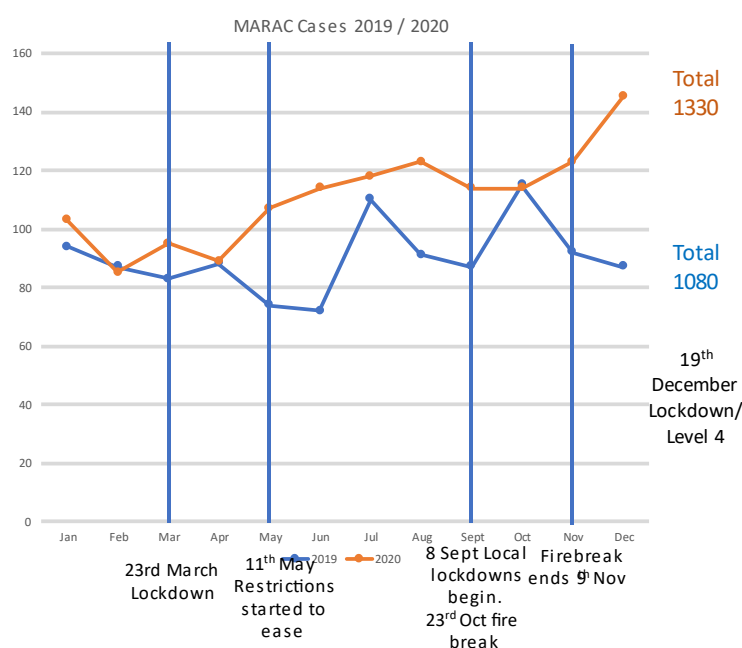


Figure S7: Comparison of MARAC cases 2019/20 – provided by Gwent Police

The MARAC data in figure S14 shows how the restrictions have impacted upon people's ability to seek help and support. Referrals in 2020 were below 2019 levels right across the year, but particularly around the various lockdown periods during 2020. This caused great concern amongst regional partners and led to several campaigns to highlight the different ways in which people could access Gwent Police and specialist support agencies.

The VAWDASV Needs Assessment is subject to continuous change and does not claim to be fully comprehensive or exhaustive, instead demonstrating the levels of demand and direction of travel. There are gaps in the knowledge and information, particularly in relation to 'Honour' based abuse, FGM, forced marriage and specialist services provided to the BAME community in Gwent, and this is a key focus of improvement moving forward.

The key finding of the Needs Assessment has been the difficulty in obtaining accurate and timely information on the prevalence of VAWDASV across the region. Data is not available consistently or centrally, thus reducing the ability to have a clear and comprehensive picture of the extent of need in Gwent. Similarly, there is a gap in data about the extent to which victims, survivors and

perpetrators use public and specialist services across Gwent. Information on those with specific protected characteristics is also a particular gap. In addition to a lack of understanding of the hidden element of VAWDASV (not everybody will want, or be able to, report or seek help and support), this impacts on the ability to make considered, evidenced based decisions.

The mix of rural and urban populations, with market towns and farming communities, present very different commissioning challenges for delivering consistent, effective, and qualitative VAWDASV services.

VAWDASV services in general are increasingly reporting they are seeing a decline in people's mental health, with staff regularly working with people with suicidal thoughts and attempts or having to refer to crisis services. Feedback from specialist sector organisations states the levels of physical violence experienced by those accessing refuge has increased, and health harming behaviours of those supported have risen. There is concern amongst all partners that these pressures could lead to a two-fold issue of staff exhaustion or their own well-being declining, and those individuals being supported needing to be escalated to an already overstretched crisis service.

The huge backlog in the Criminal Justice System, meaning that cases are taking a considerable amount of time to process or get to court, so much so that victims are starting to disengage with the process. As a result, perpetrators are not being held to account for their actions, are having no conditions placed on them, which increases the risk and potential damage to victims. Perpetrators are more able to move on to commit abuse in new relationships, with no historic abuse coming to light.

### 3.9 Fire and Rescue Service Incidents

The modern Fire and Rescue service does more than fight fires, modern firefighters keep the public safe from many other threats, including floods and road traffic incidents, and plays a major role during major incidents such as terrorist attacks. Crucially, Fire and Rescue Service workers help prevent fire and loss of life with comprehensive public information and engagement campaigns. Firefighters keep the public safe and are there when their safety is threatened, protecting them from fire and other dangers.

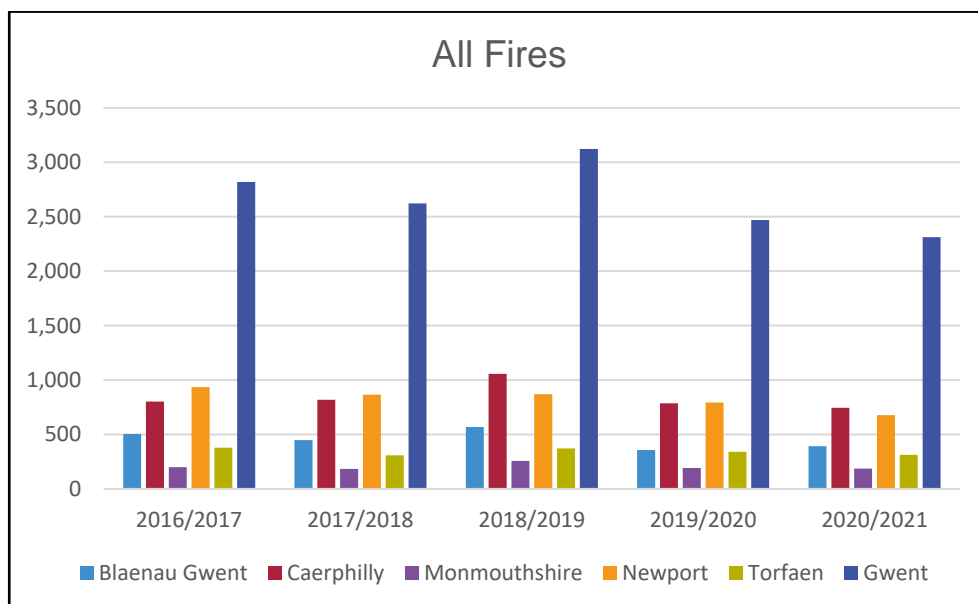


Figure S8: All Fires recorded in Gwent 2016-17 to 2020-21 Source: South Wales Fire and Rescue Service

Figure S15 shows the number of fires recorded across Gwent between 2016-17 and 2020-21, and although variable peaked in 2018-19, probably due to the exceptionally dry summer of 2018. Monmouthshire local authority area had the lowest number of fires across the time period, and the figure is fairly stable apart from a small increase in 2018-19. Newport local authority area had the highest number of fires in three of the five years of the time period, although the general trend for this area is that the number of fires is falling over time. Caerphilly local authority area had the highest number of fires in the other two years of the time period, with the trend in this area matching the overall Gwent trend i.e. peaking in 2018-19 before falling in the following two years.

SEE INCIDENT BREAKDOWN BELOW

As you will see from the table below in 2018/19 there was an increase of 29% in fires in the Caerphilly UA area with refuse (+13%) and grass fires (+119%) accounting for the majority of this increase compared to the year before. The numbers of fires in Caerphilly UA has reduced to 745 in 2020/21. The numbers have since reduced to 786 in 2019/20 and 745 in 2020/21.

Property Type Summary	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Grand Total
Refuse/Refuse Container	361	366	415	311	346	1799
Grassland, woodland and crops	148	181	396	191	172	1088
Road Vehicle	120	89	88	108	79	484
Dwelling	78	70	70	82	84	384
Non Residential Building	57	64	48	58	39	266
Outdoor structures	28	34	23	26	17	128
Other outdoors (including land)	7	5	6	4	2	24
Other Residential Building	2	9	4	3	3	21
Outdoor equipment and machinery			5	1	3	9
Other Vehicle	2		2	2		6
<b>Grand Total</b>	<b>803</b>	<b>818</b>	<b>1057</b>	<b>786</b>	<b>745</b>	<b>4210</b>

The number of fires in the Newport UA area has decreased from 934 in 2016/17 to 676 (-28%) in 2020/21. Fires then reduced to 794 in 2019/20 and 676 in 2020/21. Refuse fires have on average accounted for 52% of all fires during this period. The proportion of refuse fires has increased slowly over the period from 51% in 2016/17 to 57% in 2020/21.

Property Type Summary	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	Grand Total
Refuse/Refuse Container	476	486	417	392	385	2156
Road Vehicle	177	109	126	130	89	631
Grassland, woodland and crops	86	85	165	105	64	505
Dwelling	82	82	77	94	73	408
Non Residential Building	60	51	41	26	35	213
Outdoor structures	40	36	32	35	25	168
Other Residential Building	9	9	2	3	3	26
Outdoor equipment and machinery	4	5	7	6	1	23
Other outdoors (including land)		2	1	3	1	7
Other Vehicle			2			2
<b>Grand Total</b>	<b>934</b>	<b>865</b>	<b>870</b>	<b>794</b>	<b>676</b>	<b>4139</b>

The proportion of deliberate fires in Gwent has remained on average around the 75% mark for the 5 year period with the other 25% being accidental or unknown fires.

The table below shows the number of accidental dwelling fires in Gwent over the 5 year period.

Financial Year	Count
2016/2017	255
2017/2018	206
2018/2019	196
2019/2020	257
2020/2021	208
<b>Total</b>	<b>1,122</b>

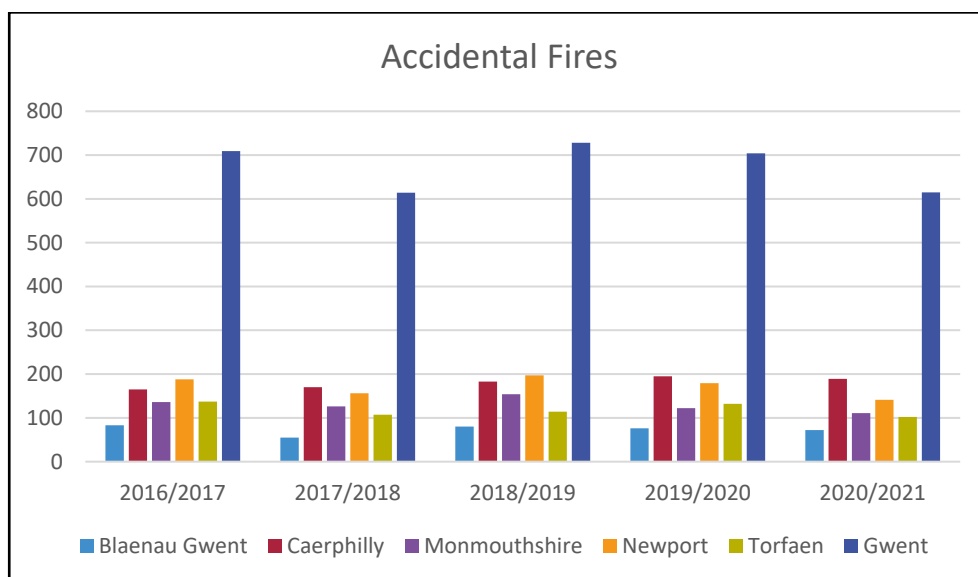
As you will see numbers fell from 2016/17 to 2018/19 but then increased to 257 in 2019/20. The numbers then fell again in 2020/21.

- 35% or 1 in 3 fires in ADFs were caused by cooking
- Firefighters attend on average up to 4 cooking fires in accidental dwelling fires every week.
- 75% or 3 in 4 were caused by a human factor
- 37 % or 1 in 3 cooking fires were caused by distraction
- 16% or 1 in 6 of all accidental cooking fires were caused by a person falling asleep.
- 15% or 1 in 7 of all accidental cooking fires were caused by a person suspected of being under the influence of drugs or alcohol.

SWFRS carried out 6,852 home fire safety checks in the Gwent area during the financial year 2019/20. During 2020/21 this number dropped to 2,774 as access to people's homes was restricted due to the pandemic. A new enhanced modified Home safety check was introduced involving home safety checks carried out over the phone rather than in person. Advice is given over the phone to help an individual improve their health and wellbeing and reducing their risk from fire within their home. Modified checks can be completed if the occupier does not want us in their property, or sufficient info can be gathered by Fire Service personnel completing the check to assess that the occupant is a) able to understand the education materials and b) if equipment is necessary the occupant is able to fit the equipment themselves.

The check involves identifying the occupancy type, were there smoke detectors in the property and if so, were they in working order, people who smoke, use candles, are hoarders and whether they overload electric sockets as well as identifying other fire safety risks. As restrictions have eased the amount of checks carried out has increased with 1,821 home safety checks carried out to the end of September in 2021/22.

Figure S9: Accidental Fires within Gwent 2016-17 to 2020-21



Source: South Wales Fire and Rescue Service

Accidental fires include those where the motive for the fire was presumed to be either accidental or not known (or unspecified).

Figure S16 shows the number of accidental fires recorded across Gwent between 2016-17 and 2020-21, and evidences that this figure is variable over the time period, although the number once again peaked in 2018-19 before falling slightly in the following two years. Blaenau Gwent local authority area had the lowest number of fires across the time period, and the general trend for this area is that the number of accidental fires is falling over time. Caerphilly local authority area had the highest number of fires in three of the five years of the time period, and the general trend is that the number of accidental fires in this area is increasing over time. Newport local authority area had the highest number of accidental fires in the remaining two years of the time period, and the general trend for this area is that the number of accidental fires is variable over the time period.

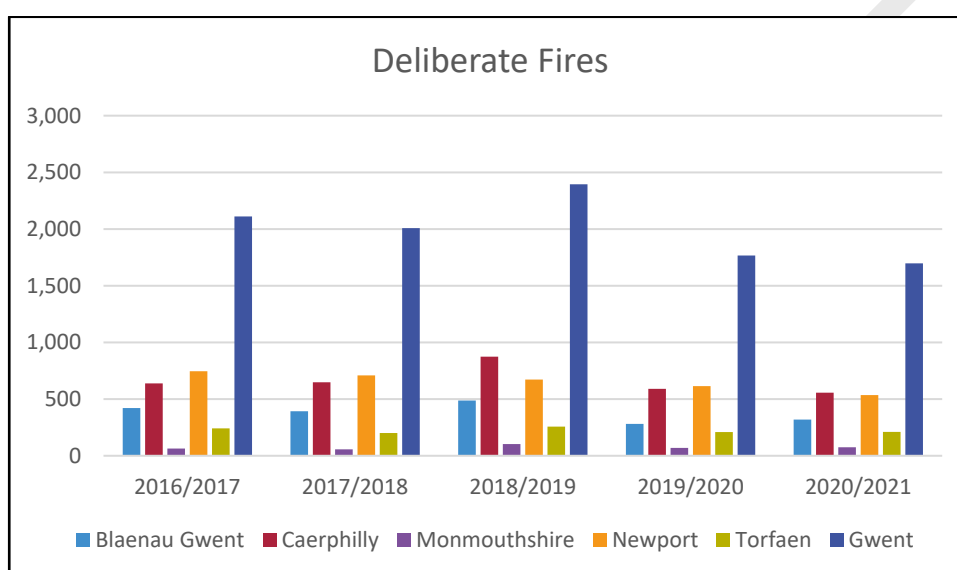


Figure S17: Deliberate Fires within Gwent 2016-17 to 2020-21 Source: South Wales Fire and Rescue Service

Deliberate fires include those where the motive for the fire was 'thought to be' or 'suspected to be' deliberate. This includes fires to an individual's own property, others' property or property of an unknown owner. Deliberate fires are not the same as arson. Arson is defined under the Criminal Damage Act of 1971 as 'an act of attempting to destroy or damage property, and/or in doing so, to endanger life'.

Figure S17 shows the number of deliberate fires recorded across Gwent between 2016-17 and 2020-21, and evidences that this figure peaked in 2018-19 before falling substantially in the following two years. Monmouthshire local authority area had the lowest number of deliberate fires across the time period, and the figure is fairly stable apart from a small increase in 2018-19. Newport local authority area had the highest number of deliberate fires in three of the five years of the time period, although the general trend for this area is that the number of deliberate fires is falling over time. Caerphilly local authority area had the highest number of deliberate fires in the other two years of the time period, and apart from a relatively large increase in 2018-19, once again the overall trend is that the number of deliberate fires is falling in this area.

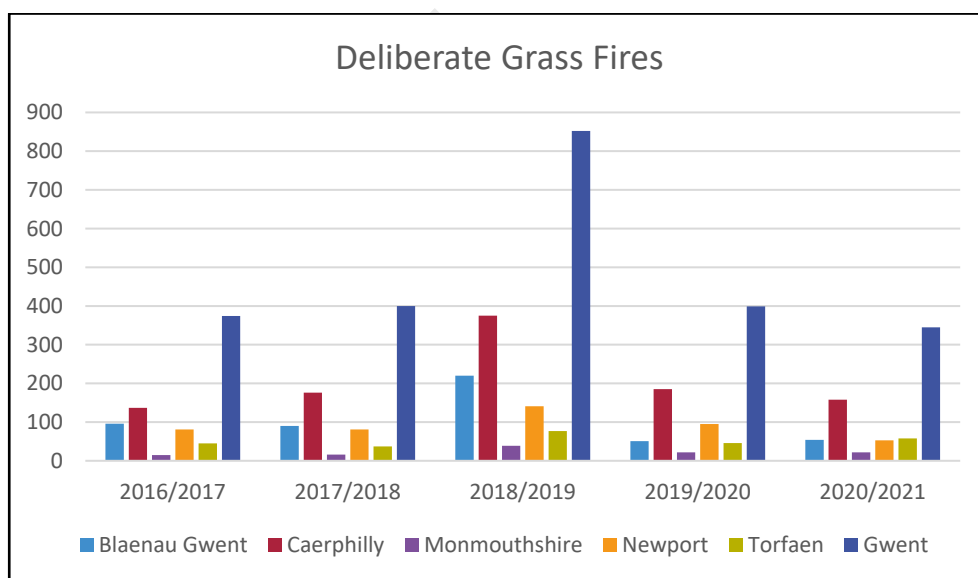
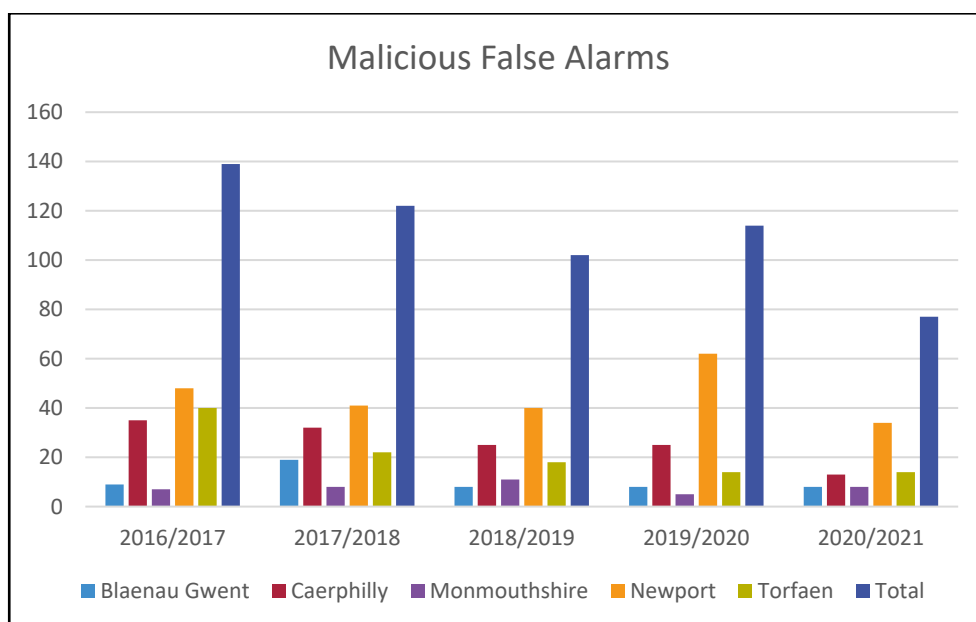


Figure S18: Deliberate Grass Fires in Gwent 2016-17 to 2020-21 Source: South Wales Fire and Rescue Service

Grass Fires are generally small outdoor fires not involving people or property, such as refuse fires, grassland fires and fires in derelict buildings or vehicles. Fires involving casualties or rescues, or five or more pumping appliances attended are classed as primary other outdoor fires.

Figure S18 shows the number of deliberate grass fires recorded across Gwent between 2016-17 and 2020-21, which was fairly consistent at around 350-400 per year across Gwent, apart from 2018-19 when the figure was 852, again probably due to the extremely hot and dry summer of 2018. Monmouthshire local authority area had the lowest number of deliberate grass fires across the time period, and the figure is fairly stable apart from a small increase in 2018-19. Caerphilly local authority area had the highest number of deliberate grass fires in every year of the time period, and apart from a relatively large increase in 2018-19 once again the overall trend is that the number of deliberate fires is falling in this area.



*Figure S10: Malicious False Alarms in Gwent 2016-17 to 2020-21 Source: South Wales Fire and Rescue Service*

Malicious False Alarms are calls made with the intention of getting the Fire Service to attend a non-existent event, including deliberate and suspected malicious intentions and are usually via a hoax phone call or activation of fire alarms.

Figure S19 shows the number of malicious false alarms recorded across Gwent between 2016-17 and 2020-21, and evidences that the general trend is that the number of incidents of this type is generally falling over the time period, apart from a relatively small increase in 2019-20. Monmouthshire local authority area had the lowest number of malicious false alarms across the time period, and the figure is fairly stable apart from a small increase in 2018-19. Newport local authority area had the highest number of malicious false alarms in every year of the time period, with the number of incidents remaining fairly consistent at around 40 per year, although there was an increase to just over 60 incidents in 2019/20.

**A changing climate could increase the frequency of wildfires.**

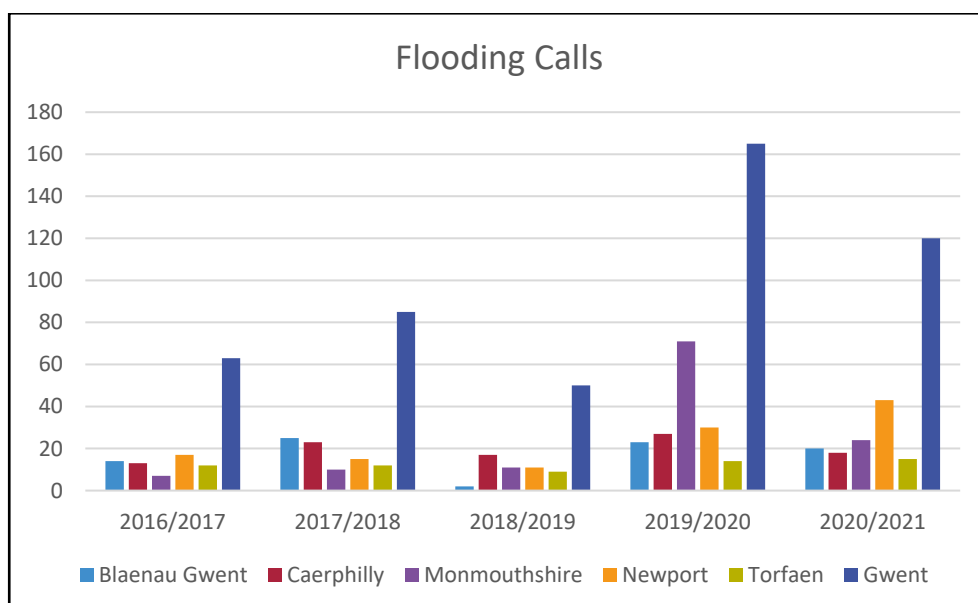


Figure S20: Flooding Calls in Gwent 2016-17 to 2020-21 Source: South Wales Fire and Rescue Service

Non-fire incidents (also known as Special Service incidents) are incidents requiring the attendance of an appliance or officer. They include, but are not limited to:

- local emergencies e.g. road traffic incidents, responding to medical emergencies, rescue of persons and/or animals or making areas safe
- major environmental disasters e.g. flooding, hazardous material incidents or spills and leaks
- domestic incidents e.g. persons locked in/out, lift releases, suicide/attempts
- prior arrangements to attend or assist other agencies, which may include some provision of advice or standing by to tackle emergency situations

Figure S20 shows the number of flooding calls made to the Fire & Rescue Service in Gwent between 2016-17 and 2020-21, and evidences that the general trend is that the number of calls is highly variable. In particular, 165 flooding calls were received within Gwent in 2019-20, twice the peak in the previous three years. The figure in 2020-21 was also relatively high at 120 flooding calls. The number of calls across the local authority areas was relatively low for every area between 2016-17 and 2018-19, with Monmouthshire local authority area having the highest number of calls in 2019-20 and Torfaen local authority area having the highest number of calls in 2020-21.

*What are the well-being strengths?*

*What are the issues impacting well-being?*

*What are the gaps in understanding of well-being?*

*Future trends and challenges*

## 4. Future trends and challenges

A future Gwent, with more inter-generational facilities that can bring people of all ages together, would be more cohesive.

Taking part in youth activities can be a good way to make friends and be active.

Schools can be a good place for young people from different backgrounds to learn to get on well together and to be active citizens throughout their lives.

Equitable access to good quality green space would provide future generations with places to come together to enjoy recreational activities.

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<sup>i</sup> <https://www.gwent.police.uk/advice/advice-and-information/hco/hate-crime/what-is-hate-crime/>

## SOCIAL WELL-BEING CHAPTER – EDUCATION

Having a good education can play a key role in enabling young people to take full advantage of the opportunities available to them and to achieve their potential. Tackling educational attainment gaps and improving educational outcomes and skills, especially for young people from low income families, will support the longer-term economic well-being of them and their communities.

School can be the first opportunity for young people to learn the skills to get on well with people from different backgrounds and to be active citizens. New cultural activities can be experienced, and Welsh language skills developed. In school, young people can also learn about the importance of looking after the environment and the impact humans are having globally on the planet.

Childhood experiences can have a significant impact on a person's long-term development and overall life achievements. We know that there are families living in Gwent who are finding it hard to pay for the basics of life. Free School Meals (FSM) data also tells us that there are inequalities in our communities, and we know that access to a good meal can improve health and support learning. Taking early action to support young people to have the best start in life and a good quality education will support their economic well-being in later life.

There are five individual Local Education Authorities in Gwent and a shared Education Achievement Service providing support and challenge to schools within the five local authorities to strive for excellence. Gwent has also benefited from Welsh Government's 21st Century schools programme providing better premises and facilities to support modern teaching methods that benefit pupils and communities, now and in the future.



<b>School aged children</b> 	Gwent has <b>73,324</b> compulsory school age children, which is <b>19.3%</b> of pupils in Wales <sup>1</sup> .
<b>Free school meals</b>	<b>24.8%</b> of pupils of compulsory school age are eligible for free school meals <sup>2</sup> .
<b>Schools</b> 	Gwent has <b>233</b> maintained schools - 20 Welsh medium primary schools, 3 Welsh medium secondary, 17 Roman Catholic and 11 Church in Wales schools within the region <sup>3</sup> .
<b>Ethnicity</b>	<b>11.8%</b> pupils aged 5 or over in Gwent are from an ethnic minority background <sup>4</sup> .

Figure 1 shows that there are many different types of schools in Gwent. Which school someone attends is most likely to be determined by catchment area but there are also other factors such as faith schools and Welsh language schools.

<b>Blaenau Gwent (31.4% FSM)</b>	<b>Caerphilly (24.9% FSM)</b>	<b>Monmouthshire (16.6% FSM)</b>	<b>Newport (23.1% FSM)</b>	<b>Torfaen (30.0% FSM)</b>
<b>3</b> Non-maintained Nursery settings <b>19</b> Primary (1 Welsh medium, 3 Roman Catholic, 1 Church in Wales) <b>2</b> Secondary <b>2</b> Special <b>2</b> 3-16	<b>14</b> Non-maintained Nursery settings <b>63</b> Primary (11 Welsh medium, 1 Roman Catholic) <b>6</b> Infant <b>4</b> Junior <b>11</b> Secondary (1 Welsh medium) <b>1</b> Special <b>1</b> Pupil Referral Unit <b>1</b> 3-18	<b>25</b> Non-maintained Nursery settings <b>30</b> Primary (2 Welsh medium, 6 Church in Wales, 2 Roman Catholic) <b>4</b> Secondary <b>1</b> Pupil Referral Service	<b>23</b> Non-maintained Nursery settings <b>2</b> Nursery <b>43</b> Primary (3 Welsh medium, 2 Church in Wales, 6 Roman Catholic) <b>9</b> Secondary (1 Welsh medium, 1 Roman Catholic) <b>2</b> Special <b>1</b> Pupil Referral Unit	<b>15</b> Non-maintained Nursery settings <b>25</b> Primary (3 Welsh medium, 3 Church in Wales, 3 Roman Catholic) <b>6</b> Secondary (1 Welsh medium, 1 Roman Catholic) <b>1</b> Special <b>1</b> Pupil Referral Service

Figure 1: A breakdown of educational provision by local authority area in Gwent<sup>5</sup>

School environments are a place where people of different backgrounds come together, often for the first time, promoting community cohesion. Enabling people of different backgrounds to have similar life opportunities will result in greater equality.

## Educational attainment

### Early years

Flying Start is the Welsh Government's Early Years programme for families with children aged under 4 years old. It is targeted in some of the most deprived areas in Wales. Child poverty is linked to poor life outcomes, including health outcomes in early childhood. Flying Start includes four core elements: free quality childcare, parenting support, intensive health visitor support, and support for early literacy<sup>6</sup>.

There are Flying Start areas located throughout the Gwent region. The most recently available data from 2016 shows the percentage of Flying Start children reaching or exceeding their developmental milestones at 3 years in Gwent ranges from 61% in Blaenau Gwent to 43% in Monmouthshire, with a Wales rate of 51%<sup>7</sup>.

### Primary School

School attendance is widely agreed as a critical factor in student achievement. Attendance in Gwent primary schools for the last 2 years of available data is above the Welsh average. In 2018/19 there were variations across Gwent from 4.6% half-day sessions missed due to all absences in Monmouthshire, to 5.8% in Blaenau Gwent as shown in Figure 2.

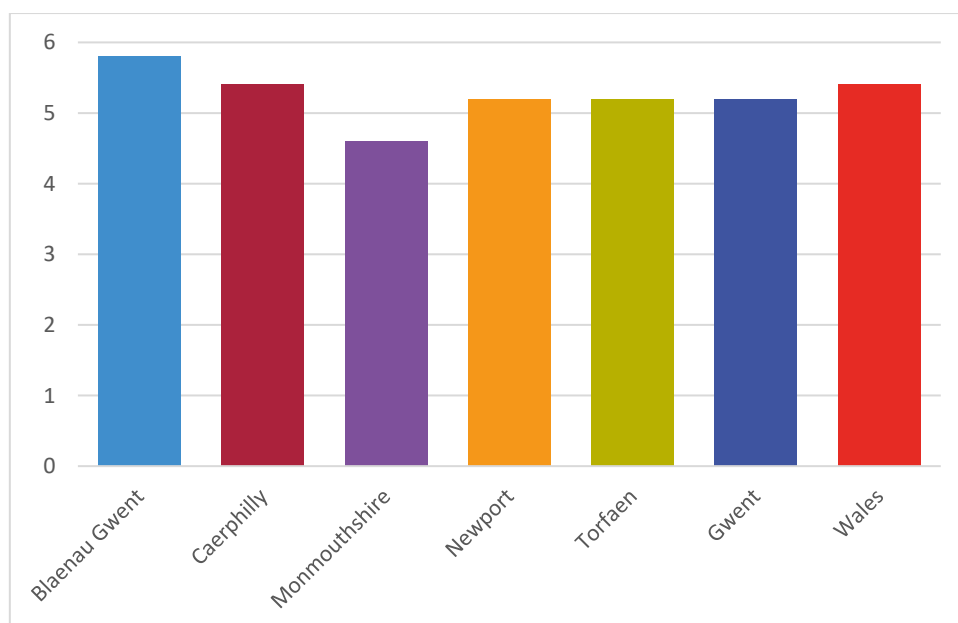


Figure 2: Percentage of half days missed due to all absences (primary schools 2018-19)<sup>8</sup>

Foundation Phase Indicator and Key Stage 2 Core Subject Indicator data from 2014-2017 shows the Gwent region performed better than Wales as a whole but there are variations between local authorities in Gwent, as shown in Figures 3 and 4.

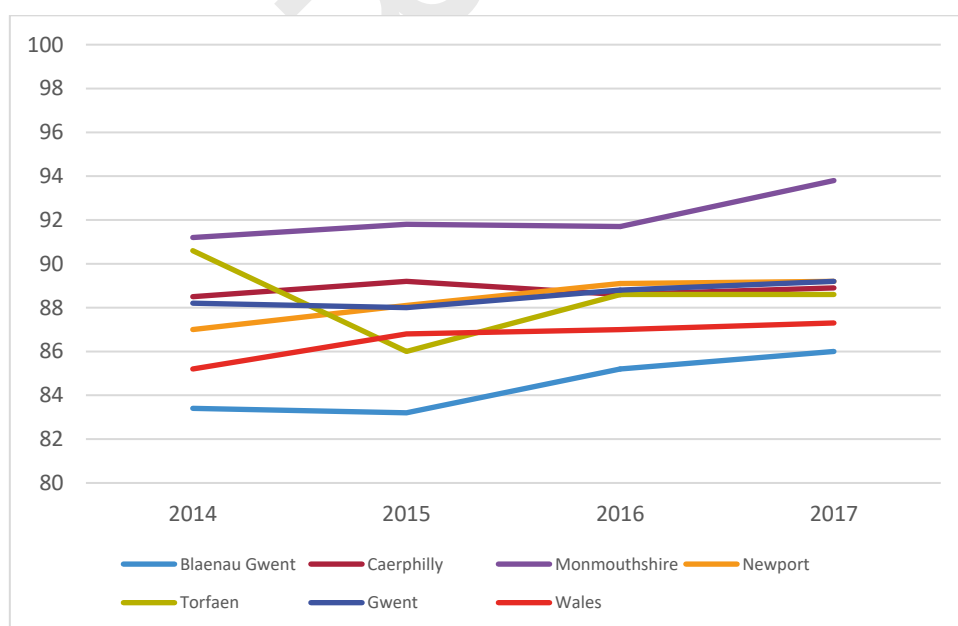


Figure 3: Percentage children achieving the Foundation Phase Indicator (FPI)<sup>9</sup>

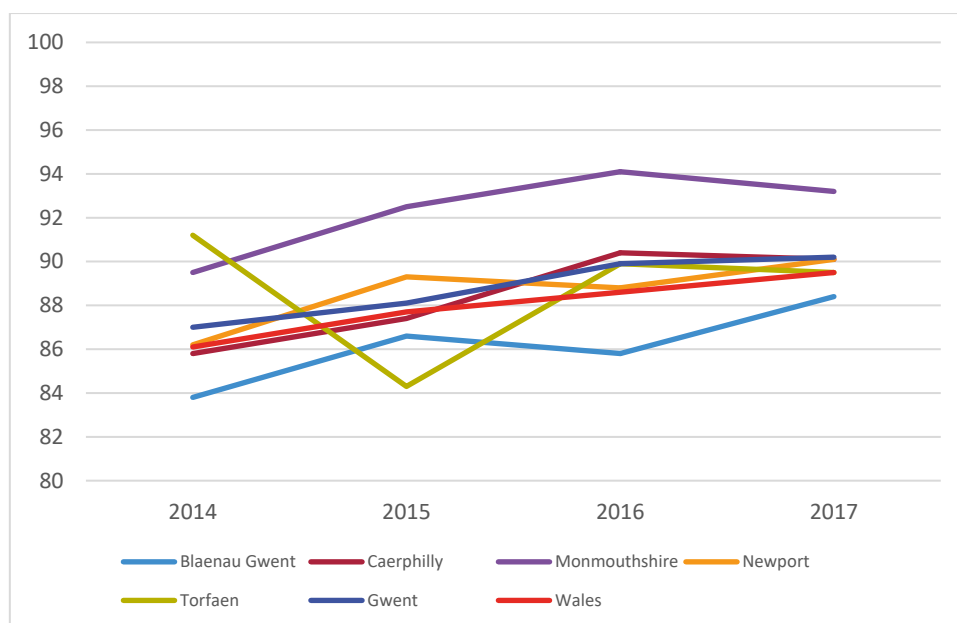


Figure 4: Percentage children achieving Key Stage 2 Core Subject Indicator (CSI)<sup>10</sup>

The Welsh Index of Multiple Deprivation (WIMD) 2019 uses data on the average results of teacher assessments in years 2 and 6 of primary pupils. Each assessed outcome is allocated a score, these are used to provide an average point score using results of pupils from academic years 2015/16 to 2017/18. There were small variations between local authorities in Gwent with Monmouthshire having the highest point score (107 at Foundation Phase and 90 at Key Stage 2) and Blaenau Gwent the lowest (103 at Foundation Phase and 86 at Key Stage 2) compared to Wales average points core of 104 at Foundation Phase 87 at Key Stage 2.

This data also allows comparison at smaller areas within local authorities, where wider variations are evident. Figure 5 shows the average Foundation Phase point score of children in Newport, for example, varies from 113 in Allt-yr-yn 3 to 95 in Victoria 4. Similar in-county variations exist at Key Stage 2, as shown in Figure 6. Such inequalities in our communities demonstrate that getting the best start in life is important, so that intergenerational patterns of disadvantage do not continue.

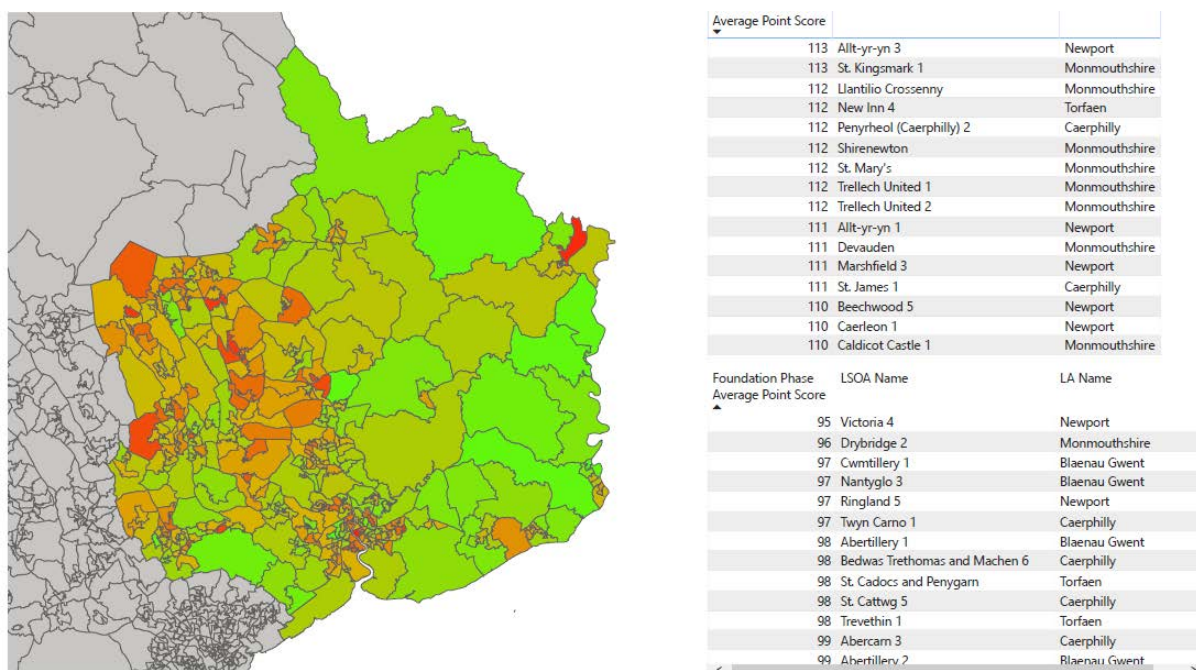


Figure 5: Foundation Phase average point score by LSOA<sup>11</sup>

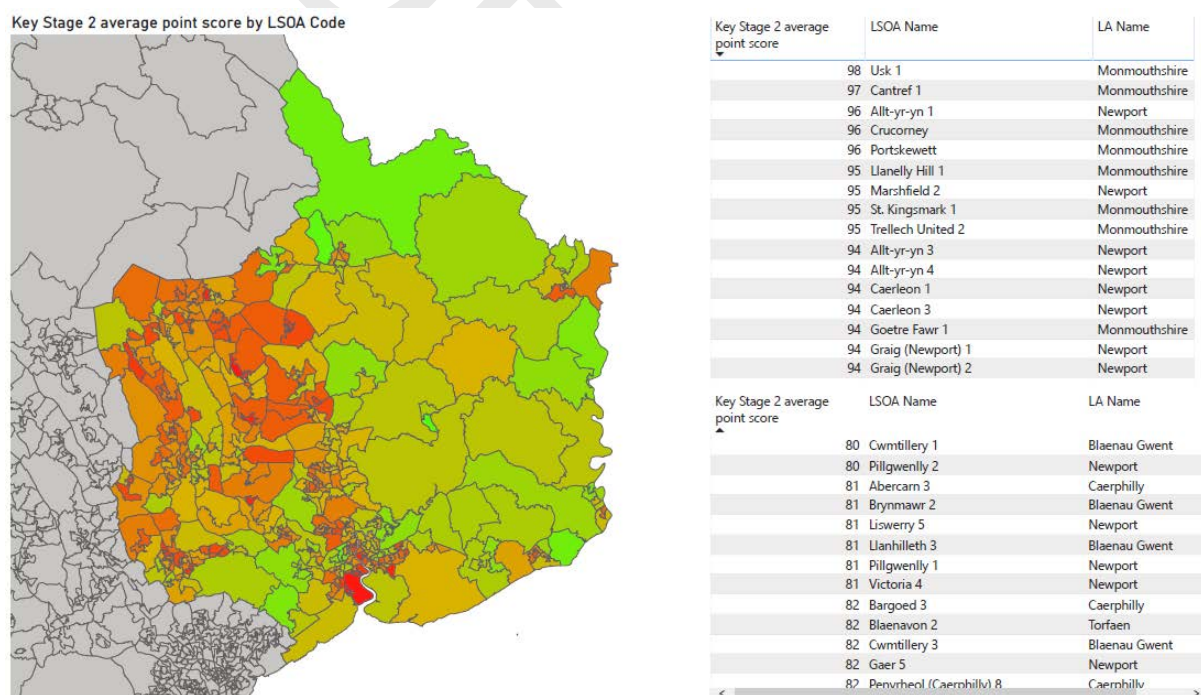


Figure 6: Key Stage 2 average point score by LSOA<sup>12</sup>

## Secondary School

Attendance in secondary schools tends to be slightly lower than in primary schools. In 2018/19 attendance in Gwent secondary schools was marginally better than across Wales, the percentage of half-day sessions missed due to all absences ranged from 5% in Monmouthshire to 7.1% in Blaenau Gwent, as shown in Figure 7.

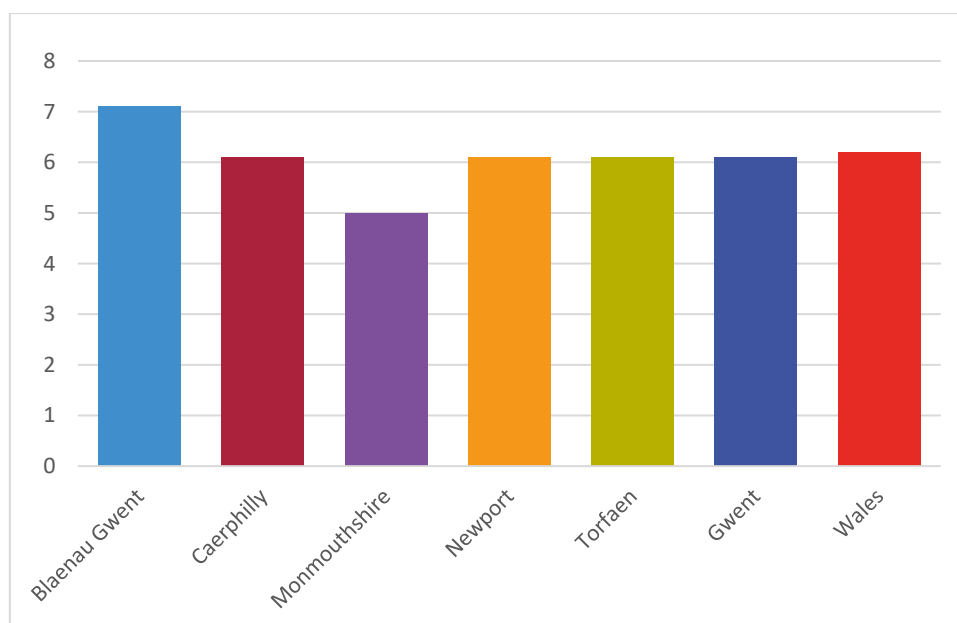


Figure 7: Percentage half-days missed due to all absences (secondary schools 2018/19)<sup>13</sup>

At Key Stage 4, most recent data available (2018/19) shows the Gwent region performs below the Welsh average on the various measures. There are wider variations between local authorities at this level compared to primary school, for example, the percentage achieving Level 2 inclusive varies from 43.1% in Blaenau Gwent to 60.8% in Monmouthshire:

Area	Local Authority	% Achieving Level 1 (5 GCSEs A*-G)	% Achieving Level 2 inclusive (5 GCSEs A*-C including English/Welsh and Maths)	% Achieving 5 A*-A GCSEs
	Blaenau Gwent	93.8	43.1	9.9
	Caerphilly	90.9	50.6	15.2
	Monmouthshire	93.5	60.8	23.1
	Newport	91.3	53.4	18.0
	Torfaen	93.1	48.3	12.5
South East Wales		92.0	51.7	16.1
Wales		92.8	53.8	18

Figure 8: Key Stage 4 measures 2018/19<sup>14</sup>

Key Stage 4 Level 2 inclusive trend data for the four most recent years (note, this is not directly comparable with the 2018/19 measure above) similarly shows Gwent performing below the Welsh average with variations between local authorities, as shown in Figure 9 below:

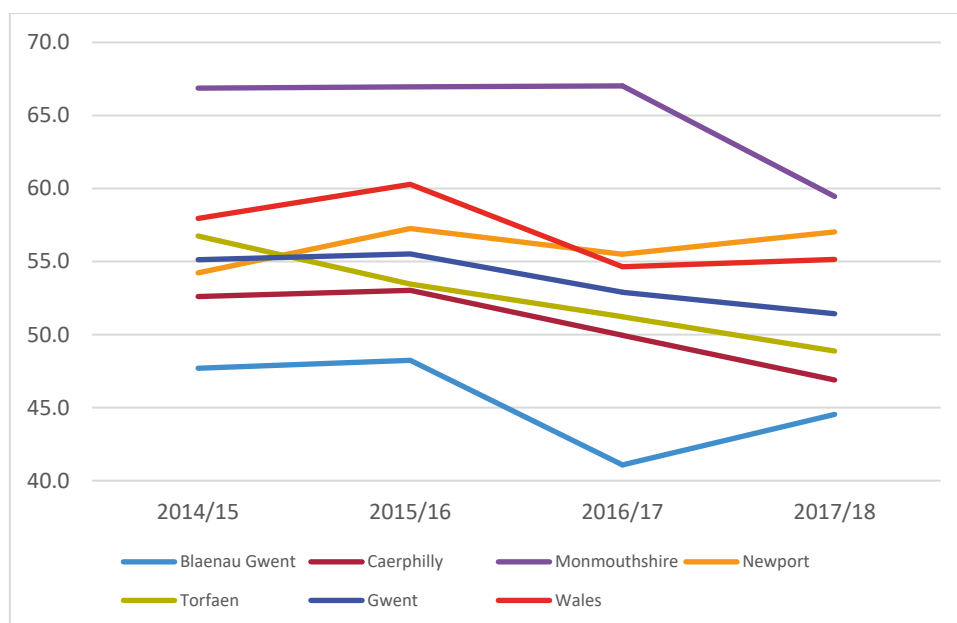


Figure 9: Percentage children achieving Key Stage 4 Level 2 inclusive<sup>15</sup>

Data on the Key Stage 4 average point score from WIMD 2019 shows there were variations between local authorities in Gwent with Monmouthshire having the highest point score (126) and Blaenau Gwent the lowest (108) compared to Wales average point score of 119.

Figure 10 shows this data for smaller areas within local authorities, where wider variations at Key Stage 4 are apparent. For example, within Newport pupils in Rogerstone score on average 145 points, while students in Ringland 4 score 80.

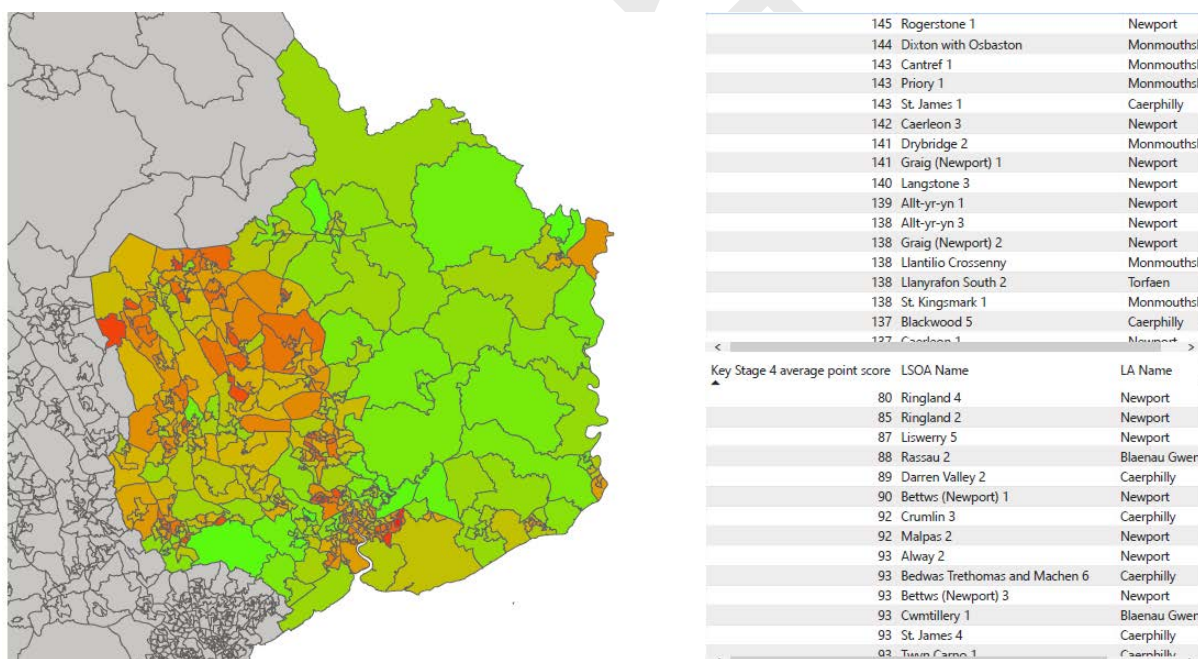


Figure 10: Key Stage 4 average point score by LSOA<sup>16</sup>

Data suggests there is a relationship between attendance and attainment. Schools with high attendance levels tend to have high levels of attainment at all key stages, but those with low attendance levels tend to have low attainment levels.

In turn, poorer educational attainment can act as barriers to post-16 education, training and meaningful employment. Longer-term, poorer attainment can affect earning potential, employment opportunities and life chances, which can exacerbate cycles of poverty. Attainment can also vary by different groups of vulnerable learners; further assessment of the attainment of vulnerable groups in Gwent is provided in the next section.

Do children living on the borders go to English schools? Is there any difference between those children learning through Welsh and those learning through English?

### Vulnerable Groups Attainment

In considering effective school support for disadvantaged and vulnerable pupils, Estyn defines vulnerable pupils as those who may be more likely to experience emotional, social and developmental barriers to learning, for example pupils with special educational needs and looked after children. Disadvantaged pupils are considered to be pupils who may have barriers to succeeding in school because of detrimental circumstances beyond their control, for example pupils eligible for free school meals and pupils from low income families<sup>17</sup>.

Gwent has some of the highest percentages of compulsory school age children eligible for free school meals (FSM) in Wales. In 2020/21 Blaenau Gwent had the highest percentage in Wales (31.4%), followed by Torfaen (30.0%) compared to a national average of 22.9%. Conversely, Monmouthshire (16.6%) one of the lowest proportions after Gwynedd, Ceredigion and Pembrokeshire. There is an increasing number of children eligible for free school meals in Gwent, and amongst all the local authorities in the area, see Figure 11. The largest increase has been in Torfaen with 30% of pupils entitled to free school meals in 2019/20, an increase from 17.5% in 2016/17. The increase between 2019/20 and 2020/21 is particularly notable across all areas but more so in Blaenau Gwent where an increase from 25.5% to 31.4% was seen with one year.

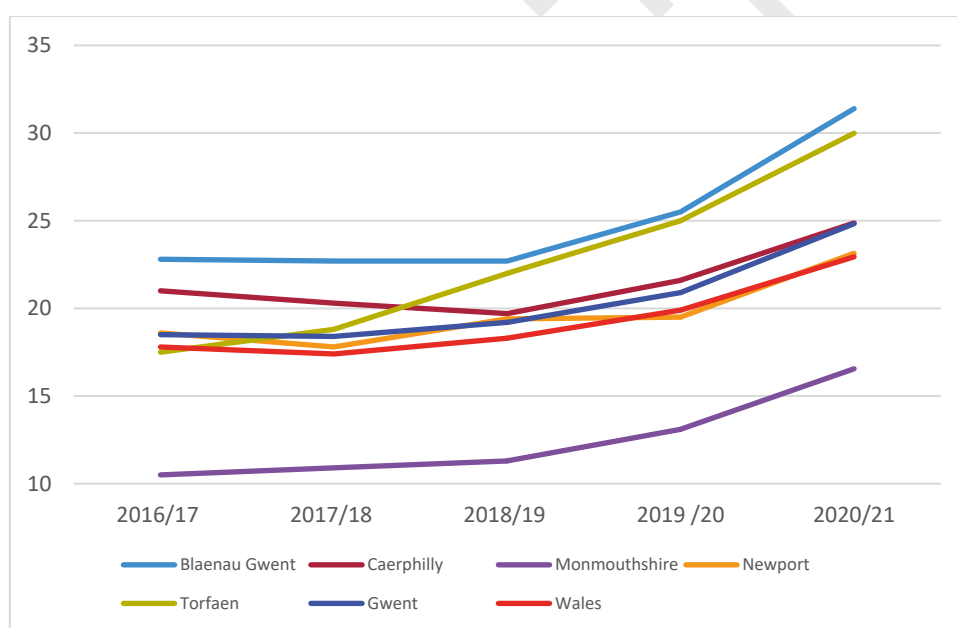


Figure 11: Percentage pupils aged 5-15 eligible for free school meals<sup>18</sup>

The Joseph Rowntree Foundation says “The percentage of 15-year olds achieving the equivalent of five or more higher-grade GCSEs, including English (or Welsh) and mathematics is increasingly regarded as a key indicator of educational attainment. This is because having literacy and numeracy skills at this level is critically important for progression to further study and into employment.”<sup>19</sup>

At Key Stage 4 there is a significant gap in achievement between children entitled to FSM and those who are not. Latest published data for 2018/19 shows there is a gap in attainment for all local authorities in Gwent. In Gwent overall 27.2% of young people eligible to receive FSM achieved Level 2 inclusive, compared to 58.2% of Gwent pupils not eligible for FSM. The attainment gap is largest in Monmouthshire, where in 2018/19, 28.8% of children eligible for FSM achieved Level 2 inclusive, compared to 65.7% not eligible for FSM, see Figure 12.

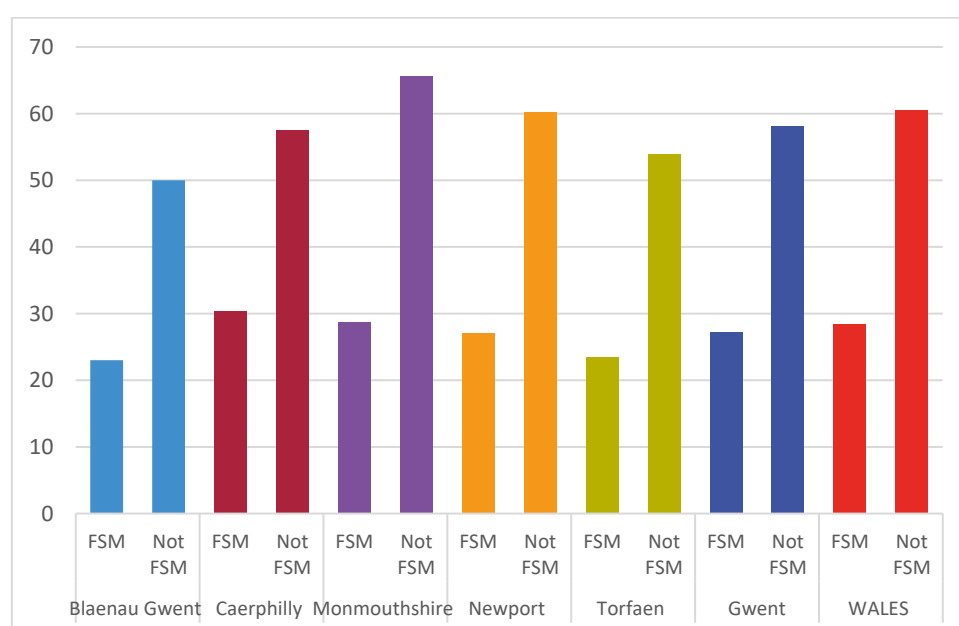


Figure 12: Percentage children achieving Key Stage 4 Level 2 inclusive FSM/Non-FSM<sup>20</sup>

There are other groups of vulnerable learners, for example, children involved with social care, where around half are eligible for free school meals, and outcomes are poorer than in the general pupil population. Most recent data available for care leavers (2016) shows that in Wales, 39% were not in education, employment or training (NEET) on their 19<sup>th</sup> birthday<sup>21</sup>.

### Education outcomes for children and young people

The Annual Population Survey produces estimates on the number of young people not in education, employment or training (NEET) in Wales. At the end of 2020, 14.9% of 19-24 year olds and 7.4% of 16-18 year olds were NEET in Wales, both of which are higher than in England<sup>22</sup>.

Careers Wales data shows in Gwent the percentage of year 11 school leavers who were NEET in 2020 ranges from 1.4% in Monmouthshire and Newport to 2.3% in Torfaen and for year 13 school leavers 1.1% in Newport to 8.2% in Caerphilly, Figures 13 and 14 below.

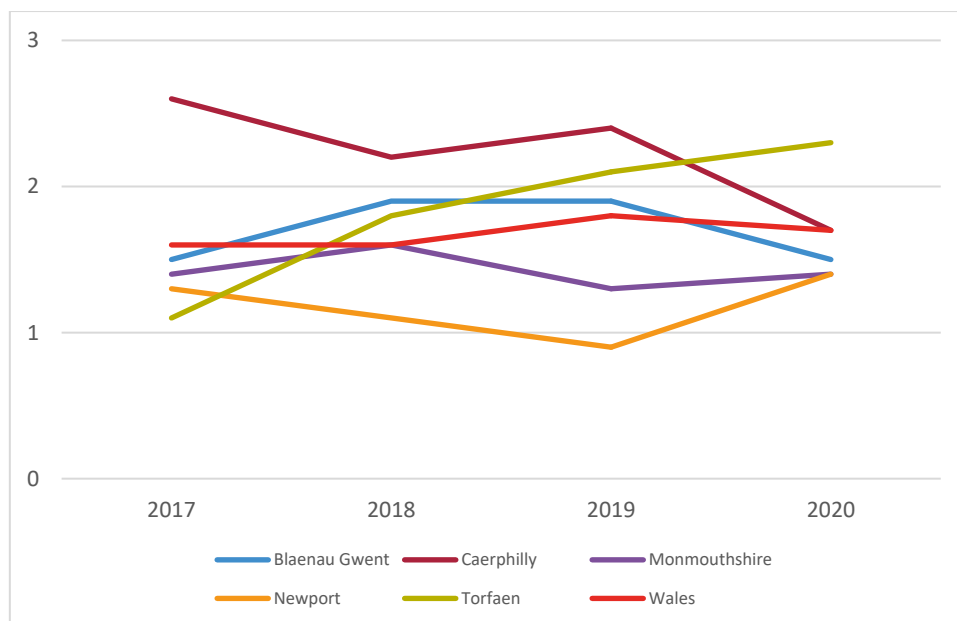


Figure 13: Percentage of Year 11 school leavers NEET<sup>23</sup>

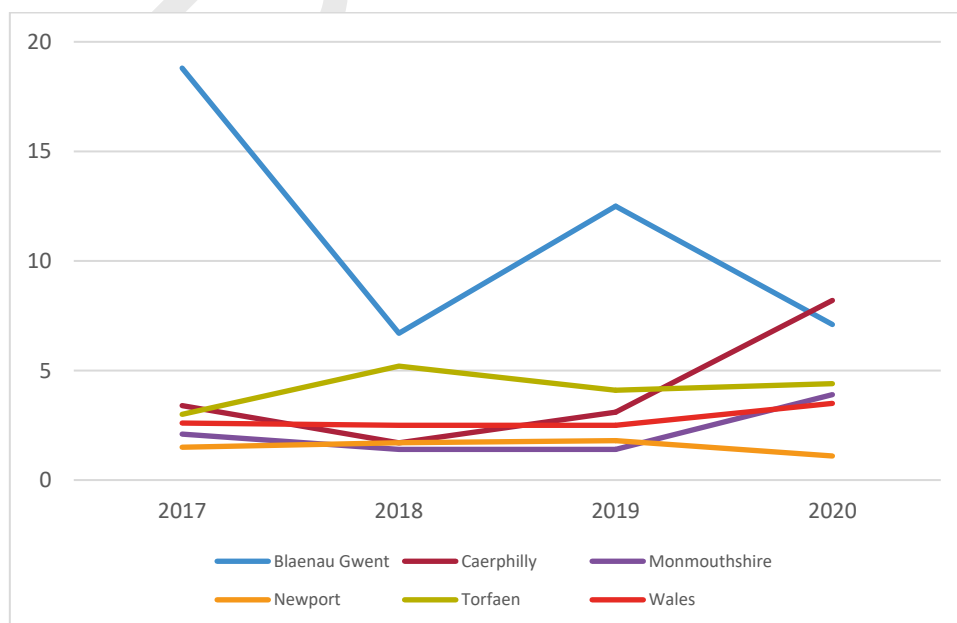


Figure 14: Percentage of Year 13 school leavers NEET<sup>24</sup>

Note: Blaenau Gwent only has a tertiary college. The year 13 clients are a small cohort from Penycwm Special school.

Studies have shown that time spent NEET can have a detrimental effect on physical and mental health, and increase the likelihood of unemployment, low wages, or low quality of work later on in life<sup>25</sup>.

A Department for Education funded a report on NEET students included a section on risk factors. This concluded the most significant educational risk factor was low educational attainment at GCSE. Personal risk factors included health problems, caring responsibilities and difficult family circumstances (such as being in care or experiencing a breakdown in relationship with parents). Structural risk factors included difficult labour market conditions,

a lack of training and apprenticeship opportunities and welfare support providing a higher income than potential wages<sup>26</sup>.

Latest WIMD data on KS4 pupils who, at some point in the subsequent three years after leaving Year 11, entered Higher Education shows variation between local authorities in Gwent from 25.6 % in Blaenau Gwent to 33.1% in Monmouthshire compared to 29.9% for Wales, see Figure 15 below.

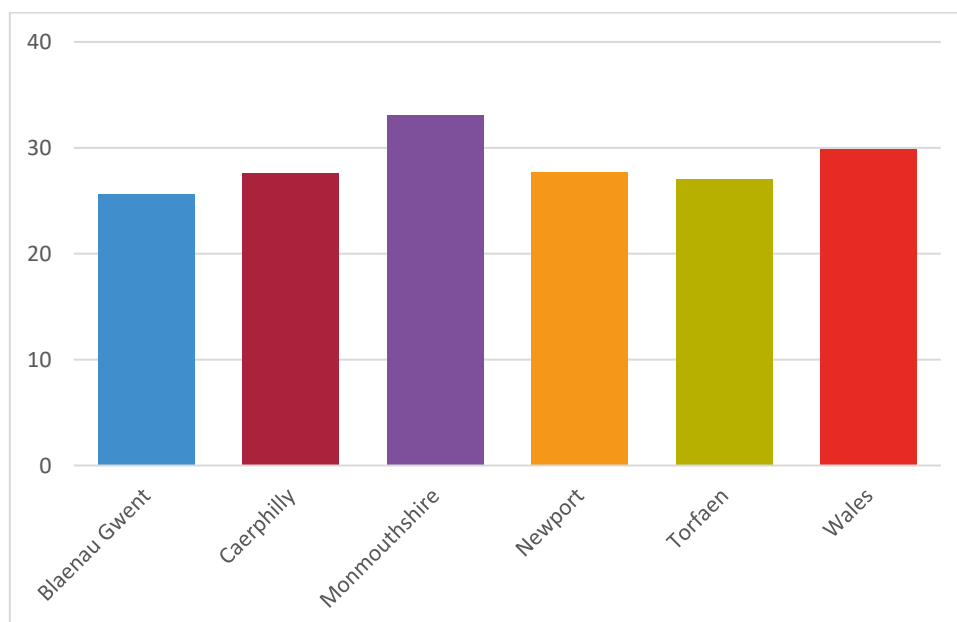


Figure 15: Key Stage 4 leavers entering higher education<sup>27</sup>

ONS data shows there has been a steady increase in the number of graduates in the UK over the past decade (data up to 2017) and that graduates are more likely to be employed compared to non-graduates<sup>28</sup>. ONS analysis also shows that in 2019 39.9% of all graduates in Wales were working in non-graduate roles, compared to 32.7% in the South East of England<sup>29</sup>.

A lack of high-quality graduate jobs in South Wales means that the healthy and better qualified often leave the area for better opportunities leading to a 'brain drain' effect. As more people that are qualified leave, it becomes more difficult for the area to recover and attract the employment opportunities people seek<sup>30</sup>.

The coronavirus outbreak has particularly affected the labour market status of young people, the percentage of claimants aged 18-24 in Wales rose from 4.7% in March 2020, peaking at 9.5% in July 2020. The local authorities in Gwent were vulnerable to this trend, with four of the five local authority areas exceeding the Welsh average July peak. By June 2021, claimant rates were lower than the peak in summer 2020 but still some way above pre-pandemic levels, see Figure 16 below.

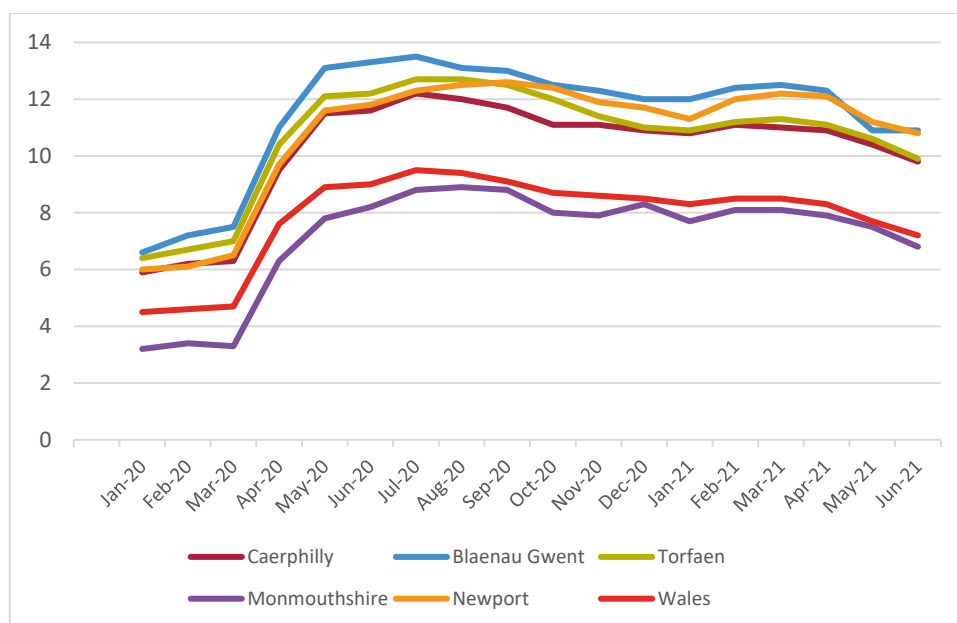


Figure 16: Percentage claimants aged 18-24<sup>31</sup>

In addition, UK government figures released under the Coronavirus Job Retention Scheme show that in the UK in July 2020, the highest proportion of employments on furlough were in the under 18 age band (41%), followed by the 18 to 24 age band (28%)<sup>32</sup>.

Qualifications of working age adults at both NQF level 3 and 4 are higher in South East Wales (although this includes Cardiff, Vale, Bridgend, Rhondda Cynon Taff and Merthyr Tydfil) than Wales overall<sup>33</sup>. Again, variations exist between local authorities in Gwent as shown by data for 2020 in Figures 17 and 18 below.

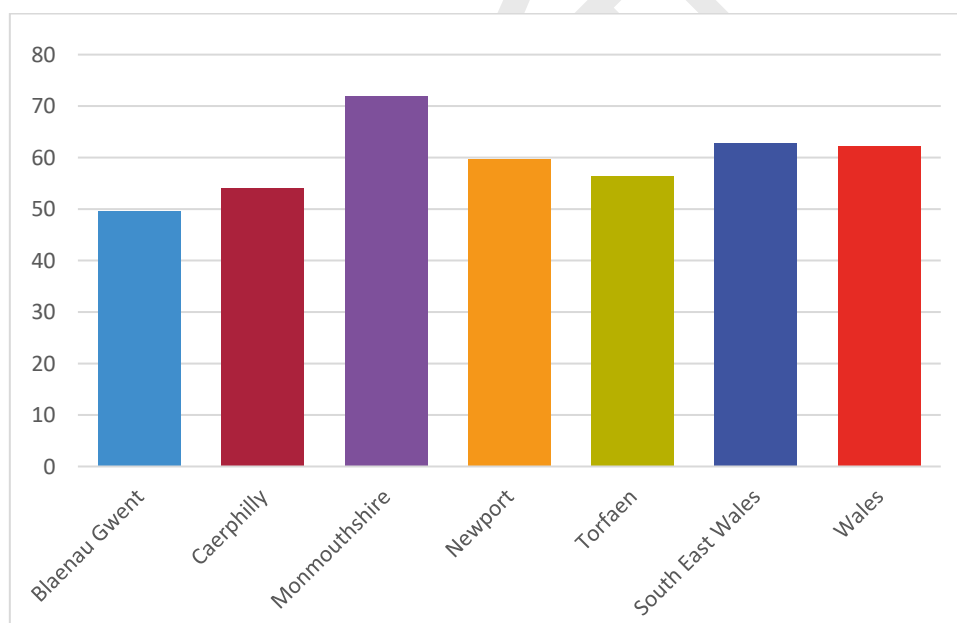


Figure 17: Percentage of working age adults qualified to NQF Level 3 and above<sup>34</sup>

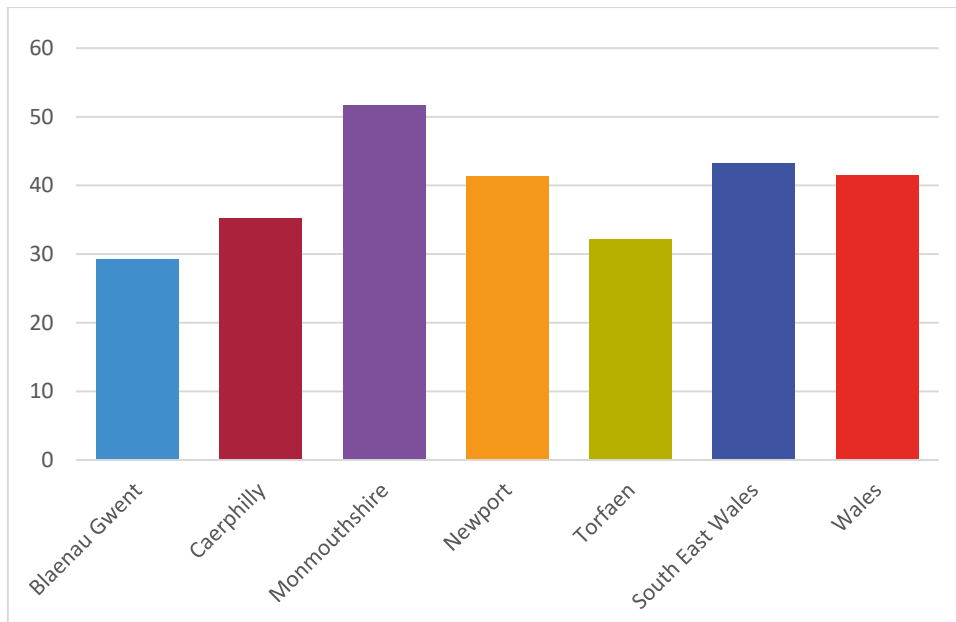


Figure 18: Percentage of working age adults qualified to NQF Level 4 and above<sup>35</sup>

The percentage of working age adults with no qualifications is higher than the Welsh average in all Gwent authorities except Monmouthshire, as shown in figure 19 below.

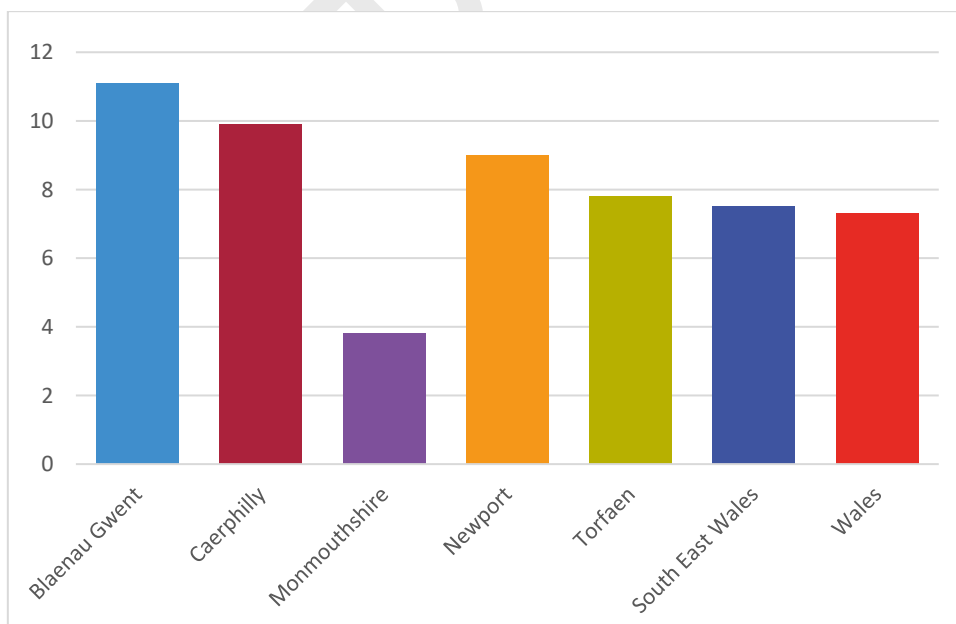


Figure 19: Percentage of working age adults with no qualifications<sup>36</sup>

Low levels of educational attainment can act as a barrier to employment and well-paid employment opportunities. Conversely, graduates are more likely to be employed and have greater wellbeing than non-graduates – tending to be happier, more satisfied with their lives and find their lives more worthwhile<sup>37</sup>. Although as mentioned previously, they are also more likely to leave the area to find suitable work.

## Education for well-being

The new education curriculum in Wales, introduced in 2022, includes within its four purposes a desire to support children to become ethical, informed citizens of Wales and of the world, who “show their commitment to the sustainability of the planet”.

Another of the four purposes is to support our children and young people to become healthy, confident individuals who “are building their mental and emotional well-being by developing confidence, resilience and empathy”<sup>38</sup>.

There has been focus on well-being for pupils and staff, throughout the pandemic. A study by two Welsh universities found schools increased their focus on health and wellbeing during the spring, summer and autumn of 2020, including increasing the role of outdoor learning to support physical and mental well-being. The study also acknowledged the increased workload resulting from the pandemic had a significant impact on the health and well-being of teachers and school staff. It was recommended that schools take the opportunities provided through the new curriculum to further embed the provision for health and wellbeing in a sustainable way through work with families and communities<sup>39</sup>.

The way we interact with the natural environment contributes to our well-being and fulfilment, as well as supporting creativity and innovation. Employment, volunteering, placements, education and training in the natural environment can increase physical activity levels, boost mental well-being, develop new skills and knowledge, and enhance our understanding of the sustainable management of natural resources.

Formal and informal nature-based learning develops an understanding of the natural world and the human impact on it. Research suggests that people with a greater connection to nature are more likely to behave positively towards the environment.

Recent evidence in relation to the COVID-19 pandemic shows outdoor education being advocated as a tool for home schooling and the safe reopening of schools. Children have benefited from learning and play in an outdoor environment and outdoor learning resources have been promoted and utilised extensively. There is wider recognition that outdoor space is part of the classroom and outdoor education is being promoted for schools to adopt, with benefits to physical and mental health<sup>40</sup>.

The 21st Century Schools Programme is a long-term, strategic capital investment for schools and colleges to develop them as hubs for learning and reduce buildings in poor condition being used. The programme is delivered in collaboration with Welsh Government, local authorities, further education institutions and dioceses. Its aim is to create educational communities fit for the 21st century in Wales<sup>41</sup>.

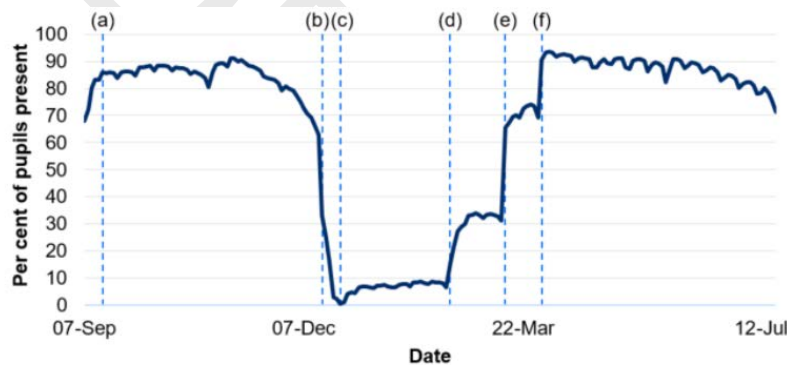
Schools across Gwent have benefited from improved school facilities with further development plans in place. The aim of these enhanced school environments is to provide fit for purpose facilities, allowing access for all and enabling teachers to focus on maximising educational outcomes.



Figure 20: Jubilee Park Primary School, Newport

### The Coronavirus Pandemic

The coronavirus pandemic has had a disruptive effect on schools and education. School attendance has been affected and led to periods of remote learning for pupils. Figure 21 shows the 2020/21 attendance pattern in schools across Wales as well as the periods of remote learning. As different areas in Gwent experienced differing rates of coronavirus infection and regulations, there were also variations in attendance at school.



Source: Schools in Wales

- (a) Schools open to all pupils from 14 September 2020.
- (b) All secondary schools in Wales moved to online remote learning for the last week of term before Christmas. Many primary schools also closed during the last week of term before Christmas (14 to 18 December 2020).
- (c) Schools closed to most pupils from 4 January 2021.
- (d) A phased return of Foundation Phase pupils began on 22 February 2021.
- (e) From 15 March 2021, all remaining primary school children and children in qualification years were able to return to learning on site.
- (f) From 12 April 2021, all remaining pupils were able to return to learning on site.

Figure 21: Pupils present by day, 7 September 2020 onwards<sup>42</sup>

The impact of disruption to schooling during the Covid-19 pandemic has presented unprecedented challenges to children and young people in Gwent, including the effect time away from school will have had on the learning trajectory of many learners. This is not likely to be uniform, with disadvantaged and vulnerable pupils more likely to be impacted by being unable to access the support they needed<sup>43</sup>.

The usual process of awarding Key Stage 4 and 5 results was also altered for the academic years 2019/20 and 2020/21, leading to uncertainty for students. Across Wales, both the percentage of GCSE grades that were A and A\* and those that were at least C grade or above

increased from 2019 to 2021, see Figure 22. However, at the top grade, there was a widening gap between those eligible for free school meals and those who were not. In 2021, there was a 11.5 percentage points difference at A\*, an increase by 2.8 percentage points on 2020 and by 6.2 percentage points on 2019<sup>44</sup>.



	2019	2020	2021
<b>GCSE A and A*</b> 	18.4%	25.5%	28.7%
<b>At least C or above</b> 	62.8%	73.8%	73.6%

Figure 22: GCSE results in Wales<sup>45</sup>

According to BBC research, the number of children registering for home education in the UK rose by 75% in the first eight months of the 2020/21 school year. More than 40,000 pupils were formally taken out of school in the UK between September 2020 and April 2021, compared with an average of 23,000 over the previous two years. In some cases, parents have taken the decision based on health concerns over coronavirus, but in other cases, periods of remote learning accelerated parent's decision to home educate their children. BBC research shows Torfaen has the highest increase in home education registrations amongst the Gwent local authorities<sup>46</sup>.

As well as a disruption to education, the pandemic has also had an impact on the health and well-being of young people. During and following these periods of disruption, the health and well-being of pupils, their families and staff was prioritised.

Results from the Children's Commissioner for Wales 'Coronavirus and Me' survey conducted during January 2021, demonstrate the well-being impact on young people during the pandemic, as well as young people's views on the impact on their education. Over a quarter of young people aged 12-18 felt lonely most of the time, the main reasons being not being able to see friends; not being able to see other family members; and the impact of school and college closures.

Around half of young people liked learning at their own pace and just under half were positive about the support they are getting from teachers. 63% of young people were worried about falling behind and 61% worried about qualifications. 59% did not feel motivated to do schoolwork at home. Despite sharing worries and concerns, many children and young people also described positive experiences, including enjoying spending time at home and receiving good support from schools and youth workers<sup>47</sup>.

## Future trends and challenges

Workplaces are changing, and the Covid-19 pandemic has accelerated the move towards greater use of technology and automation<sup>48</sup> which we expect to continue. and this is a trend that we can expect to continue. Technology will probably change most jobs, with those that are lower skilled and highly routine becoming increasingly automated. There is a risk that young people could be trained in the wrong, or outdated, skills impacting on their employment prospects<sup>49</sup>.

People's employment opportunities are often more dependent on the skills they have, than where they live, and this has increased during the pandemic when working from home became more accepted. We don't currently know what some of the jobs of the future are, but we do know that there are certain everyday things that will always be needed and so will need skilled people able to work in them, such as health and social care, food and energy sectors..

We need to make sure that young people are well prepared for the employment sectors of the future, including those linked to Wales' transition to zero carbon, by better aligning skills, training and learning with the emerging sectors such as smart technology, artificial intelligence, and robotics.

The Cardiff City Region identified the following areas as being important for the region's prosperity over the next 10-20 years: life sciences, financial technology (fintech)), artificial intelligence, the creative economy, transport engineering, semi-conductor production, cyber security and analytics and energy and environment.<sup>50</sup>.

As well as more technical skills many jobs in the future will require, logical reasoning and problem sensitivity skills<sup>51</sup>. Going forward our training and education systems will need to = provide these skills and develop more flexible, creative, problem solvers <sup>52</sup>.

We know that the social and economic inequalities that exist in our communities can impact on young people's ability to learn. Responding to, and reducing, how inequalities develop in the future including breaking inter-generational patterns of poverty, will help ensure that future generations of children can reach their educational potential and go on to have economic well-being in later life.

## Conclusion

There is an increasing number of pupils eligible for FSM in all areas of Gwent, which has accelerated in the last year, showing increasing inequality in the region.

There are noticeable variations in attainment and qualification levels between areas in Gwent. Similarly, there are differences in attainment between less and more disadvantaged groups of children. Lower attainment can affect well-being throughout the life course.

The coronavirus pandemic has led to a focus on wellbeing and outdoor learning. Attendance has been significantly affected and the disruption is likely to affect disadvantaged and vulnerable pupils most. During the pandemic, there has also been a notable increase in

elective home education. The evidence of the impact of the pandemic on education will need to continue to be monitored to understand any further impact on well-being.

The importance of children and young people getting the right skills for the future is crucial. It will support their ability to achieve their potential as well as their longer-term economic well-being and that of the communities in which they live.

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- <sup>1</sup> PLASC 2020/21, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Schools-Census/Pupil-Level-Annual-School-Census/Provision-of-Meals-and-Milk/pupilsaged5to15eligibleforfreeschoolmeals-by-localauthorityregion-year>
- <sup>2</sup> PLASC 2020/21, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Schools-Census/Pupil-Level-Annual-School-Census/Provision-of-Meals-and-Milk/pupilsaged5to15eligibleforfreeschoolmeals-by-localauthorityregion-year>
- <sup>3</sup> EAS Regional Business Plan, 2021-22, <https://democracy.monmouthshire.gov.uk/documents/s28221/BP%20consultation%2021-22%202nd%20draft.pdf>
- <sup>4</sup> PLASC 2020/21, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Schools-Census/Pupil-Level-Annual-School-Census/Ethnicity-National-Identity-and-Language/pupilsaged5andover-by-localauthorityregion-ethnicity>
- <sup>5</sup> EAS Regional Business Plan, 2021-22, <https://democracy.monmouthshire.gov.uk/documents/s28221/BP%20consultation%2021-22%202nd%20draft.pdf>
- <sup>6</sup> Welsh Government, <https://gov.wales/flying-start-april-2019-march-2020-html>.
- <sup>7</sup> Welsh Government, published by Data Cymru, <https://www.opendata.wales/dataset/view?siteId=49097a03-6589-4899-b5c0-3cbaf8e062b7&datasetId=20125d0e-2bba-eb11-90ff-00155d084d17>
- <sup>8</sup> Stats Wales, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Absenteeism/absenteeismbypupilsofcompulsoryschoolageinmaintainedprimaryandspecialschools-by-localeducationauthority-year>
- <sup>9</sup> Stats Wales, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Examinations-and-Assessments/Foundation-Phase/results-by-localauthority-outcome>
- <sup>10</sup> Stats Wales, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Examinations-and-Assessments/Foundation-Phase/results-by-localauthority-outcome>
- <sup>11</sup> WIMD 2019, <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation/WIMD-Indicator-data-2019/indicatordata-by-localauthority>
- <sup>12</sup> WIMD 2019, <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation/WIMD-Indicator-data-2019/indicatordata-by-localauthority>
- <sup>13</sup> Stats Wales, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Absenteeism/absenteeismbypupilsofcompulsoryschoolageinmaintainedsecondaryandspecialschools-by-localeducationauthority-year>
- <sup>14</sup> Stats Wales, [Key Stage 4 Interim Measures by LEA, from 2018/19 \(gov.wales\)](#)
- <sup>15</sup> Stats Wales, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Examinations-and-Assessments/Key-Stage-4/ks4keyindicators-by-freeschoolmealentitlement-area>

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- <sup>16</sup> WIMD 2019, <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation/WIMD-Indicator-data-2019/indicatordata-by-lowerlayersuperoutputarea-educationdomain>
- <sup>17</sup> Estyn, [https://www.estyn.gov.wales/system/files/2020-07/Effective%2520school%2520support%2520for%2520disadvantaged%2520and%2520vulnerable%2520pupils%2520en\\_0.pdf](https://www.estyn.gov.wales/system/files/2020-07/Effective%2520school%2520support%2520for%2520disadvantaged%2520and%2520vulnerable%2520pupils%2520en_0.pdf)
- <sup>18</sup> PLASC 2020/21, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Schools-Census/Pupil-Level-Annual-School-Census/Provision-of-Meals-and-Milk/pupilsaged5to15eligibleforfreeschoolmeals-by-localauthorityregion-year>
- <sup>19</sup> Poverty and Low Educational Achievement In Wales: Student, Family and Community Intervention, <https://www.irf.org.uk/sites/default/files/jrf/migrated/files/wales-education-poverty-summary.pdf>
- <sup>20</sup> Stats Wales, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Schools-and-Teachers/Examinations-and-Assessments/Key-Stage-4/interimexammeasuresforyear11pupils-by-fsmstatus>
- <sup>21</sup> Stats Wales, <https://statswales.gov.wales/Catalogue/Health-and-Social-Care/Social-Services/Childrens-Services/Children-Looked-After/Care-Leavers-at-19th-Birthday/care-leavers-at-19th-birthday-careleaversontheir19thbirthdayduringyearending31march-by-localauthority-activity>
- <sup>22</sup> Welsh Government, <https://gov.wales/young-people-not-education-employment-or-training-neet-2020>
- <sup>23</sup> Careers Wales <https://careerswales.gov.wales/careers-professionals/pupil-destinations>
- <sup>24</sup> Careers Wales <https://careerswales.gov.wales/careers-professionals/pupil-destinations>
- <sup>25</sup> House of Commons Library, NEET: Young people Not in Education, Employment or Training, <https://researchbriefings.files.parliament.uk/documents/SN06705/SN06705.pdf>
- <sup>26</sup> House of Commons Library, NEET: Young people Not in Education, Employment or Training, <https://researchbriefings.files.parliament.uk/documents/SN06705/SN06705.pdf>
- <sup>27</sup> WIMD <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation/WIMD-Indicator-data-2019/indicatordata-by-localauthority>
- <sup>28</sup> ONS, <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/graduatesintheuklabourmarket/2017>
- <sup>29</sup> ONS, <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/adhocs/12501employedgraduatesinnongraduaterolespartsoftheuk2015to2019>
- <sup>30</sup> BBC, <https://www.bbc.co.uk/news/uk-wales-50130590>
- <sup>31</sup> ONS, <https://www.nomisweb.co.uk/reports/lmp/la/1946157403/report.aspx#tabempunemp>
- <sup>32</sup> HM Revenue and Customs, <https://www.gov.uk/government/statistics/coronavirus-job-retention-scheme-statistics-29-july-2021>
- <sup>33</sup> Stats Wales, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Post-16-Education-and-Training/Lifelong-Learning/Qualification-Levels/highestqualificationlevelsofworkingageadults-by-regionsofwales-qualification>

- 
- <sup>34</sup> Stats Wales, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Post-16-Education-and-Training/Lifelong-Learning/Qualification-Levels/highestqualificationlevelsofworkingageadults-by-regionsofwales-qualification>
- <sup>35</sup> Stats Wales, <https://statswales.gov.wales/Catalogue/Education-and-Skills/Post-16-Education-and-Training/Lifelong-Learning/Qualification-Levels/highestqualificationlevelsofworkingageadults-by-regionsofwales-qualification>
- <sup>36</sup> Stats Wales, [Highest qualification levels of working age adults by regions of Wales and qualification \(gov.wales\)](https://statswales.gov.wales/Catalogue/Education-and-Skills/Post-16-Education-and-Training/Lifelong-Learning/Qualification-Levels/highestqualificationlevelsofworkingageadults-by-regionsofwales-qualification)
- <sup>37</sup> HEFCE, [https://dera.ioe.ac.uk/30632/1/HEFCE2017\\_31.pdf](https://dera.ioe.ac.uk/30632/1/HEFCE2017_31.pdf)
- <sup>38</sup> Welsh Government, <https://hwb.gov.wales/curriculum-for-wales/designing-your-curriculum/developing-a-vision-for-curriculum-design/#curriculum-design-and-the-four-purposes>
- <sup>39</sup> Welsh Government, <https://hwb.gov.wales/professional-development/the-national-strategy-for-educational-research-and-enquiry-nserc/research-studies-on-the-impact-of-the-covid-19-pandemic-on-the-welsh-education-system/research-study-6/>
- <sup>40</sup> Natural Resources Wales
- <sup>41</sup> Welsh Government, <https://gov.wales/21st-century-schools-programme>
- <sup>42</sup> Welsh Government, <https://gov.wales/pupils-present-maintained-schools-7-september-2020-23-july-2021>
- <sup>43</sup> EAS, <https://democracy.monmouthshire.gov.uk/documents/s28221/BP%20consultation%2021-22%202nd%20draft.pdf>
- <sup>44</sup> Qualifications Wales, <https://qualificationswales.org/media/7778/summer-2021-gcse-results-summary.pdf>
- <sup>45</sup> Qualifications Wales, <https://qualificationswales.org/media/7778/summer-2021-gcse-results-summary.pdf>
- <sup>46</sup> BBC News, <https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.bbc.co.uk%2Fnews%2Feducation-57255380&data=04%7C01%7CSianSchofield%40monmouthshire.gov.uk%7C0af941e9e21c446f6c2208d94b72d117%7C2c4d0079c52c4bb3b3cad8eaf1b6b7d5%7C0%7C0%7C637623778760400128%7CUnknown%7CTWFpbGZsb3d8eyJWljoIMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6Ikl1haWwiLCJXVCi6Mn0%3D%7C1000&sdata=PQqfUhhqyqNKI8WJGmLzVcY7qEBVlruW7KnacSq602I%3D&reserved=0>
- <sup>47</sup> Children's Commissioner for Wales, <https://www.childcomwales.org.uk/coronavirus-our-work/coronavirus-and-me-survey-results-2021/>
- <sup>48</sup> [Pandemic boosts automation and robotics | Financial Times \(ft.com\)](https://www.ft.com/content/2021/07/21/pandemic-boosts-automation-and-robotics)
- <sup>49</sup> Gwent Futures
- <sup>50</sup> [Cardiff Capital Region Industrial and Economic Plan](https://www.cardiffcapitalregion.gov.uk/industrial-and-economic-plan)
- <sup>51</sup> [The Future of Jobs - Reports - World Economic Forum \(weforum.org\)](https://www.weforum.org/publications/the-future-of-jobs-reports/)
- <sup>52</sup> Gwent Futures

# SOCIAL WELL-BEING CHAPTER – HOUSING

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DRAFT

## Introduction

A home is a vital part of people's lives – it affects their health, their quality of life and the opportunities available to them. Decent homes are essential for well-being. The quality of housing across all tenures is important, as well as adequate income levels to ensure that people are not living in fuel poverty in their homes, and can afford to heat their homes, especially during the cold winter months.

Housing is also central to our communities and it drives the demand for local services, shops and facilities and can attract outward investment. Without a settled home people may have difficulties accessing employment, education, training and health services.

All development, including housing, has an impact on the environment and needs to progress in a way that is sensitive to local areas, limits energy consumption and embraces a sustainable approach to planning and design.

## 1. Households

Having somewhere safe and secure to live is fundamental to well-being. Gwent has a varied housing stock ranging from new build, older non-traditional construction, typical valley terrace housing through to historic homes with listed status.

A key challenge is ensuring that there is sufficient supply of good quality housing located in the right location, including affordable housing, to meet the needs of our communities. We know that the population is aging - the number of people aged 85 and over living in Gwent is projected to **increase** by **74%** between 2019 and 2043, slightly higher to the Welsh average (69.5%). For Gwent this could mean an extra **10,615** people in this age range<sup>i</sup>.

Housing built now will leave a legacy for future generations living in Gwent.

### 2.1 Housing deprivation

The Welsh Index of Multiple Deprivation (WIMD) housing domain is constructed of indicators on people in over-crowded households and poor-quality housing (which measures the likelihood of housing being in disrepair or containing serious hazards, for example, risk of falls or cold housing).

The purpose of the housing domain is to identify inadequate housing, in terms of physical and living conditions and availability. living condition means the suitability of the housing for its inhabitant(s), for example in terms of health and safety, and necessary adaptations. It is not always expected that measures of housing deprivation to correlate strongly with overall deprivation. However, the compounding effect of poor housing along with other components of deprivation, such as health can be significant, and is important to capture.<sup>ii</sup>

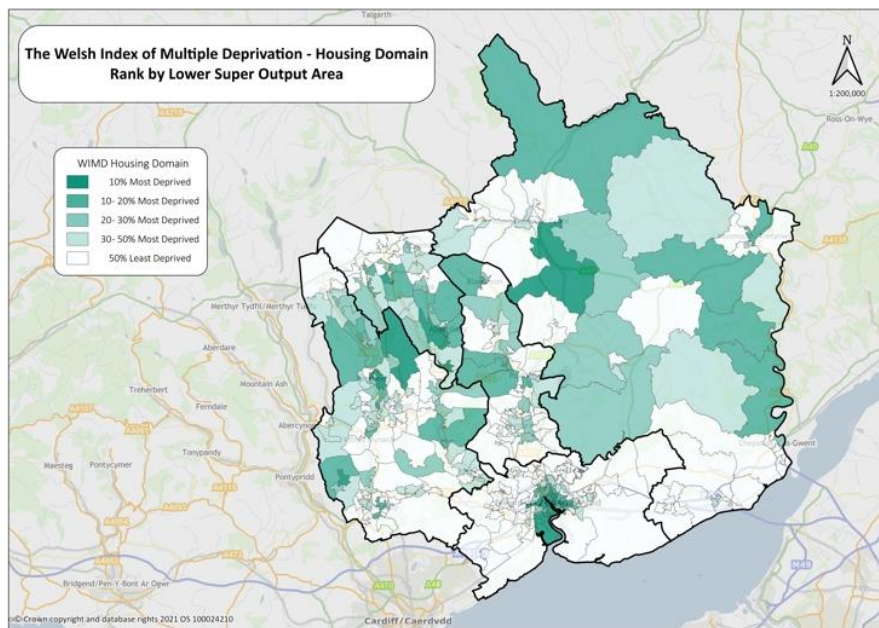


Figure 1: Gwent local authorities in highest housing WIMD deprivation ranking.  
WIMD 2019, Welsh Govt

The thematic map shows the location of areas with the highest housing deprivation in Gwent. The pattern of housing deprivation across Gwent is quite spread out. The map shows for example some of the areas with the highest housing deprivation are clustered around Newport city centre which has 12 LSOAs in the top 10% deprived in Wales, with the highest being Victoria 3 (10<sup>th</sup> most deprived Wales). Housing deprivation is also noticeable in some of the more rural areas of Monmouthshire, where often other categories of deprivation are generally low <sup>iii</sup>.

Figure 2 below shows the WIMD data at a local authority level to look to show the concentration of the most deprived areas in Gwent for the housing domain. This shows Blaenau Gwent and Caerphilly have the highest percentage of LSOAs ranked in the top 50% most deprived in Wales with 61.7% and 55.5% of areas respectively<sup>iv</sup>.

WIMD 2019 Housing Domain deprived areas, by local authority					
	Total LSOAs	Most deprived 10% LSOAs in Wales (ranks 1 - 191)	Most deprived 20% LSOAs in Wales (ranks 1 - 382)	Most deprived 30% LSOAs in Wales (ranks 1 - 573)	Most deprived 50% LSOAs in Wales (ranks 1 - 955)
Caerphilly	110	3.6%	12.7%	24.5%	55.5%
Blaenau Gwent	47	10.6%	27.7%	40.4%	61.7%
Torfaen	60	0.0%	13.3%	23.3%	38.3%
Monmouthshire	56	1.8%	10.7%	17.9%	35.7%
Newport	95	12.6%	25.3%	27.4%	37.9%

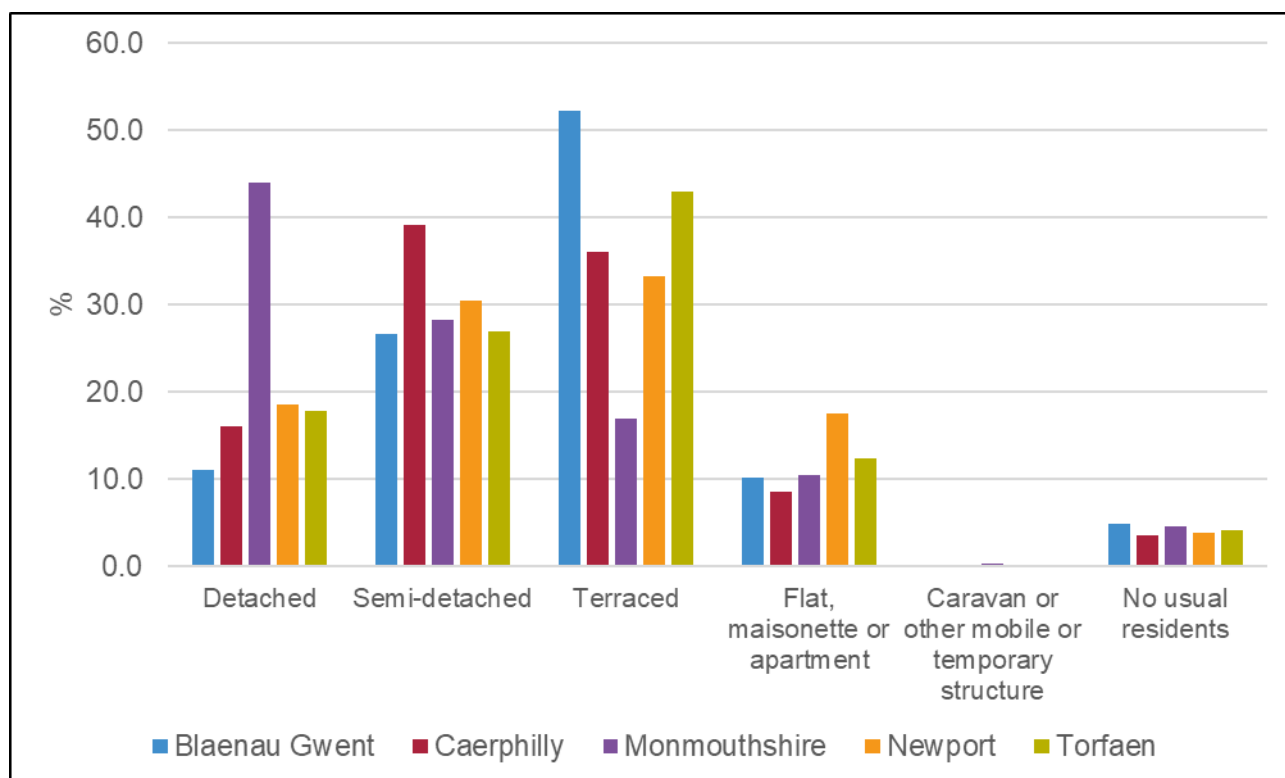
Figure 2: Table showing the percentage of small areas (LSOAs) in each local authority which were in the most deprived 10%, 20%, 30% and 50% areas in Wales for the housing domain of WIMD 2019<sup>v</sup>

## 2.2 Households

Across Gwent there were estimated to be 256,700 households in 2020<sup>vi</sup>. Caerphilly local authority area had the highest figure (77,242) whilst Blaenau Gwent had the lowest figure (31,371). Projections show an increasing number of households across all areas in Gwent, but most significantly in Newport, where the number of households is expected to increase by 19% by 2043<sup>vii</sup>.

In Gwent the most numerous household type consists of two adults and no children, followed by single person households. Blaenau Gwent and Newport differ to other areas in that single person households are most common in those areas<sup>viii</sup>.

Figure S1: Household spaces



Source: 2011 Census table KS401EW – Dwellings, Household Spaces and Accommodation Type

Figure S1 shows that in the 2011 Census, Terraced properties were the most common housing type in the Blaenau Gwent, Torfaen and Newport local authority areas. Semi-detached was the most common housing type in the Caerphilly local authority area, and Detached was the most common housing type in the Monmouthshire local authority area.

Blaenau Gwent local authority area had the highest proportion of households (4.8%) with no usual residents in the 2011 Census, and Caerphilly had the lowest proportion of households (3.6%).

Whilst it is recognised that these figures are now significantly out of date, it is the best data available at the current time. Results from the 2021 Census will be available in 2022 and 2023.

## 2.2 Housing tenure

Dwelling stock estimates from 31<sup>st</sup> of March 2020<sup>ix</sup> shows the differing tenure of properties in the local authority areas in Gwent. While Caerphilly retains local authority housing stock, the other areas in Gwent have transferred their housing stock to registered social landlords.

	Local Authority	Registered Landlord	Social	Owner occupied	Privately rented
Blaenau Gwent	0%	24%		62%	14%
Caerphilly	13%	5%		69%	12%
Monmouthshire	0%	13%		76%	11%
Newport	0%	19%		66%	15%
Torfaen	0%	24%		67%	9%
Wales	6%	10%		70%	14%

Figure 3: Table showing Dwelling stock estimates by Local Authority<sup>x</sup>

Monmouthshire has the highest proportion of owner-occupied properties, Blaenau Gwent and Torfaen have the highest proportion of rentals from a housing association or registered social landlord. Newport has more properties rented from private landlords than in other areas.

A key social policy development has been caused by welfare reform, namely the spare room subsidy, commonly referred to as the 'bedroom tax'. This has limited the level of housing benefit available to some tenants who under-occupy a property by having a spare bedroom. This has led to an increase in demand for one- and two-bedroom properties and is more likely to be an issue in areas with higher levels of tenancy and smaller households.

Data from Census 2011 shows that in Gwent, the highest percentage of households without central heating are in Monmouthshire. More households in Newport are likely to be over-occupied, when considering the number of rooms available to the size and composition of the household<sup>xi</sup>.


## 2.3 Affordability

Across Gwent, house prices have risen consistently over the last 5 years, at an overall average of 21%:

Average Sold Price, HM Land registry	2016	2017	2018	2019	2020	5yr change (%)
BLAENAU GWENT	£94,515	£99,484	£100,645	£108,869	£109,498	15.9
CAERPHILLY	£132,835	£140,499	£145,032	£152,700	£159,854	20.3
MONMOUTHSHIRE	£250,352	£261,301	£281,746	£289,994	£312,219	24.7
NEWPORT	£176,477	£179,606	£189,544	£201,713	£211,593	19.9
TORFAEN	£147,761	£154,123	£171,629	£174,491	£180,052	21.9

Figure 4: Table showing Average Sold House Price by Local Authority in Gwent<sup>xii</sup>

Contrasting these figures with the average pay for the region allows a ratio to be calculated of house price to income<sup>xiii</sup>:

<b>Average annual gross pay</b>  	Average annual pay across Gwent during 2020 <sup>xiv</sup> .	
	<b>Area</b>	<b>Average annual pay gross</b>
	Blaenau Gwent	£28,531
	Caerphilly	£31,550
	Monmouthshire	£41,285
	Newport	£32,187
	Torfaen	£33,405

<b>House price to income ration</b>  	<b>Area</b>	<b>House price to income ration</b>
	Blaenau Gwent	3.8
	Caerphilly	5.1
	Monmouthshire	7.6
	Newport	6.6
	Torfaen	5.4

There are big differences in the house-price-to-income ratio across Gwent. Single applicants would have to spend **7.6** times their salary in Monmouthshire and **3.8** times their salary in Blaenau Gwent to be able to purchase a property.<sup>xv</sup> This means that most single people and lower income households across Gwent would have difficulty buying based only on how much they earn. Therefore, having enough social housing is increasingly important, especially for low-income households.

The latest Wales Government data shows the following amounts of affordable housing that was constructed in 2019-20, and the numbers planned for 2020-21.<sup>xvi</sup>

Additional affordable housing	2019-20 Delivered	2020-21 Planned
Caerphilly	126	86
Blaenau Gwent	12	138
Torfaen	141	74
Monmouthshire	113	165
Newport	239	232

Figure 5: Table showing Additional affordable housing by area<sup>xvii</sup>

The combined figure for 2019-20 for Gwent represents 21% of the Welsh total, though the planned amount for 2021-21 is only 17% of the Welsh total. Contrasted with the population of each constituent authority, the delivery at its highest was 1.15 affordable housing units per capita for Torfaen and Newport in 2020, and at the lowest, 0.02 per capita for Blaenau Gwent.<sup>xviii</sup> The units for 2019-20 across Gwent were delivered entirely by Registered Social Landlords except in Caerphilly, where 9 of its 126 units were delivered by the local authority.<sup>xix</sup> This compares with Wales as a whole, for which 84% of all affordable housing provision was delivered by RSLs.<sup>xx</sup> Across Wales, 62%

of affordable housing units were delivered with capital grant funding; this was the same amount in Gwent, ranging from 46% in Monmouthshire to 86% in Newport.<sup>xxi</sup>

## 2.4 Fuel poverty

Low-income households can spend a disproportionate amount of their income on heating their homes. People living in poorly insulated and/or poorly heated homes may also have high energy costs. We know that there are high levels of fuel poverty in many areas across Gwent, something that is being exacerbated by rising energy costs, and in particular the large increases that have been seen in 2021

A household is regarded as being in fuel poverty if they are unable to keep their home warm at a reasonable cost. In Wales, this is measured as any household that would have to spend more than 10% of their income on maintaining a satisfactory heating regime. Any household having to spend more than 20% is defined as being in severe fuel poverty. Vulnerable households are defined as those with a person aged 60 years or over, a child or young person under the age of 16 years and/or a person who is disabled or has a long-term limiting condition.<sup>xxii</sup> Households at risk of fuel poverty are defined as those needing to pay more than 8%, but less than 10% of their full household income to maintain a satisfactory heating regime. Households in Persistent fuel poverty are those needing to pay more than 10% of their full household income to maintain a satisfactory heating regime in two out of the three preceding year.<sup>xxiii</sup>

Some of the Headline results from the Fuel poverty estimates for Wales, 2018 show: Households living in the private rented sector were more likely to be fuel poor with 20% of these households living in fuel poverty; Living in a cold, damp environment is believed to exacerbate health problems such as asthma and heart conditions, 11% of all vulnerable households were in fuel poverty; 50% of those living in fuel poverty were single person households without children; Households living in older properties are more likely to be fuel poor. 20% of households living in pre-1919 dwellings were fuel poor; 21% of households living in properties with uninsulated solid walls were fuel poor and 39% of people living in properties that do not have central heating were fuel poor. 43% of households living in properties with poorer energy efficiency (EPC Bands F and G) were fuel poor compared to 5% of households living in properties in bands B to C.

Welsh Government have undertaken modelling<sup>xxiv</sup> to estimate fuel poverty at a local authority area for the period April 2017 to March 2018. Figure 3 shows the estimated fuel poverty for local authority areas in Gwent. This ranges from 8% in the Torfaen local authority area, to 11% in the Blaenau Gwent local authority area, all lower than the Wales average figure of 12%. However, anecdotally these figures at a local authority level mask pockets of fuel poverty in smaller areas, particularly in the more deprived areas across Gwent, and where households are reliant upon non-standard fuel (e.g. not on mains gas) for meeting their household needs.

	All Households	Households in fuel poverty	Percentage of households in fuel poverty
Caerphilly	77,000	7,000	9%
Blaenau Gwent	31,000	3,000	11%
Torfaen	40,000	3,000	8%
Monmouthshire	39,000	4,000	10%
Newport	63,000	6,000	9%

Figure 5: Households in Fuel Poverty by local authority, 2018<sup>xxv</sup>

Whilst projections of milder winters associated with a changing climate may help to reduce fuel poverty, we know that much of our housing stock has poor thermal efficiency and is harder and more expensive to heat in cold weather or cool in hot weather. The UK climate risk assessment identifies that cold is expected to remain a significant cause of death<sup>xxvi</sup>.

## 2.4 Homelessness

Homelessness is where a person lacks accommodation or where their tenure is not secure. Rough sleeping is the most visible and acute end of the homelessness spectrum, but homelessness includes anyone who has no accommodation, cannot gain access to their accommodation or where it is not reasonable for them to continue to occupy accommodation. This would include overcrowding, 'sofa surfing', victims of abuse and many more scenarios. A person is also homeless if their accommodation is a moveable structure and there is no place where it can be placed.

Homelessness, or the risk of it, can have a devastating effect on individuals and families. It affects people's physical and mental health and well-being, and children's' development and education, and risks individuals falling into a downward spiral toward the more acute forms of homelessness. The impacts can be particularly devastating if a stable, affordable, housing solution isn't achieved, and people end up having to move frequently.

The Welsh Government recently released official statistics on statutory homelessness provision between April 2019 and March 2020 in Wales.<sup>xxvii</sup> As these statistics are largely pre-pandemic figures, it is fair to assume that the picture may now look different than it did at the end of the reporting year (31 March 2020). As the pandemic continues to affect people as well as service delivery, local authorities are likely to continue facing mounting homelessness challenges in the coming months. This impact of the covid pandemic on homelessness will need to be further assessed.

The figures released from the Welsh Government show that 31,320 households applied for homelessness assistance in Wales between April 2019 and March 2020. These numbers are stable when compared to 31,170 households in the previous year (April 2018 - March 2019). However, this overall figure hides geographical variations. In Gwent there were increases in Newport which saw a 11% increase (2235 households in total). In Torfaen there was 38% fall in 2019-2020 compared to 2018-2019 (down to 774 households) and a decrease of 24% in Monmouthshire (to 459 households). Other areas that saw a decrease were Caerphilly (-14% to 1800 households).

In its broadest terms, 'homelessness prevention' is where a local authority takes positive action to provide housing assistance to someone who the authority considers is threatened with homelessness within 56 days. The Percentage of households successfully prevented from Homelessness by local authority in Gwent is shown in the graph below<sup>xxviii</sup>.

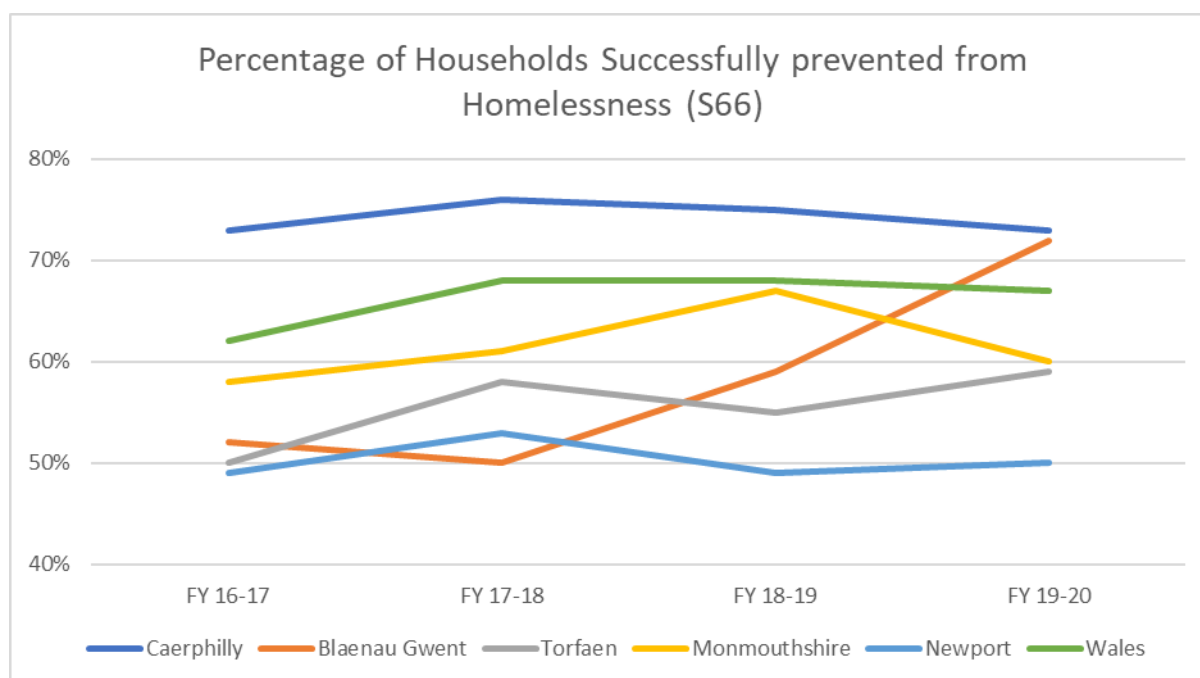


Figure 6 shows the number of homeless households who were in temporary accommodation at 31st March 2020 as a rate per 10,000 households for local authorities in Gwent. Across Gwent, Newport reported the highest number of households in temporary accommodation (153) the highest rate (23.2 cases per 10,000 households) whilst Monmouthshire reported the lowest number of households in temporary accommodation (21) and the lowest rate (5.2 cases per 10,000 households)<sup>xxix</sup>.

	Number of households in temporary accommodation at 31 March 2020	Mid-year 2019 Household estimate	Rate per 10,000 households
Caerphilly	123	76894	16.1
Blaenau Gwent	27	31259	9.0
Torfaen	60	40404	15.1
Monmouthshire	21	40407	5.2
Newport	153	65808	23.2

Figure 6: Homeless Households in temporary accommodation at 31 March 2020<sup>xxx</sup>

During the pandemic, the level of demand for homelessness accommodation increased in line with guidance changes to support the homeless through the pandemic. There is a need to further assess the impact of the pandemic on homelessness in Gwent and give consideration to future policy intentions.

## 2. Future trends and challenges

Future generations living in Gwent will need housing stock that meets their needs. We know that Gwent has an aging population for example and that affordability of housing is an issue for many people. We also know that there are many challenges associated with decarbonising housing. We will also need housing to be resilient to a changing climate.

Much of Gwent's housing stock has poor thermal efficiency and is harder and more expensive to heat in cold weather or cool in hot weather<sup>xxxii</sup>. Although milder winters associated with a changing climate may help to reduce fuel poverty. The UK climate risk assessment identifies risks to health and well-being from high temperatures. It also highlights that the level of risk to current and future homes in Wales is unknown.<sup>xxxiii</sup>

Energy and environment has been identified as a priority sector within the Cardiff City Region with the potential to create prosperity in the region over the next 10 – 20 years<sup>xxxiii</sup>. This will include opportunities related to decarbonising the region's housing stock – with the potential to create local jobs and to generate more renewable energy locally.

A recent study carried out for Gwent identified that wind has the potential to generate sufficient electricity to power over 300,000 homes and that ground mounted solar could potentially generate enough electricity to power the equivalent of over 4 million homes<sup>xxxiv</sup>. Although there is significant potential for generating renewable energy in the region, there are other pressures and calls on available land and the valuable services that it contributes to our well-being including housing and supporting biodiversity. All these will have to be considered and evaluated to ensure that the most suitable options for well-being are chosen.

Flooding can have a variety of consequences and impacts, not only on well-being but wider economic, environmental and social factors. Flooding events can significantly impact homes, businesses, key infrastructure and whole communities. Further assessment of the flood risk in Gwent and residential properties at risk is in the Environment section of the well-being assessment.

As reported in 2017, housing need in Wales was growing due to the number of households increasing faster than the number of available properties. The number of single person households is predicted to rise by over 30% in the next 20 years. Despite this, there is likely to be less suitable land available for development as flood plains and other lower lying land becomes increasingly prone to flooding.<sup>xxxv</sup>

Recent house price increases are likely to exacerbate the issues of first-time buyers trying to get on the housing ladder, and be a barrier for some in being able to reside in the areas they were raised or currently work.

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<sup>i</sup> Local authority 2018-based population projections, Welsh Government

<sup>ii</sup> WIMD 2019, Welsh Government <https://gov.wales/welsh-index-multiple-deprivation-full-index-update-ranks-2019>

<sup>iii</sup> WIMD 2019, Welsh Govt

<sup>iv</sup> Welsh Index of Multiple Deprivation 2019 <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation>

<sup>v</sup> Welsh Index of Multiple Deprivation 2019 <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation>

<sup>vi</sup> Households by Local Authority and Year, StatsWales

<sup>vii</sup> Household projections by local authority and year, StatsWales

<sup>viii</sup> Households by Type and Year, StatsWales

<sup>ix</sup> Dwelling stock estimates by local authority and tenure, StatsWales

<sup>x</sup> Dwelling stock estimates by local authority and tenure, StatsWales

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<sup>xi</sup> ONC table KS403EW

<sup>xii</sup> Average Sold Price, HM Land registry

<sup>xiii</sup> Average survey of hours and earnings (ASHE), ONS, 2020; average pay combining residence-based and work-placed based earnings; house price to income ratio based on workplace-based earnings

<sup>xiv</sup> Average survey of hours and earnings (ASHE), ONS, 2020

<sup>xv</sup>

[www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/housingaffordabilityinenglandandwales/2020#local-authority-analysis](https://www.ons.gov.uk/peoplepopulationandcommunity/housing/bulletins/housingaffordabilityinenglandandwales/2020#local-authority-analysis);

<sup>xvi</sup> <https://statswales.gov.wales/Catalogue/Housing/Affordable-Housing/Provision/additionalaffordablehousingprovision-by-location-year>

<sup>xvii</sup> <https://statswales.gov.wales/Catalogue/Housing/Affordable-Housing/Provision/additionalaffordablehousingprovision-by-location-year>

<sup>xviii</sup> <https://statswales.gov.wales/Catalogue/Population-and-Migration/Population/Estimates/Local-Authority/PopulationEstimates-by-LocalAuthority-Age>

<sup>xix</sup> <https://statswales.gov.wales/Catalogue/Housing/Affordable-Housing/Provision/additionalaffordablehousingprovision-by-location-provider>

<sup>xx</sup> <https://gov.wales/affordable-housing-provision-april-2019-march-2020>

<sup>xxi</sup> <https://statswales.gov.wales/Catalogue/Housing/Affordable-Housing/Provision/additionalaffordablehousingprovision-by-location-year-funding>

<sup>xxii</sup> Fuel Poverty Estimates for Wales, Welsh Government

<sup>xxiii</sup> Welsh Government Tackling Fuel Poverty 2021 to 2035 <https://gov.wales/tackling-fuel-poverty-2021-2035>

<sup>xxiv</sup> Welsh Housing Conditions Survey (WHCS) 2017-18: Local area Fuel Poverty estimates modelling and results summary <https://gov.wales/local-area-fuel-poverty-estimates-april-2017-march-2018>

<sup>xxv</sup> Welsh Housing Conditions Survey (WHCS) 2017-18: Local area Fuel Poverty estimates modelling and results summary <https://gov.wales/local-area-fuel-poverty-estimates-april-2017-march-2018>

<sup>xxvi</sup> UK Climate Change Risk Assessment 2017, Synthesis report: priorities for the next five years. Committee on Climate Change.

<sup>xxvii</sup> Welsh Government Homelessness April 2019 to March 2020 <https://gov.wales/homelessness-april-2019-march-2020>

<sup>xxviii</sup> Welsh Government Homelessness April 2019 to March 2020 <https://gov.wales/homelessness-april-2019-march-2020>

<sup>xxix</sup> Welsh Government Homelessness April 2019 to March 2020 <https://gov.wales/homelessness-april-2019-march-2020>

<sup>xxx</sup> Welsh Government Homelessness April 2019 to March 2020 <https://gov.wales/homelessness-april-2019-march-2020>

<sup>xxxi</sup> UK Climate Change Risk Assessment 2017, Synthesis report: priorities for the next five years. Committee on Climate Change.

<sup>xxxii</sup> UK Climate Change Risk Assessment 2017: Evidence Report. Summary for Wales.

<sup>xxxiii</sup> [Cardiff Capital Region Industrial and Economic Plan](#)

<sup>xxxiv</sup> Renewable and Low Carbon Energy Assessment Regional Summary. Carbon Trust, December 2020

<sup>xxxv</sup> Welsh Government Future Trends Report 2017

# SOCIAL WELL-BEING CHAPTER –TRANSPORT

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## 1. Introduction

This section tells us about transport in Gwent – how people travel, where they travel and journey times.

Strategically placed as the gateway to South Wales, Gwent offers routes, by road, rail, cycling and walking to many of the places and attractions people want to visit for business or pleasure. The area has many transport options including the two Severn Crossings providing direct links into England and beyond and the improved Heads of the Valleys road connecting communities east to west. The Monmouthshire-Brecon Canal, Offa's Dykes path, and national coastal path, as well as local rights of way and national cycle routes enable people to enjoy the stunning countryside the area has to offer.

Good transport links are critical to the local economy, enabling the goods, services, and raw materials that we all rely on to be available where and when we need them. Being able to move around easily plays an important role in people's everyday lives, getting children to school, people to work as well as connecting friends and family. It also enables people to access the countryside for recreation, to visit historic and cultural attractions, and to access sports and leisure facilities, helping people to stay healthy and active.

We know that active travel can help support an aging population stay healthier for longer and that access to and affordability of transport is an issue for parts of our communities. We know that lack of transport, the relatively high cost, accessibility and safety concerns can be barriers to people accessing work or education and cultural activities.

Many of our current transport modes are having a negative impact on our environment and people's health, changing our climate, increasing pollution and we will need to look at different ways of meeting our travel needs. We have seen how extreme weather events have disrupted our transport systems and so future approaches will need to be resilient to a changing climate.

Covid-19 has shown us that we don't always need to travel, that some things can be done remotely using digital technology, although some members of our community are less able to utilise this option. Technological development in transport is also advancing and is likely to shape mobility for future generations.

## 2. Transport infrastructure

Future generations may not travel as much or as far for work, with more local employment opportunities and digital connectivity allowing people to work differently.

However, as the Covid-19 pandemic has shown, travel remains important for many sectors and jobs, people will still need health and care services, food in the shops as well as seeing their friends and loved ones. Therefore, improving transport infrastructure, in particular sustainable forms of transport, across the region will ensure future generations living in Gwent will be able to access work opportunities, leisure and all manner of social interactions.

Being able to travel easily, affordably and sustainably would also assist in combating feelings of remoteness and isolation that have been a common theme from our engagement events and that disproportionately impact the old, the young and the less abled.

Transport planning is a key part of any future development in the Gwent area. It has the potential to promote the relocation of our shops, offices, schools, hospitals, etc. back to our towns and city centres

and away from car-based “out of town” locations. With better access to affordable, reliable public transport people are more likely to use local shops and services, benefiting and developing the local and regional economy<sup>1</sup>.

## 2.1 Regional transport infrastructure

The M4 motorway is the main regional road travel route along the west to east corridor, connecting Gwent with Cardiff, Bristol and the West and Swansea and the holiday areas on the east coast. The South East Wales Transport Commission was established to investigate sustainable ways to tackle congestion on the M4 in the region. It found that significant new transport options are needed, rather than traditional road building, recommending a ‘network of alternatives’, including those that can be delivered through modification to the existing rail and road network<sup>2</sup>. Recommendations complement existing plans for the Cardiff Capital Region (CCR) that focus on the connectivity and cohesion of transport infrastructure in South East Wales, with significant investment being made in the South Wales Metro<sup>3</sup>. This will deliver an integrated public transport network, largely concentrated on north to south travel between the Valleys and Cardiff, linking rail and bus, making it easier to travel across the region, which includes Gwent, through faster, more frequent, and more joined-up public transport and giving people an alternative to travel by car.

### Gorsafoddd Metro Metro Stations

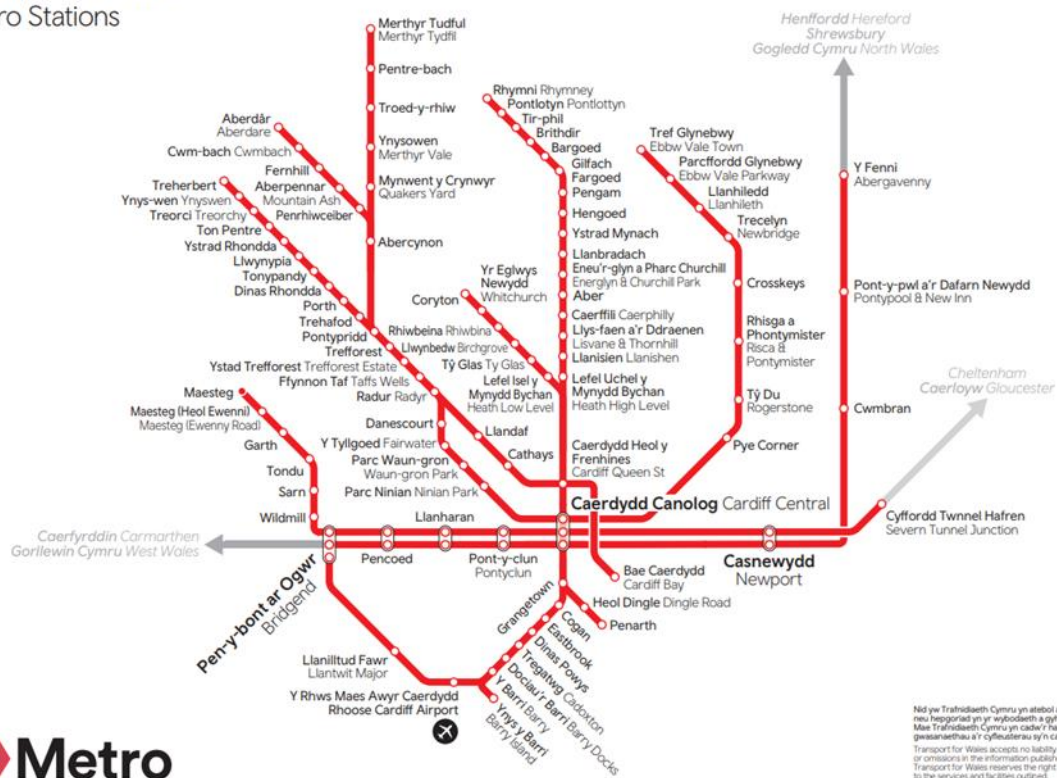


Figure 1: South Wales metro rail map.<sup>4</sup>

The development of the Metro system will also benefit the wider economy by supporting labour markets and enabling access to more employment opportunities. Cardiff City Region has identified transport engineering as a priority sector important for the region’s economy over the next 10 – 20 years<sup>5</sup>. Given that manufacturing forms an important part of Gwent’s employment base, the region is well placed to contribute to this sector going forward. The Welsh Index of Multiple Deprivation ‘access to services’ data identifies that many of those living in our most deprived areas are also those who

find it hardest to access the services they need by affordable, reliable public transport. The development of the Metro system may improve this through modern, accessible transport links.

## 2.2 Public transport

This part of the assessment tells us about public transport in Gwent, and how easy and affordable it is to use. Public transport should be accessible and inclusive and support and enable people to fully participate in all aspects of life, such as work, volunteering, socialising, and accessing services. Travelling by public transport should be a safe and pleasant experience, which helps people to live independently and to access services in the community. Public transport also needs to be affordable and to take people to where they want to go when they need to go there, especially if more people are to be discouraged from using their cars.

The number of journeys taken by rail varies enormously across Gwent. Far more train journeys are made in Caerphilly and Newport compared with Blaenau Gwent, Torfaen and Monmouthshire as figure 2 shows, and these two counties have seen a significant increase in the number of train journeys made between 2002 and 2019. In contrast, there has been very little increase in the other 3 counties, with the exception of Blaenau Gwent in 2007 when the Ebbw Vale-Cardiff railway line opened (previously there were no railway stations in Blaenau Gwent). Although to some extent the huge variation in passenger numbers reflects the larger populations in Caerphilly and Newport, it also reflects the proximity and number of railway stations.

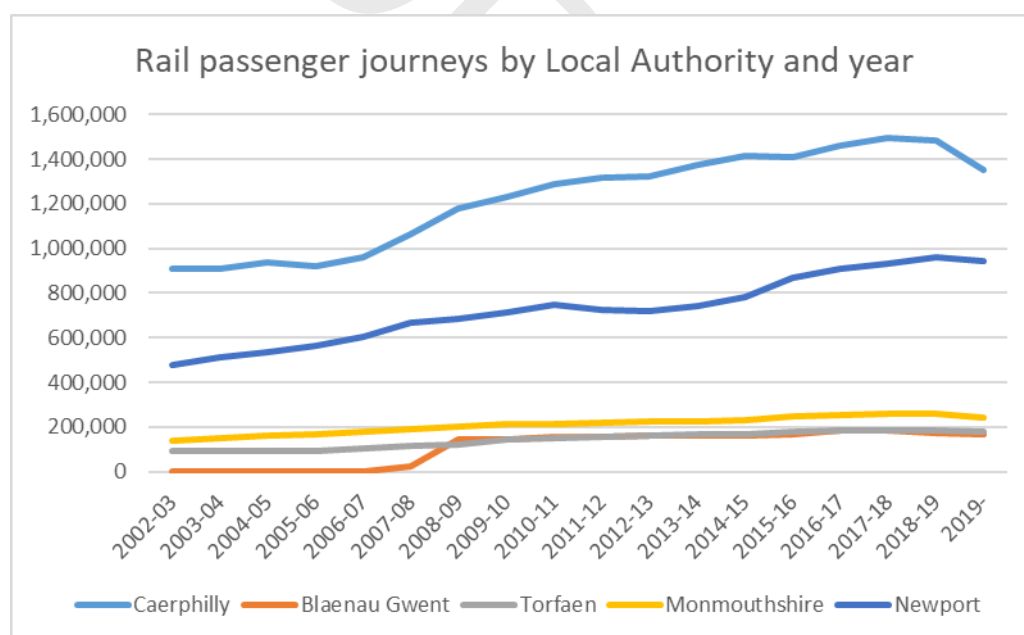


Figure 2: Rail passenger journeys by local authority area (2002-2019)<sup>6</sup>.

The cost of public transport is a barrier to increasing public transport use. Data for Wales, figure 3, shows that although the cost of bus travel in Wales has increased at a similar rate to Great Britain, this rate significantly exceeds the Consumer Price Index (including owner occupier housing costs) (CPIH)<sup>7</sup>. In other words the cost of bus travel is increasing at a rate that is faster than people's income is increasing, making it less accessible for those on lower incomes. As an example, in 2020 there was a 3.5% increase in bus fares, compared to inflation of 2.3%. This also means that people on lower incomes can find it harder to access employment opportunities.

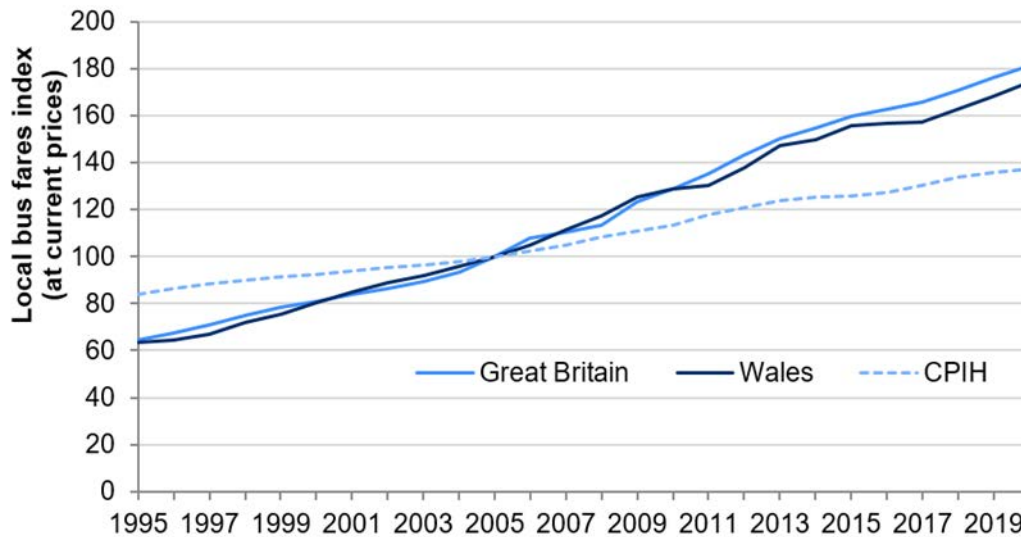


Figure 3: Local Bus services fare indices for Wales and Great Britain, (1995 - 20). <sup>8</sup>

However, the alternative of car ownership can be unaffordable for people on low incomes. In Wales, two-thirds of single pensioners have no car, leaving them isolated and less able to access to key services, particularly in rural areas. <sup>9</sup>

As well as the cost of public transport being prohibitive for some, the South East Wales Transport Commission identified that the existing rail, bus and active travel networks do not accommodate the range of journeys that people make. Local bus services account for three out of four journeys made by public transport in South East Wales, with around 30 million bus trips taken every year. Bus and coach services have the potential to reduce congestion on the M4 around Newport and also provide many wider societal benefits. The Commission also identifies the significant potential for greater use of rail in the region. As South East Wales develops and grows, there is an increasing need for new sustainable transport options. <sup>10</sup>

One potential solution to the challenge of making public transport more accessible and flexible that is being trialled is Fflecsi buses<sup>11</sup>, a partnership between local bus operators and Transport for Wales. The aim is to help people use public transport for local journeys by enabling passengers to be picked up and dropped off on request at suitable locations. The scheme is currently operating in both Newport and Blaenau Gwent.

Evidence has identified that the Covid-19 pandemic has had an impact the on bus and rail passenger numbers, with an estimated 95% decline in the use of public transport in the early days of the pandemic compared to the same period the year before. Car use has recovered much more rapidly than bus and rail use<sup>12</sup>. Public transport forms a significant part of Welsh Government's short-term priorities and long-term ambitions for the transport system in Wales, as set out in their 2021 Transport Strategy<sup>13</sup>. Setting priorities for transport in Gwent and Wales, the focus of the strategy includes transforming the customer experience, reliability and punctuality, reducing the cost of public transport and supporting digital innovation to improve journey planning and booking, develop integrated ticketing, and improve real-time information for passengers.

There is also a need to minimise the impact of public transport on the environment. Welsh Government's *Net Zero Wales Carbon Budget 2 (2021 – 2025)* sets out an aim to reduce carbon emissions from passenger transport by 22% in 2025 (from 2019) and 98% in 2050 through demand reduction, modal shift and the uptake of low carbon technologies.<sup>14</sup>

### 2.3 Private transport

Welsh Government aims to reduce the overall number of car miles travelled per person by 10% by 2030. By 2025 the ambition is that 10% of passenger travel will be by zero emission car and for 48% of new car sales to be zero emission<sup>15</sup>.

To achieve there is a need to ensure that using public transport or travelling actively is the easiest option for people to take and look at how our digital infrastructure can enable people to use their cars less.

Figure 4 shows the wide variation in vehicle miles travelled in each county, measured in billion vehicle kilometres travelled. Blaenau Gwent and Torfaen have far fewer kilometres travelled on their roads, which reflects the smaller geographical area. Newport has by far the highest number of kilometres travelled, despite its relatively small geographical area, as it is a key centre for employment, retail and leisure, many people from the region travel there daily and its road infrastructure. Monmouthshire has the next highest distance, due to its rural nature and strategic location as the gateway to Wales with the M4, M48 and trunk roads to the Midlands and the Valleys and South West Wales. Caerphilly also has significant distances travelled on its roads, probably reflecting its large geography and high levels of commuting to Newport and Cardiff.

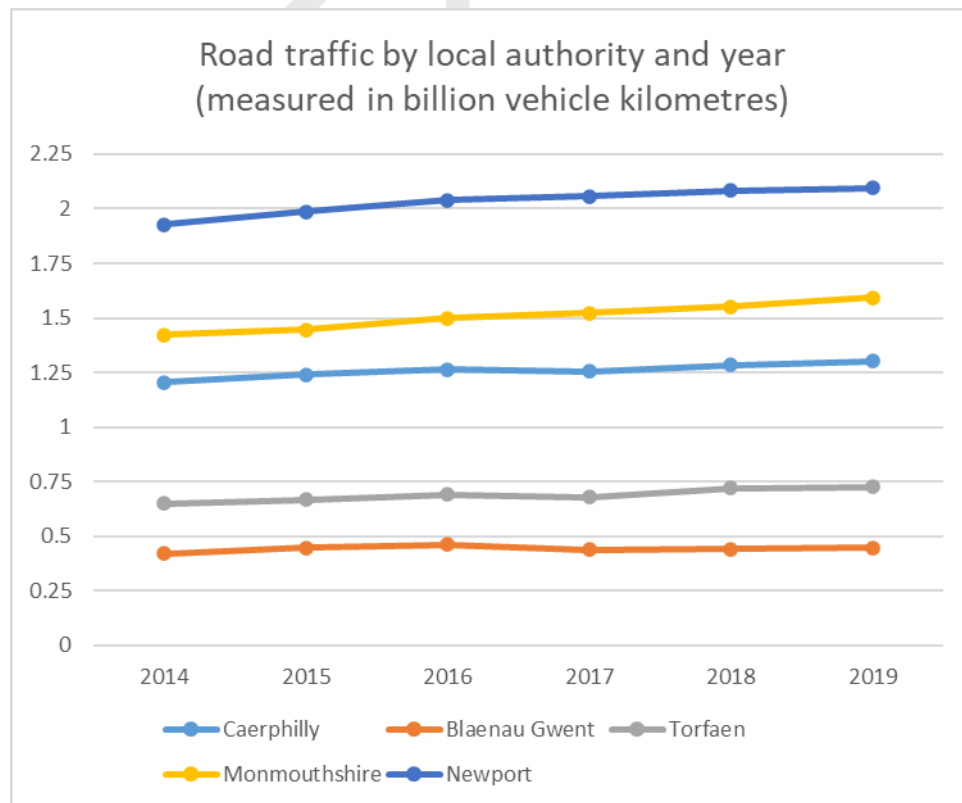


Figure 4: Road traffic by local authority and year<sup>16</sup>

Between 2014 and 2019 Blaenau Gwent traffic levels have remained constant, whereas each of the other areas in Gwent have increased, most notably in Monmouthshire and Newport. Increase in traffic levels means an increase in pollution and a deterioration in air quality across Gwent. In Gwent there are 2 Air Quality Management Areas in Caerphilly, 2 in Monmouthshire and 11 in Newport, all declared because of nitrogen dioxide levels as a result of traffic pollution along busy roads and motorways.<sup>17</sup> Nitrogen dioxide is also damaging to human health, causing and making worse respiratory conditions like asthma.<sup>18</sup>

In order to reduce the environmental and health impacts of car use, it will be essential to support the transition to zero emission vehicles, including those privately owned, buses and taxis. Gwent will need a network of electric vehicle charging points. Public bodies have already worked together to install 62 new dual electric vehicle 22kw fast charging units at 34 sites across Gwent with many further installations already taking place or planned around the region, including through Cardiff Capital City Region.

Hydrogen also has a role to play in Gwent's journey to zero emission transport. Monmouthshire council has already undertaken a feasibility study into the opportunities to use hydrogen in its fleet<sup>19</sup>, and this learning has been shared across Gwent. In addition, the Cardiff Capital Region has set out its pathway to develop the hydrogen sector in the region.<sup>20</sup>

## 2.4 Active travel

Walking and cycling can make an important contribution to local transport needs. Active Travel is a term used to describe walking and cycling that replace car journeys to get to work, shops, school, go out to a place of leisure, or go to the station to catch a train. The Active Travel (Wales) Act aims to make active travel the most attractive option for shorter journeys. It places a duty on councils to continuously improve their Active Travel routes, and plan how routes will join up to form networks so that people can more easily get around by cycle or as a pedestrian. Encouraging more people to walk or cycle will enable them to enjoy the health benefits these offer, help reduce greenhouse emissions, tackle poverty and disadvantage and help our economy to grow. However, the distances involved in more rural areas can make active travel more challenging. In some parts of Gwent E-bikes are being trialled as a way of making cycling a more viable travel option for those living in hilly or rural areas, or for older people, and in future Gwent we are likely to see E-bikes becoming an important way of making active travel accessible for more people.

Each of the five council areas in Gwent have mapped existing routes and have plans for integrated networks. Further information can be found on each local authority's Active Travel webpages.

- Blaenau Gwent - [Blaenau Gwent CBC: Active Travel Programme 2021-22](#)
- Caerphilly - [Caerphilly - Caerphilly County Borough](#)
- Monmouthshire - [Monmouthshire Active Travel - Monmouthshire](#)
- Newport - [Active travel | Newport City Council](#)
- Torfaen - [Active Travel Routes & Schemes | Torfaen County Borough Council](#)

The Welsh Government Active Travel Action Plan for Wales wants to increase levels of walking and cycling in Wales to realise the many benefits that travelling actively brings - for individuals and for society.<sup>21</sup> Children and young people are a priority: active behaviours learnt and mainstreamed early will help establish healthy behaviours for life. Local authorities in Gwent have been successful in attracting significant funding from Welsh Government to increase active travel.

Many of the public bodies in Gwent have signed up to the Healthy Travel Charter which commits them to supporting and encouraging healthy and sustainable travel options.

## 3. Where people travel

### 3.1 Access to services and facilities

The WIMD "access to services" domain measures deprivation caused by a household's inability to access a range of services considered necessary for day-to-day living, both physically and online.

It measures the travel times to a range of services as a proxy for wider physical access to services. Each indicator measures an average return journey time (in minutes) from the home to the nearest service, by both public and private transport. The domain also includes a new indicator, measuring access to digital services. In the WIMD 2019 access to services domain, high levels of deprivation were widespread across rural areas of Wales, where there are few local services and limited public transport<sup>22</sup>.

If the WIMD data is considered at a local authority level to look at identifying the concentration of the most deprived areas in Gwent for access to services, figure 5, Monmouthshire has the most areas that have difficulty (or deprivation) in accessing services<sup>23</sup>. This is likely due to the rural nature of Monmouthshire. Looking at the actual travel times shows the significant times it takes residents in some of the most deprived areas in Gwent to travel to a variety of basic services, particularly using public transport. For example, the average public and private transport return travel times to a GP surgery is 69 minutes public and 9 minutes private for the St James 1 area in Caerphilly, 172 minutes public and 19 minutes private for the Llantilio Crossenny area in Monmouthshire and 72 minutes public and 11 minutes private for the Llanwern 1 area in Newport.<sup>24</sup>

<b>WIMD 2019 Access to Services deprived areas, by local authority</b>					
	Total LSOAs	Most deprived 10% LSOAs in Wales (ranks 1 - 191)	Most deprived 20% LSOAs in Wales (ranks 1 - 382)	Most deprived 30% LSOAs in Wales (ranks 1 - 573)	Most deprived 50% LSOAs in Wales (ranks 1 - 955)
Caerphilly	110	1 (1%)	5 (5%)	16 (15%)	29 (26%)
Blaenau Gwent	47	0 (0%)	8 (17%)	18 (38%)	24 (51%)
Torfaen	60	0 (0%)	3 (5%)	7 (12%)	23 (38%)
Monmouthshire	56	15 (27%)	22 (39%)	29 (52%)	37 (66%)
Newport	95	2 (2%)	8 (8%)	22 (23%)	41 (43%)

Figure 5: Table showing the number and percentage of small areas (LSOAs) in each local authority which were in the most deprived 10%, 20%, 30% and 50% areas in Wales for the access to services domain of WIMD 2019<sup>25</sup>

The National Survey for Wales shows that people with local public transport links in their local area were more likely (81%) to be satisfied with their ability to access the services they need, compared to those without (54%). Similarly people who lived close to services and facilities were more likely to use them; 39% of people who had a library in their local area had visited one within the last 12 months, compared with 28% of those without. The same was true for people taking part in sports activities with 37% of those with a sport centre nearby playing sport three or more times per week, compared with 29% of those without a sports centre. This provides evidence that those who can access services easily are more likely to do so<sup>26</sup>.

### 3.2 Commuting

The location of Gwent, its transport network and its economic links make it possible to commute into, and out of the rest of Wales and parts of England, although for some parts of the Gwent region it can be more difficult. This dataset provides information on commuting patterns by local authority in Gwent and flows between Wales and the rest of the UK.

	Total no. of working residents in the area	Total no. of people working in the area	No. of people living and working within the same area	No. of people commuting out of the area	No. of people commuting into the area
Wales	1,430,400	1,378,400	1,330,100	100,300	48,400
South East Wales	709,400	677,500	647,100	62,400	30,400
Caerphilly	84,500	61,400	44,400 (53%)	40,100	17,000
Blaenau Gwent	30,800	19,700	14,900 (48%)	15,900	4,700
Torfaen	40,900	34,100	22,400 (55%)	18,500	11,700
Monmouthshire	45,500	44,900	25,900 (57%)	19,700	19,000
Newport	73,100	82,200	45,300 (62%)	27,800	36,900

Figure 6: Commuting levels by Welsh local authority<sup>27</sup>

The table in Figure 6 shows that Caerphilly, Blaenau Gwent and Torfaen all have significantly more people commuting out of the county than commuting into the county. Monmouthshire has a similar level of in and out commuting, whereas the large size and employment opportunities of Newport means that there are many more people commuting into the county. When looking at the figures of people who live and work in the same county as a percentage, 62% of Newport residents live and work there, compared with 48% of Blaenau Gwent residents, reflecting the lower number of jobs available locally in Blaenau Gwent. These high levels of commuting all contribute to carbon emissions and air quality issues across Gwent.

The Covid-19 Pandemic resulted in a significant change in how and where some people worked and continues to do so. In Gwent the commuting patterns, shown in the table above, relate to the respondent's usual working pattern if coronavirus restrictions were not in place.

The Wales Transport Strategy 2021 states Welsh Government will support remote working encouraging people to work from an office near their home one or more days a week instead of commuting long distances. This is in line with the wider Welsh Government aim of 30% of the workforce working remotely on a regular basis.<sup>28</sup>

Research has identified that home or remote working can have both positive and negative-impacts on well-being. There remain opportunities and challenges related to social, economic, environmental and cultural well-being to home working that need to be considered. For example, while traveling for work less has a positive impact on the environment, the impact may be less positive on maintaining gender equality, diversity and social interactions. There are also many jobs, usually those that are lower paid, where home working is not an option.

### 3.3 Accessibility and transport

Research has highlighted that the availability and accessibility of public transport across all parts of Gwent remains a challenge for residents. Barriers to public transport can affect access to employment, services, and opportunities to socialise with others. Consequently, it can negatively affect physical and mental health, sense of inclusion and independent living.

Research by Equality and Human Rights Commission found older and disabled people perceived public transport as largely inaccessible and a barrier to travelling independently.<sup>29</sup> The EHRC's Is Wales Fairer report highlights accessibility as an issue, with half of railway stations in Wales being not fully accessible to disabled people and 34% having no access for wheelchair users.<sup>30</sup> The report also

identified people's ability to access transport as an important factor in loneliness and isolation, and notes this is challenging in rural areas.<sup>31</sup>

As well as public transport being accessible, it should also be safe for people to use. The National Survey for Wales found that in 2016/17, 79% of adults felt safe travelling by public transport after dark, compared to 97% of those travelling by car after dark. Women were less likely (68%) than men (89%) to feel safe when travelling by public transport after dark.

Transport poverty does not yet have a single agreed definition or measurement, but broadly refers to households and individuals who struggle or are unable to make the journeys that they need. The impacts of transport poverty are worst for poor people in rural areas, where alternatives are even more limited. Evidence shows that there is a relationship between income and type of transport used. Those on lower incomes use buses more, and those on higher incomes use cars and trains more. This is a result of affordability rather than choice: buses are cheaper than trains, and cars are expensive to own and run.<sup>32</sup>

## 4. Future trends and challenges

Transport has an important role to play in supporting people's well-being both now and in the future. From getting children to school, people to work and connecting friends and family, moving around is an important part of our daily lives.

Being able to travel enables people to engage in cultural activities such as visiting historic and cultural attractions, accessing sports and leisure facilities, helping people to stay healthy and active.

We know that for those living in rural areas and the most disadvantaged in our communities, lack of transport and affordability can be barriers to being able to access work or education and the cultural and social activities that bring people together and help them feel connected. How we tackle transport challenges given their important role in supporting well-being needs to consider an integrated approach with how we plan, design and build communities. This needs to think about how and where we deliver services, support people more locally and make travelling more accessible, efficient and affordable.

Transport supports our wider economic well-being by enabling the movement of goods, services, and raw materials. Transport engineering, has also been identified by Cardiff Capital Region, as having a role to play in the prosperity of the regional economy over the next decade and beyond and Gwent's employment base is well placed to make a contribution to this sector.

Many of our current transport approaches are having a negative impact on our environment. As well as transitioning to a zero carbon transport network, we need future Gwent's transport system to be resilient to a changing climate. We have already seen in Gwent how disruptive flooding can be to our transport system.

Overheating is a risk identified for public transport and the UK Climate Risk Assessment also identifies risks to travel infrastructure from high winds and lightning and that more research is needed to understand how increased vegetation growth rates will impact on the risks of damage from falling trees during storms<sup>33</sup>

The assessment also identifies risks to transport networks from slope and embankment failure and that more action is needed to locate and remediate embankments and cuttings at risk of failure<sup>34</sup>. The

assessment also notes the potential for less travel disruption from a reduction in extreme cold events such as snowfall and ice— this could also reduce maintenance costs<sup>35</sup>.

The Covid-19 pandemic has demonstrated that we don't always need to travel, that some things can be done remotely using digital technology. Technological development in transport is also advancing and is likely to shape mobility for future generations from supporting the transition to a zero-carbon Wales to removing the need to make as many journeys.

This will mean that how people, goods and services move around Gwent and beyond is likely to change in the future. Travel is always going to be necessary, but where we can, we should be using technology to support us to travel less. To support this future Gwent is going to need faster, more frequent, and more joined-up public transport that gives people an alternative to travel by car.

Transport developments related to the electrification of road vehicles, the modernisation of rail services and the development of autonomous vehicles are being made. Changing travelling patterns will mean that our infrastructure, manufacturers and service providers will need to innovate to deliver products and services in new ways. The uneven state of current infrastructure and the level of investment required to create the mobility infrastructure of the future means that opportunity may mainly focus on cities. There is a challenge for Gwent to keep abreast of developments in travel and people's transport needs in the future and develop its infrastructure accordingly. For example, the charging infrastructure required for electric vehicle charging and developments in charging networks and energy storage technology, which may be expanded further with new and emerging technologies such as hydrogen<sup>36</sup>.

The Covid-19 pandemic has had a significant impact on transport, with varying restrictions on travel. The South East Wales Transport Commission identifies during Covid-19, people have often been required to stay local and connect digitally. This has shown – on a national scale – how land use and technology can provide viable alternatives to transport. Looking to the future, these are not alternatives that people may wish to use all the time, but the current experience has demonstrated the viability of a broader range of options. This is especially relevant for remote and flexible working, given peak-time commuting pressures on the transport system<sup>37</sup>.

The Older People's Commissioner for Wales identifies the Covid-19 pandemic has significantly changed the landscape for public and community transport providers and for those older people who relied on those services. Many services have been running with reduced capacity and limited timetables during this period and many older people, who had been regular users of transport services, have been cautious to return to their regular activities.<sup>38</sup>

In the Wales Transport Strategy 2021, the Welsh Government sets out how it will explore future infrastructure improvements that reduce carbon emissions. These include infrastructure for new fuels such as hydrogen, technology that facilitates more sustainable aviation and cargo operations, and materials innovation that improves service life, speed of construction and maintenance and reduces environmental impacts<sup>39</sup>.

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- <sup>1</sup> Investment Prospectus Prosperity for our Place Appendix 1: Passenger Rail Vision <https://www.cardiffcapitalregion.wales/wp-content/uploads/2021/06/investment-prospectus-appendix-1-passenger-rail-vision-english.pdf>
- <sup>2</sup> South East Wales Transport Commission: final recommendations ([Final Recommendations \(gov.wales\)](#))
- <sup>3</sup> Transport for Wales South Wales Metro <https://trc.cymru/south-wales-metro>
- <sup>4</sup> Transport For Wales <https://tfw.wales/projects/metro/south-wales-metro>
- <sup>5</sup> Cardiff Capital Region [Cardiff Capital Region Industrial and Economic Plan](#)
- <sup>6</sup> Stats Wales, Rail passenger journeys by Local Authority <https://statswales.gov.wales/Catalogue/Transport/rail/rail-transport/railpassengerjourneys-by-localauthority-year>
- <sup>7</sup> Welsh Government, Public service vehicles (buses and taxis): April 2019 to March 2020 <https://gov.wales/public-service-vehicles-buses-and-taxis-april-2019-march-2020-html#ftn2>
- <sup>8</sup> Welsh Government analysis of Department for Transport 'Fares Survey'. Index as at 31 March. Index (2005=100). <https://gov.wales/public-service-vehicles-buses-and-taxis-april-2019-march-2020-html#ftn2>
- <sup>9</sup> Is Wales Fairer? (2018) ([Is Wales Fairer? \(2018\) | Equality and Human Rights Commission \(equalityhumanrights.com\)](#))
- <sup>10</sup> South East Wales Transport Commission: final recommendations ([Final Recommendations \(gov.wales\)](#))
- <sup>11</sup> <https://www.fflecsi.wales/>
- <sup>12</sup> Putting the Public back into Public Transport ([Putting the 'public' back into public transport \(senedd.wales\)](#))
- <sup>13</sup> The Wales Transport Strategy 2021 ([Llwybr Newydd A New Wales Transport Strategy 2021: full strategy \(gov.wales\)](#))
- <sup>14</sup> <https://gov.wales/sites/default/files/publications/2021-10/net-zero-wales-carbon-budget-2-2021-25.pdf>
- <sup>15</sup> <https://gov.wales/sites/default/files/publications/2021-10/net-zero-wales-carbon-budget-2-2021-25.pdf>
- <sup>16</sup> Stats Wales, Road traffic by local authority <https://statswales.gov.wales/Catalogue/Transport/Roads/Road-Traffic/volumeofroadtraffic-by-localauthority-year>
- <sup>17</sup> <https://airquality.gov.wales/laqm/air-quality-management-areas>
- <sup>18</sup> <https://airquality.gov.wales/about-air-quality/pollutants>
- <sup>19</sup> <https://democracy.monmouthshire.gov.uk/documents/s21789/4b%20Jacobs%20hydrogen%20report%20-%20strong%20comms%20-%20july.pdf>
- <sup>20</sup> <https://www.cardiffcapitalregion.wales/news-events/latest-news/the-pathway-for-developing-our-hydrogen-energy-sector/>
- <sup>21</sup> An Active Travel Action Plan for Wales ([An Active Travel Action Plan for Wales - English \(gov.wales\)](#))
- <sup>22</sup> Welsh Index of Multiple Deprivation (full Index update with ranks): 2019 <https://gov.wales/welsh-index-multiple-deprivation-full-index-update-ranks-2019>
- <sup>23</sup> <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation/WIMD-2019/localauthorityanalysis>
- <sup>24</sup> Welsh Index of Multiple Deprivation 2019 <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation>
- <sup>25</sup> Welsh Index of Multiple Deprivation 2019 <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation>
- <sup>26</sup> National Survey for Wales ([Access to local services and facilities \(National Survey for Wales\): April 2017 to March 2018 | GOV.WALES](#))

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<sup>27</sup> Commuting patterns by Welsh Local Authority <https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/People-and-Work/Employment/Commuting/commutingpatterns-by-welshlocalauthority-measure>

<sup>28</sup> The Wales Transport Strategy 2021 ([Llwybr Newydd A New Wales Transport Strategy 2021: full strategy \(gov.wales\)](#))

<sup>29</sup> Accessible public transport for older and disabled people in Wales (December 2020) ([Accessible public transport for older and disabled people in Wales \(equalityhumanrights.com\)](#))

<sup>30</sup> Is Wales Fairer? (2018) ([Is Wales Fairer? \(2018\) | Equality and Human Rights Commission \(equalityhumanrights.com\)](#))

<sup>31</sup> Is Wales Fairer? (2018) ([Is Wales Fairer? \(2018\) | Equality and Human Rights Commission \(equalityhumanrights.com\)](#))

<sup>32</sup> Transport and Inequality: an evidence review for the Department for Transport ([Transport and inequality \(publishing.service.gov.uk\)](#))

<sup>33</sup> UK Climate Change Risk Assessment 2017: Evidence Report. Summary for Wales.

<sup>34</sup> UK Climate Change Risk Assessment 2017: Evidence Report. Summary for Wales.

<sup>35</sup> UK Climate Change Risk Assessment 2017: Evidence Report. Summary for Wales.

<sup>36</sup> Gwent Futures, Summary Horizon Scanning Report, March 2018.

<sup>37</sup> SEW Transport Commission ([Final Recommendations \(gov.wales\)](#))

<sup>38</sup> Consultation Response – Llwybr Newydd – a new Wales transport strategy ([210125 Response to Llwybr Newydd a new Wales transport strategy.sflb.ashx \(olderpeoplewales.com\)](#))

<sup>39</sup> The Wales Transport Strategy 2021 ([Llwybr Newydd A New Wales Transport Strategy 2021: full strategy \(gov.wales\)](#))

# SOCIAL WELL-BEING CHAPTER HEALTH

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## 1. Introduction

There are many factors that can have an impact on our health from the **environment, housing**, what we do for **work**, how much we **earn**, our **lifestyles, transport** and **community cohesion**. These **wider determinants of health** can impact in either a positive or negative way on physical and mental health. We also know that some of our communities are experiencing challenges related to these factors, which can impact on health. How these **inequalities develop** over time will impact on the **health of future generations** living in Gwent.

**Increasing life expectancy** will result in the number and proportion of older people in Gwent rising. For the well-being of individuals and the **sustainability of services**, it will be vital that these extra years are lived in **good health**.

We don't yet know what the long-term impact of the pandemic will be on health. Build Back Fairer: the COVID-19 Marmot Review published in December 2020. looked at socio-economic and health inequalities in England. and highlights that the inequalities that exist in communities contributed to the high and unequal death toll from COVID-19 in England. The report also identifies that some health inequalities have been exacerbated by the pandemic and that investment in public health will need to be increased to mitigate the impact of the pandemic on health and on health inequalities and their wider determinants. The report concludes that much that can be done to improve the quality of people's lives with the right long-term policies, that health inequalities can be reduced<sup>i</sup>.

### 1.1 Health inequalities – WIMD

The Welsh Index of Multiple Deprivation (WIMD) is the official measure of relative deprivation for small areas in Wales. It is a National Statistic produced by statisticians at the Welsh Government.

WIMD identifies areas with the highest concentrations of several different types of deprivation. The prime purpose of the Index is to provide the evidence needed about the most deprived areas of Wales to inform a variety of decisions, such as funding or targeting of programmes and services for local areas. WIMD ranks all small areas in Wales from 1 (most deprived) to 1,909 (least deprived).

WIMD is currently made up of eight separate domains (or types) of deprivation. Each domain is compiled from a range of different indicators. The domains included in WIMD 2019 are:

• Income	• Education	• Community Safety
• Employment	• Access to Services	• Physical Environment
• Health	• Housing	

In other parts of the assessment we consider the other domains of deprivation.

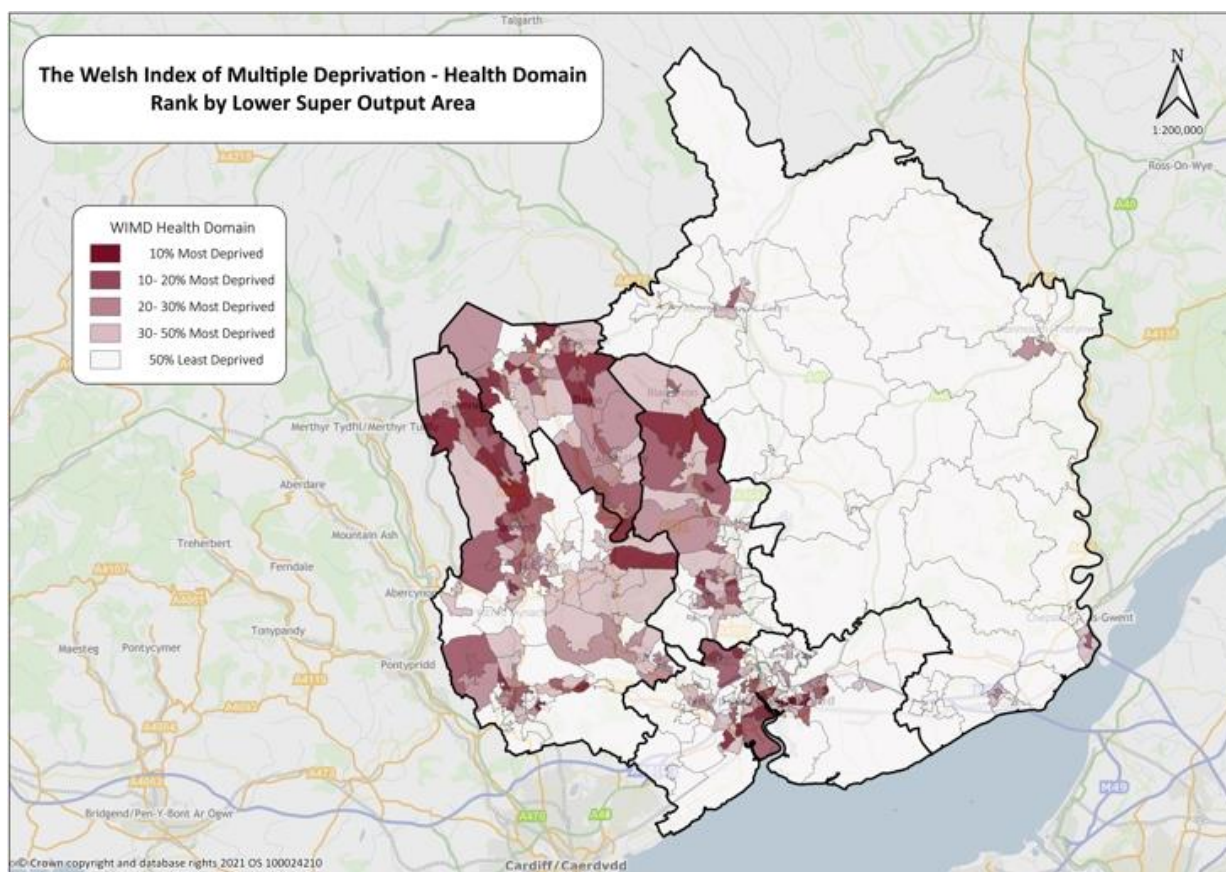


Figure 1: Gwent local authorities in highest health WIMD deprivation ranking

We have used the WIMD health domain to tell us about the health inequalities that exist across Gwent. The data is telling us there is significant variance and that parts of our community are experiencing poor health.

The WIMD 2019 health domain thematic map shows the spread of health deprivation across Gwent with the most deprived areas being focussed around the valleys and Newport city centre communities.

The domain is constructed from indicators which include GP-recorded chronic conditions, limiting long-term illness (LLTI), premature death, GP-recorded mental health, cancer incidence and low birthweight babies. There are significant health inequalities in Gwent and pockets of communities where health deprivation is in the top 10% most deprived in Wales. St. James 3 LSOA in Caerphilly is the most deprived area for health in Gwent ranked 7<sup>th</sup> out of 1909 LSOAs in Wales. At the other end of the spectrum the least deprived health related LSOA is Shirenewton in Monmouthshire with a rank of 1899. This demonstrates the wide health inequalities that exist across the area. The indicators below that form the WIMD health domain illustrate this inequality from the most deprived to least deprived across Gwent, but also show the disparity that exists within each local authority area<sup>ii</sup>.

- The highest rates of GP-recorded chronic conditions are found in Victoria 4 and Pillgwenlly 3, Newport, with a rate of 25.9 per 100 persons (ranked 3<sup>rd</sup> in Wales). The lowest rate is found in Langstone 2, Newport (8.5) – ranked 1894 in Wales.
- The highest rate of limiting long-term illness (LLTI) is found in St. James 3, Caerphilly, with a rate of 40.7 per 100 persons (ranked 1<sup>st</sup> in Wales). The lowest rate is found in St. Martins 5, Caerphilly (11.3) – ranked 1904 in Wales.
- The highest rate of premature death (before age 75) are found in Pillgwenlly 4, Newport, with a rate of 1006 per 100,000 persons (ranked 7<sup>th</sup> in Wales). The lowest rate is found in The Elms, Monmouthshire (143) – ranked 1906 in Wales.
- The highest rate of GP-recorded mental health is found in Bettws 1, Newport, with a rate of 39.9 per 100 persons (ranked 6<sup>th</sup> in Wales). The lowest rate is found in Blackwood 3, Caerphilly (14.7) – ranked 1841 in Wales.
- The highest rate of cancer incidence is found in Alway 4, Newport, with a rate of 987.9 per 100,000 persons (ranked 1<sup>st</sup> in Wales). The lowest rate is found in Risca West 2, Caerphilly (397.6) – ranked 1906 in Wales.
- The highest percentage of low-birthweight babies (live single births less than 2.5kg) is found in New Tredegar 3, Caerphilly, with rate of 11.2% (ranked 14<sup>th</sup> in Wales). The lowest rates are found in Usk 1, Monmouthshire, and Rogerstone 1, Newport (0) – ranked joint 1901 in Wales<sup>iii</sup>.

We don't know what the impact of COVID-19 will be on health inequalities in Gwent, however, a report published in March 2021 highlighted health inequalities were already widening in Wales. This is illustrated by widening life expectancy, particularly for women, between those living in the most and least deprived areas <sup>iv</sup>.

*Currie, J. et al. 2021. Life expectancy inequalities in Wales before COVID-19: an exploration of current contributions by age and cause of death and changes between 2002 and 2018. Public Health 193.*

## 1.2 Life expectancy

We know the number of older people in Gwent is expected to rise in the next 20 years and that there are many benefits from people living longer including the positive contribution they can make to family and the wider community. We want our older people to be as healthy as possible for as long as possible.

Average healthy life expectancy	Between 2015 to 2017, the average healthy life expectancy for males in Gwent is 58.5 years. This is lower than the average for Wales (61.4 years) <sup>v</sup> .				
	Between 2015 to 2017, the average healthy life expectancy for females in Gwent is 59 years. This is lower than the average for Wales (62 years) <sup>vi</sup> .				
	Area	<table><tr><th colspan="2">Average healthy life expectancy (years)</th></tr><tr><th>Males</th><th>Females</th></tr></table>	Average healthy life expectancy (years)		Males
Average healthy life expectancy (years)					
Males	Females				

Blaenau Gwent	54.1	54.5
Caerphilly	55.2	56.1
Monmouthshire	<b>65.7</b>	<b>64.3</b>
Newport	58.4	62
Torfaen	59.6	57.6

Healthy life expectancy is the expected number of remaining years of life spent in good health from a particular age, typically birth or age 65.

Within Gwent, Blaenau Gwent had the lowest healthy life expectancy for both males and females with Caerphilly occupying the next place. Each of the local authority areas in Gwent had figures below the Wales average, apart from Newport's figure for female healthy life expectancy which was the same. The exception was Monmouthshire that had higher life expectancy for both males and females than the average figures for Wales.

**Increasing healthy life expectancy could reduce demand for social care and health services in the future.**

**Increasing physical activity and adopting a healthy diet could help people living in future Gwent have more years of good health.**

#### Gap in life expectancy

Between 2015 to 2017, there are 6.7 years of difference between the life expectancy of male residents living in the most and least deprived areas of Gwent. This is less than the average figure for Wales (7.4 years) <sup>vii</sup>.

Between 2015 to 2017, there are 6.1 years of difference between the life expectancy of female residents living in the most and least deprived areas of Gwent. This is the same as the average figure for Wales <sup>viii</sup>.

Area	Gap in life expectancy (years)	
	Males	Females
Blaenau Gwent	3.5	2.7
Caerphilly	4.9	5.0
Monmouthshire	6.7	4.2
Newport	<b>7.8</b>	<b>7.4</b>
Torfaen	7.7	6.1

The gap in life expectancy at birth between the most and least deprived within an area is an important measure, as it considers the effect of deprivation on how long an individual can expect to live at birth.

*Within Gwent, Newport had the fourth largest gap in life expectancy in Wales between the most and least deprived fifth for males (7.8 years), followed in fifth place in Wales by Torfaen (7.7 years). Blaenau Gwent had the smallest gap of 3.5 years within Gwent, which was the fourth smallest gap within Wales.*

Within Gwent, Newport had the largest gap in life expectancy in Wales between the most and least deprived fifth for females (7.4 years), followed in seventh place in Wales by Torfaen (6.1 years). Blaenau Gwent had the smallest gap of 2.7 years within Gwent, which was the third smallest gap within Wales. Monmouthshire, Caerphilly and Blaenau Gwent local authority areas all had gaps significantly smaller than the Wales average (particularly in Blaenau Gwent), whilst Newport had a significantly higher gap and Torfaen was the same as the Wales average.

An article in The Guardian in December 2020<sup>ix</sup> claimed that the Covid-19 pandemic has cut life expectancy in England and Wales by roughly a year, reversing gains made since 2010.

A study conducted by University of Oxford researchers, found that life expectancy at birth (LEB) had fallen by 0.9 and 1.2 years for females and males relative to 2019 levels respectively. Life expectancy in England and Wales had been steadily improving for 50 years before stagnating in the past decade.

### 1.3 Cancer registrations

Cancer is a major cause of ill health and 1 in 2 people in the UK will be diagnosed with cancer in their lifetime<sup>x</sup>. Although factors such as age, sex, and genetic makeup influence an individuals' risk of developing cancer, many cases of cancer could be prevented by reducing health harming behaviours such a smoking, alcohol consumption and physical inactivity.

If detected early enough many cancers can be treated successfully.

**If more cancer was diagnosed at early stages across Gwent, then more people would be likely to survive cancer.**

Cancer incidence and survival are also linked to deprivation and the circumstances that go with it. Not only are those with greater socio-economic deprivation more likely to present with new cancers, they are less likely to survive than those who are less deprived.

*Figure S1: Male cancer registrations per 100,000 population, 2014 to 2018*

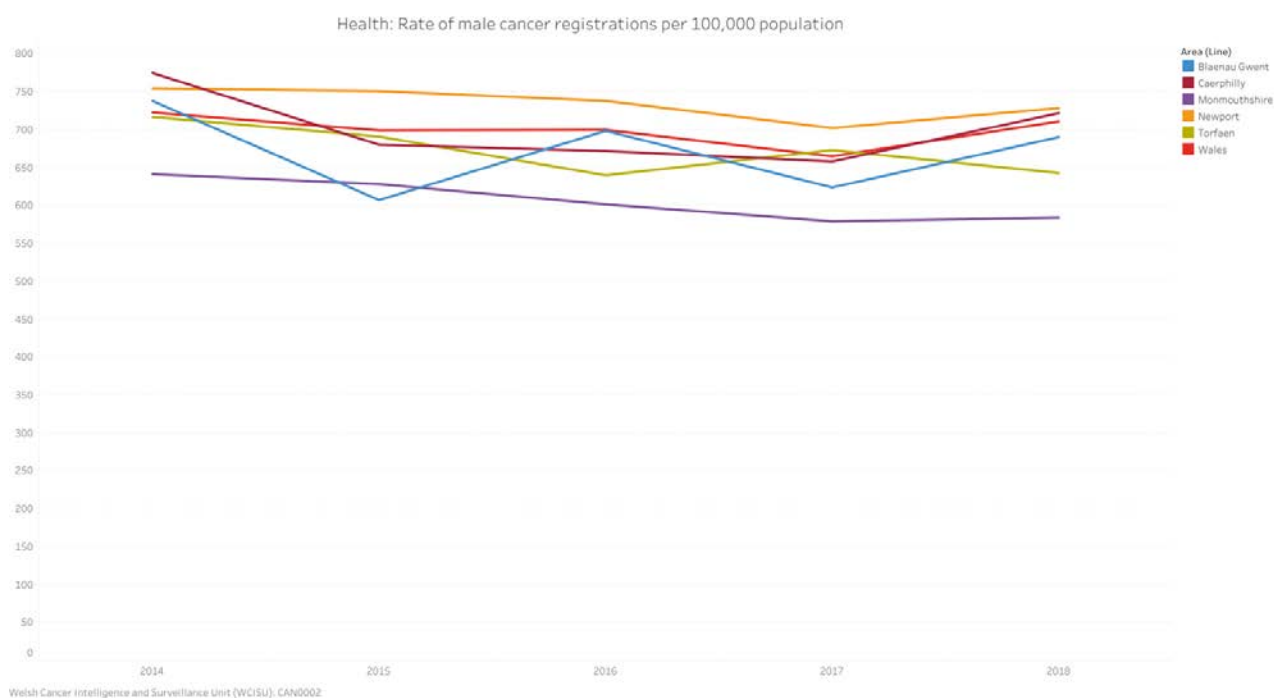


Figure S5 shows the rate of cancer registrations per 100,00 for males between 2014 and 2018. Over the time period, Monmouthshire had a significantly lower rate of cancer registrations per 100,000 population for males than other local authority areas in Gwent. For Monmouthshire the rate of registrations fell each year between 2014 and 2017, although there was a slight increase in 2018. The rate of registrations in Monmouthshire local authority area was significantly below the Wales average for every year within the time period.

In every year of the time period, cancer registrations per 100,000 population for males in the Newport local authority area were higher than the Wales average and were significantly so between 2014 and 2017. It should be noted that the number of cases per 100,000 population for males was variable over the time period in the other local authority areas in Gwent.

Figure S2: Female cancer registrations per 100,000 population, 2014 to 2018

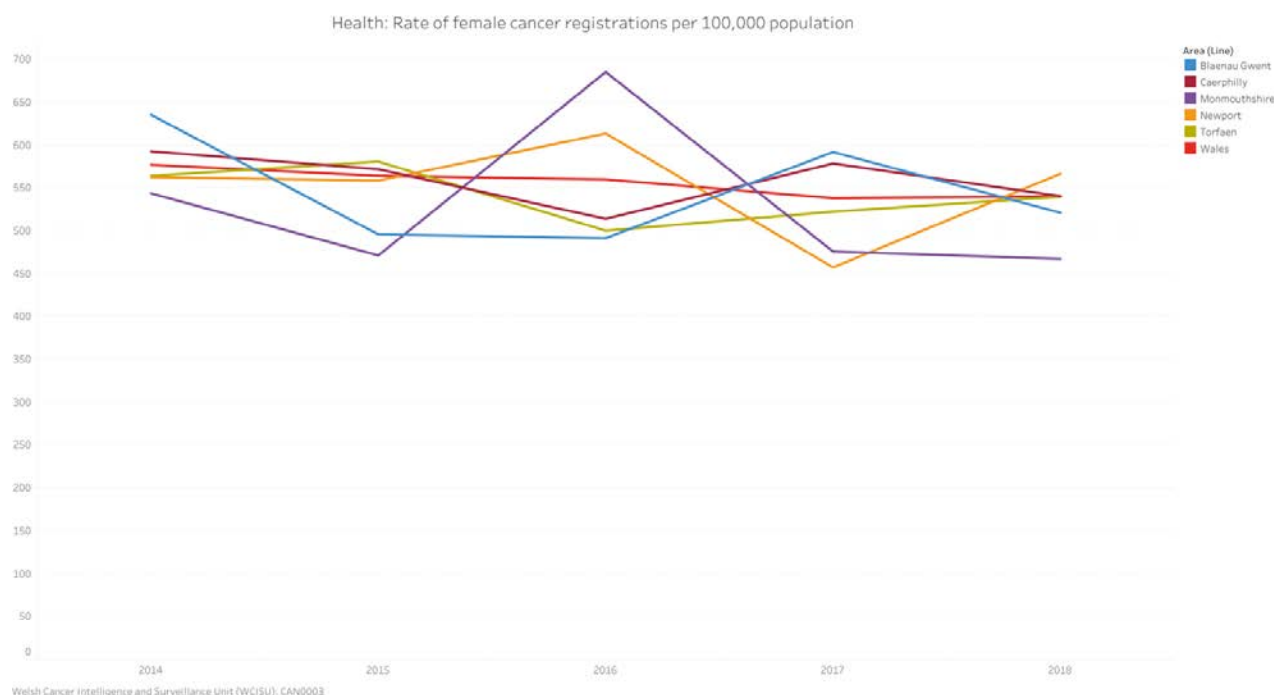


Figure S6 shows the rate of cancer registrations per 100,000 population for females between 2014 and 2018. Over the time period, Monmouthshire local authority area had a lower rate of registrations per 100,000 population for females than other local authority areas in Gwent, apart from in 2016 when the rate of registrations was significantly higher than for Wales as a whole. In every year apart from 2016, the Caerphilly local authority area had a higher rate of cancer registrations per 100,000 population for females.

It should once again be noted that the number of cases per 100,000 population for females was variable over the time period in most local authority areas in Gwent.

#### 1.4 Deaths due to cancer

Whilst the general trend has been an increase in the incidence of cancer both locally and nationally, survival rates have improved and death rates have reduced, largely due to advances in early detection and treatment.

Age-standardised mortality rates (ASMR's) are the number of deaths observed per 100,000 population, standardised to control for differences in population size and age structure between places and time points.

Figure S3: Rate of deaths due to cancer per 100,000 people (European age-standardised)

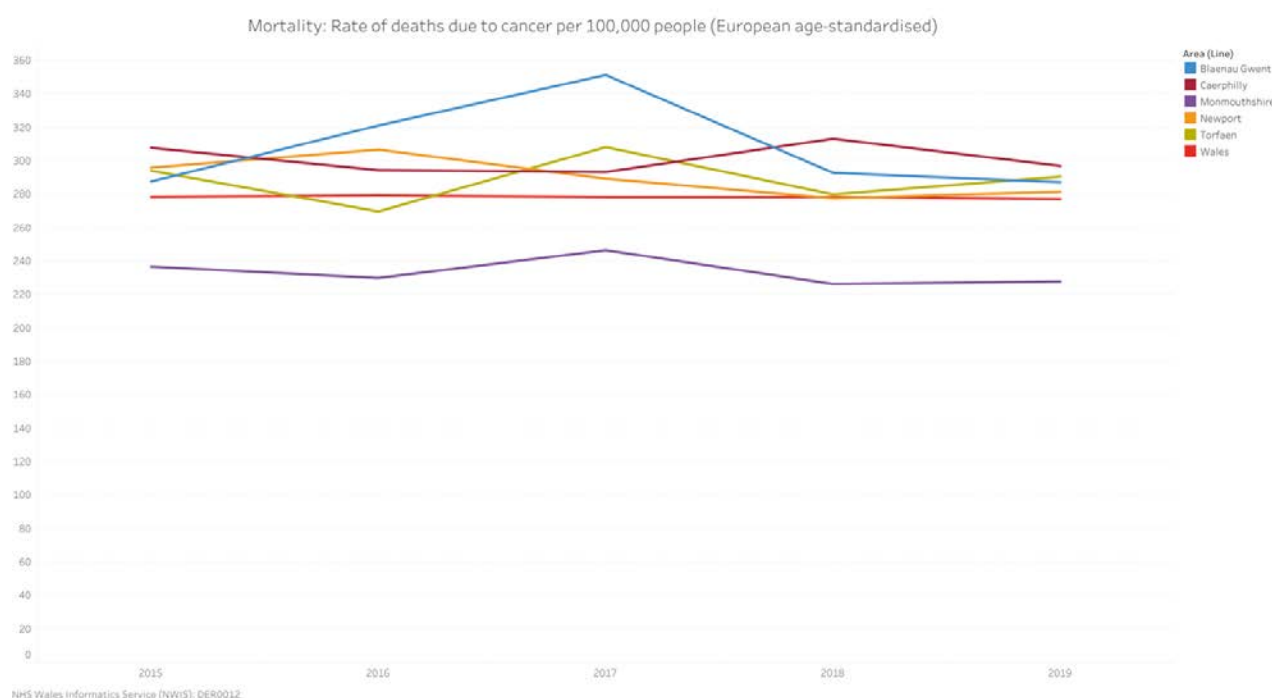


Figure S7 shows the rate of deaths from cancer per 100,000 people between 2015 and 2019. Once again Monmouthshire local authority area had a significantly lower death rate per 100,000 people than the Wales average in every year over the time period. Only one other local authority area in a single year over the time period (Torfaen in 2016) had a lower death rate from cancer per 100,000 people than the Wales average.

Caerphilly local authority area had the highest rate of deaths from cancer per 100,000 people in three of the five years (2015, 2018 and 2019), and a rate higher than the Wales average for each of the five years in the time period. Blaenau Gwent local authority area had the highest rate of deaths in the other two of the five years (2016 and 2017), and also had a rate higher than the Wales average for each of the five years in the time period.

## 1.5 Deaths due to cardiovascular disease

There is a lot of cardiovascular disease (CVD) in Wales. Over 10,000 deaths per year are caused by diseases of the circulatory system, including approximately a third of premature deaths in men and a quarter of premature deaths in women. Cardiovascular disease includes the following - congenital heart disease, coronary heart disease, heart failure, atrial fibrillation, cardiac rehabilitation, stroke and peripheral vascular disease.

Premature cardiovascular events affecting individuals under the age of 75 years are common. Within this group of diseases, the main single cause of death is from coronary (ischaemic) heart disease, resulting in 4,700 deaths in 2010. Areas that are deprived have a much higher level of CVD.

The risk of CVD is influenced by a number of well-recognised factors including increasing age, male gender, ethnicity, high blood pressure, cholesterol levels, smoking and diabetes mellitus, many of

which can be changed by healthier lifestyles. Other factors such as obesity, socio-economic status, family history of premature CVD, alcohol intake, chronic kidney disease and inflammatory disease are also important.

*Figure S4: Rate of deaths due to cardiovascular diseases per 100,000 people (European age-standardised)*

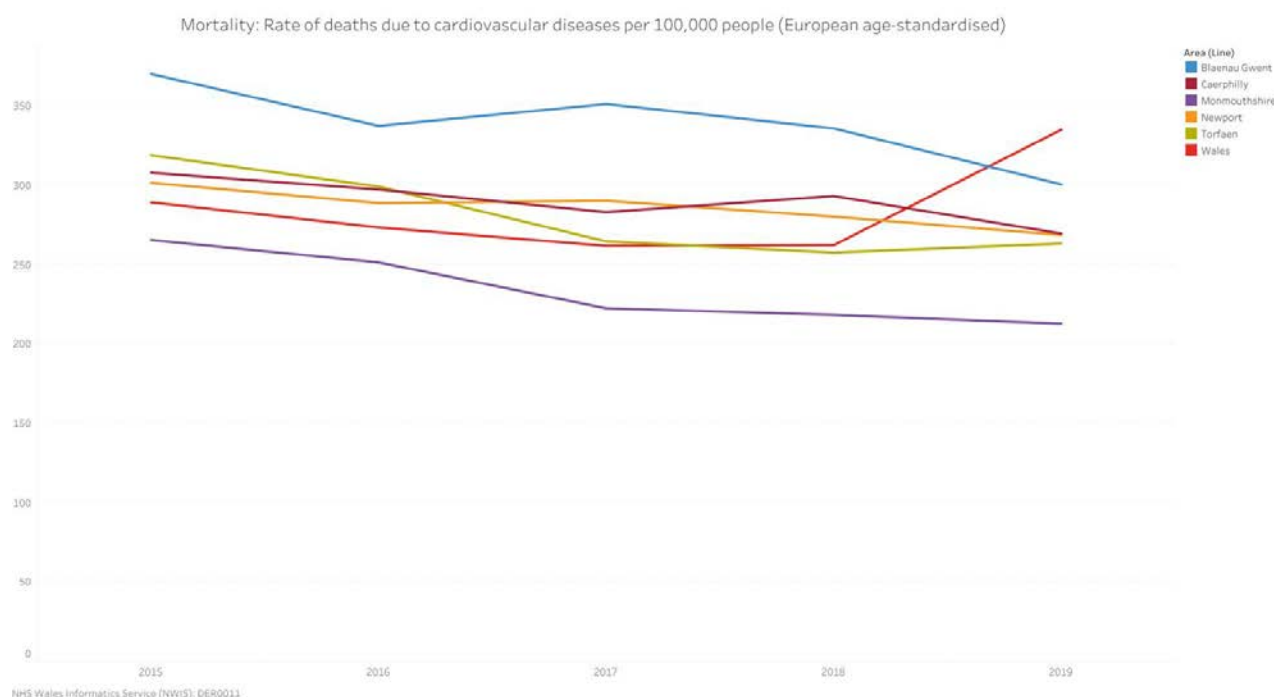


Figure S8 shows the rate of deaths from cardiovascular diseases per 100,000 people between 2015 and 2019. Monmouthshire local authority area had a significantly lower death rate per 100,000 people than the Wales average in every year over the time period. Only one other local authority area in a single year over the time period (Torfaen in 2018), had a lower death rate from cardiovascular diseases per 100,000 people than the Wales average, apart from 2019 when the average death rate for Wales as a whole was significantly higher than every local authority area in Gwent.

Blaenau Gwent local authority area had the highest rate of deaths from cardiovascular diseases in every year of the time period, significantly higher than every other local authority area in Gwent, and significantly higher than the Wales average in every year apart from 2019. This probably reflects the higher levels of socio-economic deprivation in this area.

## 1.5 Delayed transfers of care

A delayed transfer of care occurs when a patient is ready to leave a hospital or similar care provider but is still occupying a bed. Delays can occur when patients are being discharged home or to a residential or nursing home, or are awaiting transfer to a community hospital or hospice.

Delayed transfers – often described by the media as ‘bed blocking’ can cause considerable distress and unnecessarily long stays in hospital for patients. They also affect waiting times for NHS care, as delayed transfers reduce the number of beds available for other patients.

Figure S5: Number of delayed transfers of care (all reasons), 2015 to 2019

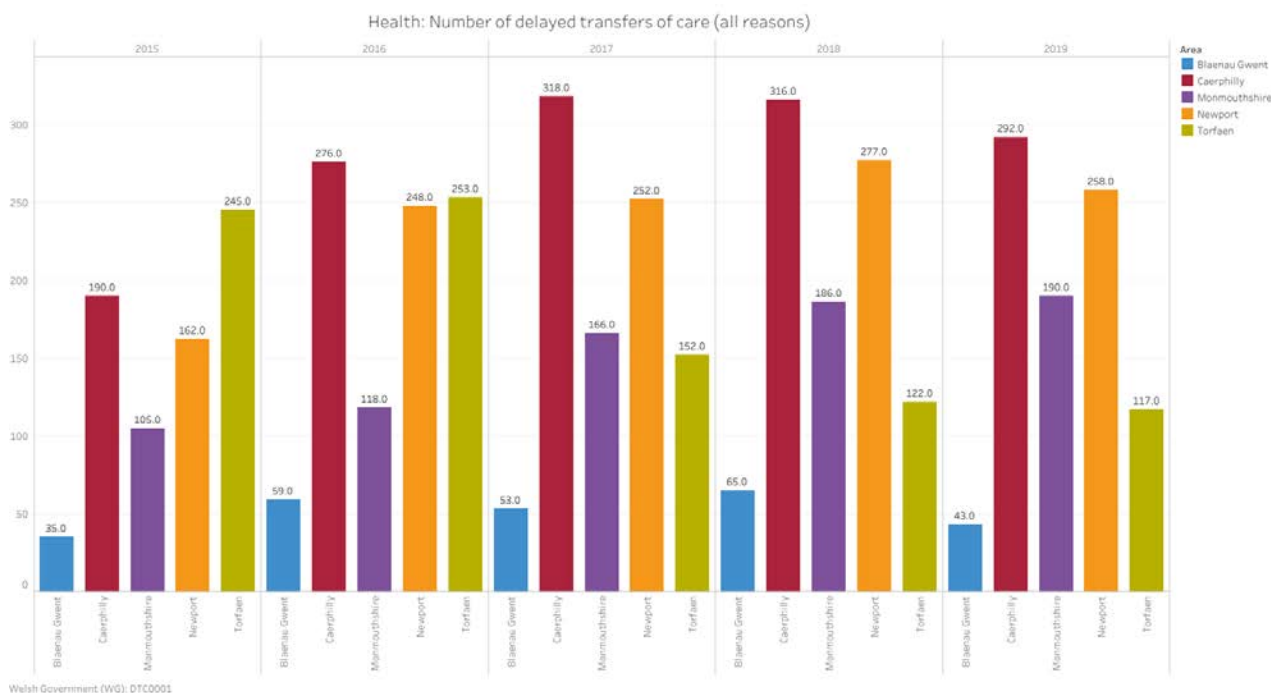


Figure S9 shows the number of delayed transfers of care for each local authority area in Gwent between 2015 and 2019. It shows that the Caerphilly local authority area had the highest number of delayed transfers of care in each year over the time period which increased until 2017, before falling slightly in 2018 and then more significantly in 2019.

Blaenau Gwent local authority areas had the smallest number of delayed transfers in care between 2015 and 2019, significantly lower than the other local authority areas in Gwent.

The impact of the Covid-19 pandemic is likely to have a negative effect on the difference in life expectancy between the most and least deprived areas in Gwent, as those individuals living in the most deprived areas are more likely to have been affected by the associated effects of the pandemic. This includes loss of income due to redundancy or being furloughed; exacerbation of existing health conditions due to lack of face-to-face contact with primary and secondary health care services and the cancellation of planned operations; the likely impact of long-Covid on the health and well-being of individuals suffering from the condition, although it will be some time before the full impact of this will be known.

There is also a lot of concern in the medical profession over the severely reduced number of people being referred for investigations for cancer and other diseases during the pandemic, which could result in later diagnosis of illness, reduced treatment options and a higher likelihood of death.

Life expectancy

The major causes of death are circulatory disease and cancers. Reducing overall mortality from circulatory disease to levels seen in the least deprived areas of Wales would increase life expectancy in the most deprived areas by 1.5 years in males and 1.3 years in females. Similar gains could be made if cancer mortality rates were reduced (1.3 years in males, 1.2 in females)<sup>xi</sup>.

Many forms of cancer, especially if detected early enough, can be treated successfully. If the proportion of cancer diagnosed at early stages increased by 10%, between 7,000 and 9,000 more people would survive cancer for 5 years in the UK<sup>xii</sup>. Early diagnosis depends on health services, but also on patient's awareness of cancer signs and symptoms and whether treatment is sought promptly.

Effects of Covid-19....

## 2. Baby and children's health and development

We know that even before birth, factors which can affect a babies' healthy life expectancy and life chances are already taking effect. At present, children born into poverty are more likely to be adults with poor health than those born into affluence. A baby born to a mother who is obese and smokes throughout pregnancy, is at greater risk of developing unhealthy lifestyles in the future, which put them at greater risk of serious chronic conditions which will impact on their quality of life and their life expectancy. The effect on a person's health and life expectancy of childhood experiences and health behaviours continue to impact and accumulate throughout childhood and into adulthood.

### 2.1 % of low birthweight live single births

Low birthweight is a key predictor of health inequalities and is defined as the percentage of singleton live births with a birth weight less than 2,500g. Babies born with a low birthweight are at greater risk of problems occurring during and after birth, and also have an increased risk of chronic diseases in adulthood.

Figure S6: % of low birthweight live single births, 2015 to 2019

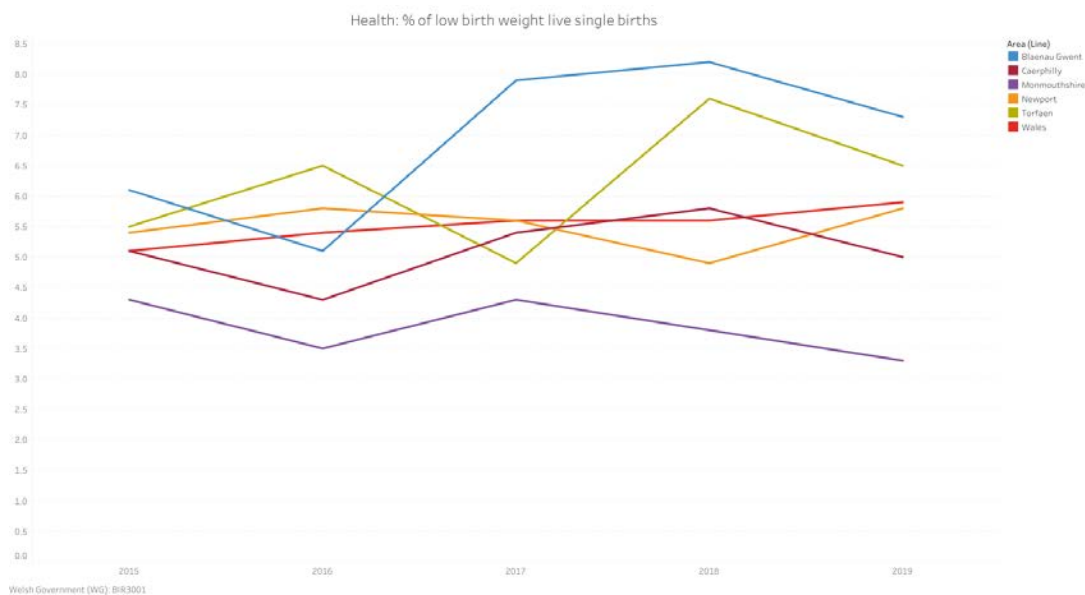


Figure S10 shows the proportion of low birthweight babies as a percentage of live births for all local authority areas in Gwent and Wales between 2015 and 2019. Blaenau Gwent local authority area had the highest proportion of low birthweight babies in every year of the time period (ranging from 6.1% to 8.2%) apart from 2016, when Torfaen local authority area had the highest proportion (6.5%). Monmouthshire local authority area had the lowest proportion of low birthweight babies across the time period, ranging from 3.3% to 4.3%. The average for Wales as a whole ranged from 5.1% to 5.9% over the time period.

## 2.2 Teenage conceptions

Teenage pregnancy is a possible cause and consequence of child poverty, which can increase the likelihood of health inequalities. Being a teenage mother or a child of a teenage mother increases the risk of health problems and other issues, for both mother and child.

Figure S7: Rate of under 18 conceptions per 1,000 females aged 15-17 years, 2014 to 2019

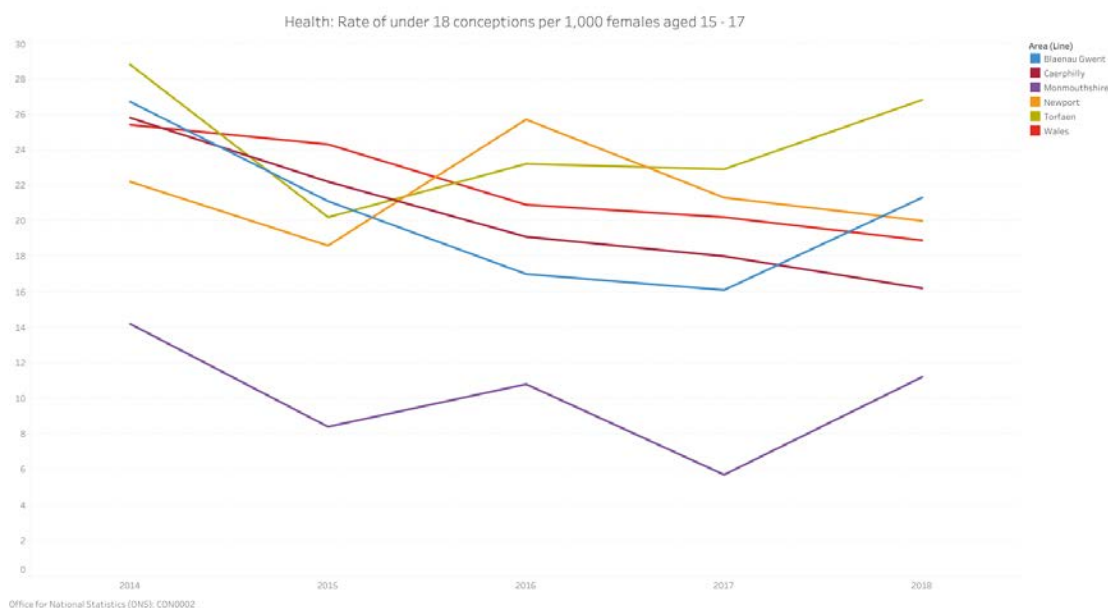


Figure S11 shows the rate of conceptions for under 18's as rate per 1,000 females aged 15-17 years, for all local authority areas in Gwent and Wales between 2015 and 2019. There is a much more varied picture for this dataset than others considered so far. Monmouthshire local authority area had a significantly lower rate than the Wales average over the whole time period, ranging from a rate of 5.7 to a rate of 8.4. The Wales average rate ranged from 18.9 to 25.4 over the time period.

For the other four local authority areas in Gwent there was much more variability, with individual areas having a higher rate or lower rate than the Wales average indifferent years over the time period. Torfaen local authority area had the highest rate in three of the five years over the time period, with the rate for this area ranging from 20.2 to 28.8.

## 2.3 Breastfeeding

Breast feeding has benefits to both mothers and babies; it continues to be promoted as the most beneficial diet for babies. The presence of antibodies in breast milk helps to protect babies from common childhood illnesses. Breastfed babies are less likely to be admitted to hospital with infections and are more likely to grow up with healthy weight and without allergies (Public Health Wales 2016).

Exclusively breastfeeding infants provides a wide range of benefits, which begin immediately and track through to adult wellbeing. Breastfeeding produces benefits for the baby through reduced risk of infections, diarrhoea and vomiting, sudden infant death syndrome (SIDS), childhood leukaemia, type 2 diabetes, obesity, and cardiovascular disease in adulthood.

Benefits of breastfeeding for the mother include lower risk of breast cancer, ovarian cancer, osteoporosis, cardiovascular disease and obesity. Furthermore, breastfeeding and the early bonding and attachment it brings promotes optimal brain development of the baby and emotional resilience which tracks through adolescence and into adulthood, positively impacting on a number of wellbeing factors.

*Figure S8: % of babies exclusively breastfed at 10 days following birth, 2016 to 2018*

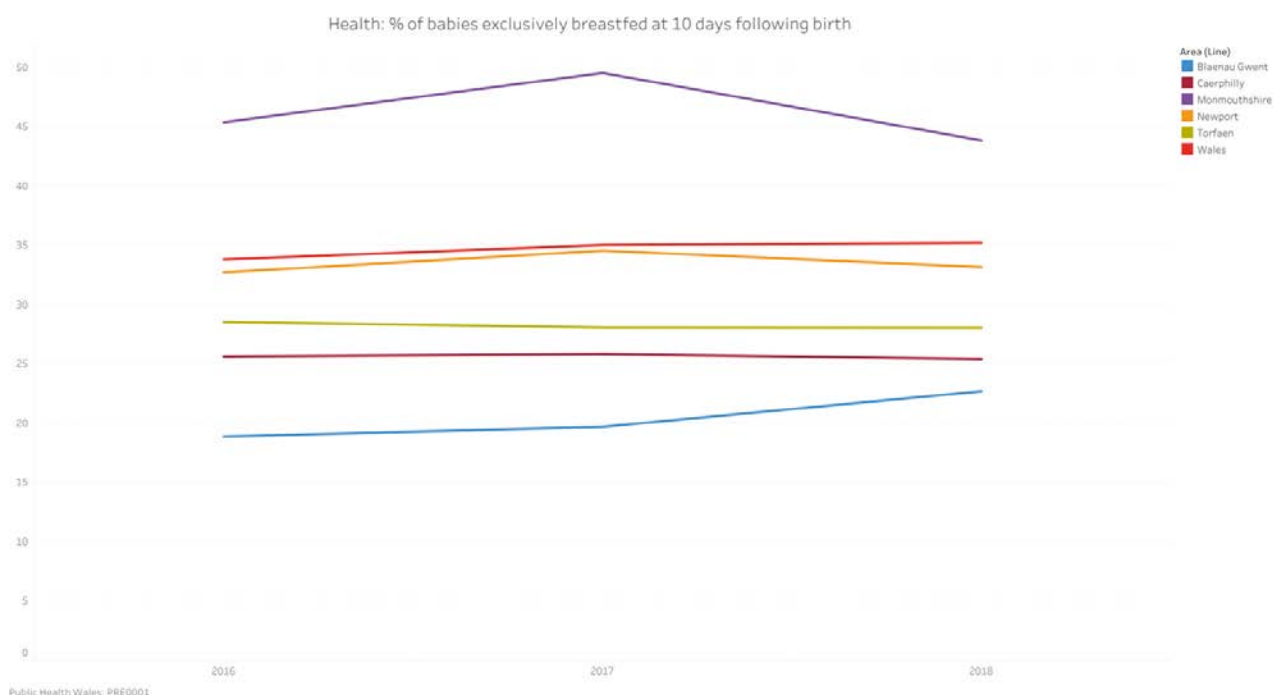


Figure S12 shows the percentage of babies who were exclusively breastfed at 10 days following birth for each of the local authority areas in Gwent and Wales as a whole, between 2016 and 2018. It shows that the percentage of babies exclusively breastfed in Monmouthshire was significantly higher than every other local authority area in Gwent and Wales as a whole, ranging from 43.8% to 49.5% over the time period. The percentage for Wales as a whole ranged from 33.8% to 35.2% over the time period.

The Blaenau Gwent local authority area had the lowest percentage of babies exclusively breastfed over the time period, ranging from 18.8% to 22.7%, although there was a gradual increase year on year.

## 2.4 Flying Start children reaching or exceeding developmental milestones

Flying Start is the Welsh Government's targeted early years programme aimed at families with children below 4 years of age in some of the most deprived areas in Wales. A child's early development is vital for their life chances, and young children living in poverty often do not meet their developmental milestones. In addition, there is a persistent gap in early learning outcomes between the poorest children in Wales and their peers in more affluent areas, which continues at each stage of their education.

*Figure S9: % of Flying Start children reaching or exceeding their developmental milestones at 3 years, 2012 to 2016*

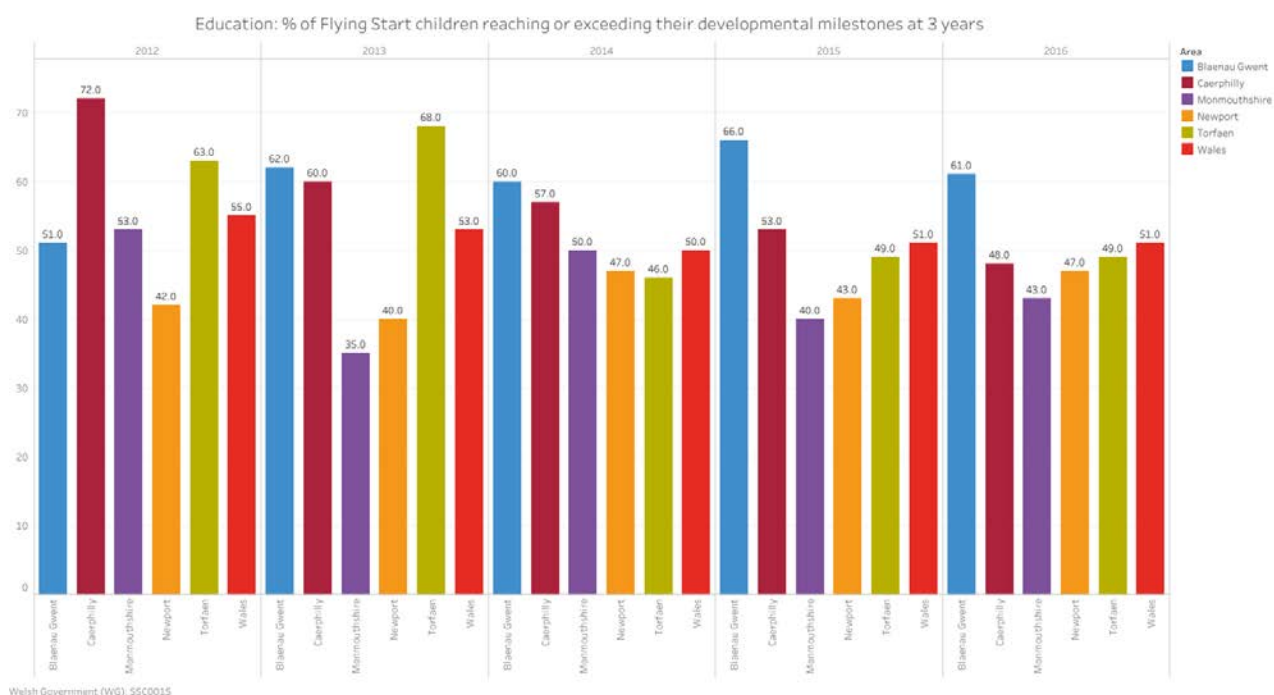


Figure S13 shows the proportion of Flying Start children who reached or exceeded their developmental milestones at 3 years of age for the local authority areas in Gwent and Wales as a whole, between 2012 and 2016. It shows a changeable picture over the time period with an inconsistent pattern between local authority areas and years.

In general, Blaenau Gwent, Caerphilly and Torfaen local authority areas had percentages just below the Wales average or above the Wales average across the whole time period. Both Caerphilly and Torfaen local authority areas had proportions above the Wales average in four out of the five years within the time period.

## 2.5 Healthy weight and obesity

The World Health Organisation regards obesity as one of the most serious global public health challenges for the 21st Century. Obesity results in shorter life expectancy and less years of healthy life and it is linked to many health conditions including type II diabetes, heart disease, high blood pressure, stroke and cancers. Wider impacts include less contribution to family and community; reduced employment opportunities; less income; reduced productivity and increased absenteeism; poor school performance and poor mental well-being.

Excess weight is a significant health issue for individual children, their families and public health. Nearly a third of children aged 2 to 15 (28%) are overweight or obese and younger generations are becoming obese at earlier ages and staying obese for longer. This can have serious implications for the physical and mental health of a child, which can follow on into adulthood and there are significant health inequalities for the poorest families<sup>xiii</sup>.

The Child Measurement Programme 2017/18 reported that 12% of children in Wales were categorised as obese, and the gap between obesity prevalence in the most and least deprived areas was 6%<sup>xiv</sup>.

Figure S10: % of children aged 4-5 years of a healthy weight, 2014 to 2019

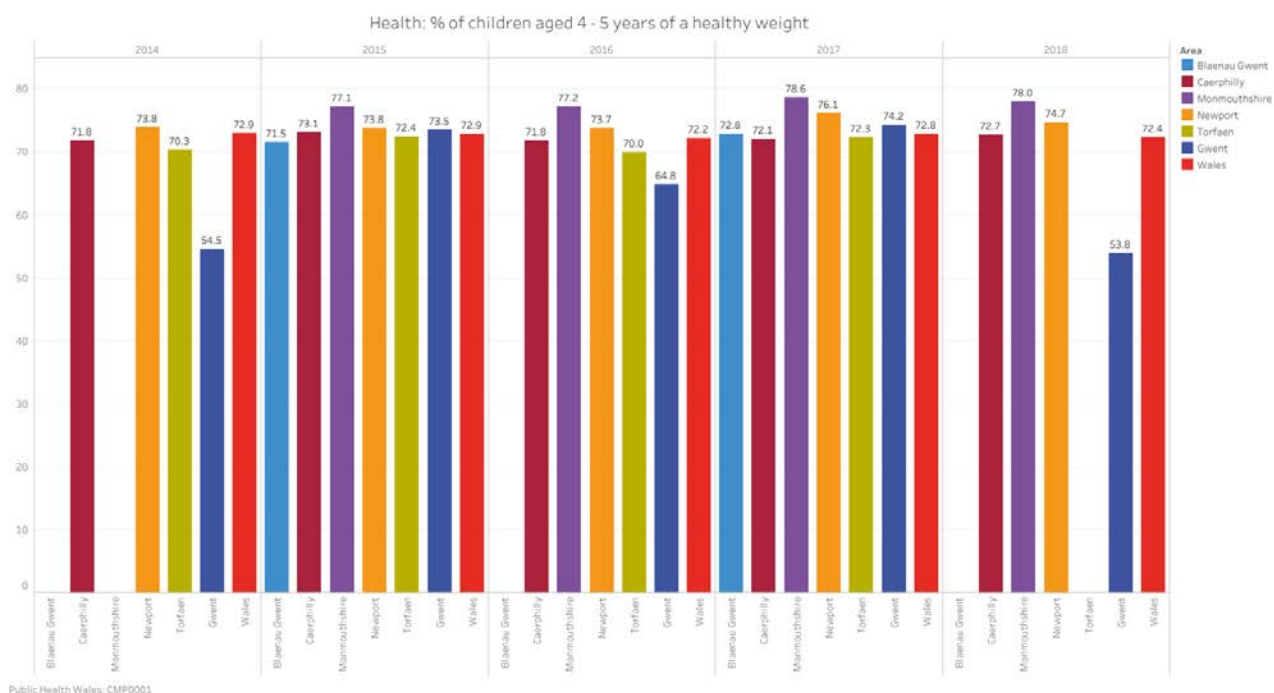


Figure S14 shows the percentage of children aged 4-5 years who were of a healthy weight between 2014 and 2018, for each of the local authority area in Gwent and Wales. It should be noted that data is missing for some local authority areas in some years.

The percentage for Gwent as a whole is significantly below the Wales average in each of the five years of the time period, apart from in 2017. Monmouthshire local authority area had the highest percentage of children aged 4-5 years of a healthy weight in each year that the data was available, and higher than the Wales average. The percentages for each of the other local authority areas were broadly similar to the Wales average in each year.

## 2.6 Immunisations

It is important that all children and babies are fully immunised to protect them from potentially serious diseases. Once common illnesses (such as diphtheria and tetanus) are now rare in the UK because of immunisation. But while polio has been eliminated in Europe, the threat of other diseases, such as measles and meningitis, has not gone away in the UK today. Some serious infectious diseases have a risk of complications and long-term side effects.

Figure S11: % of all children up to date in the immunisation schedule by age four, 2014 to 2019

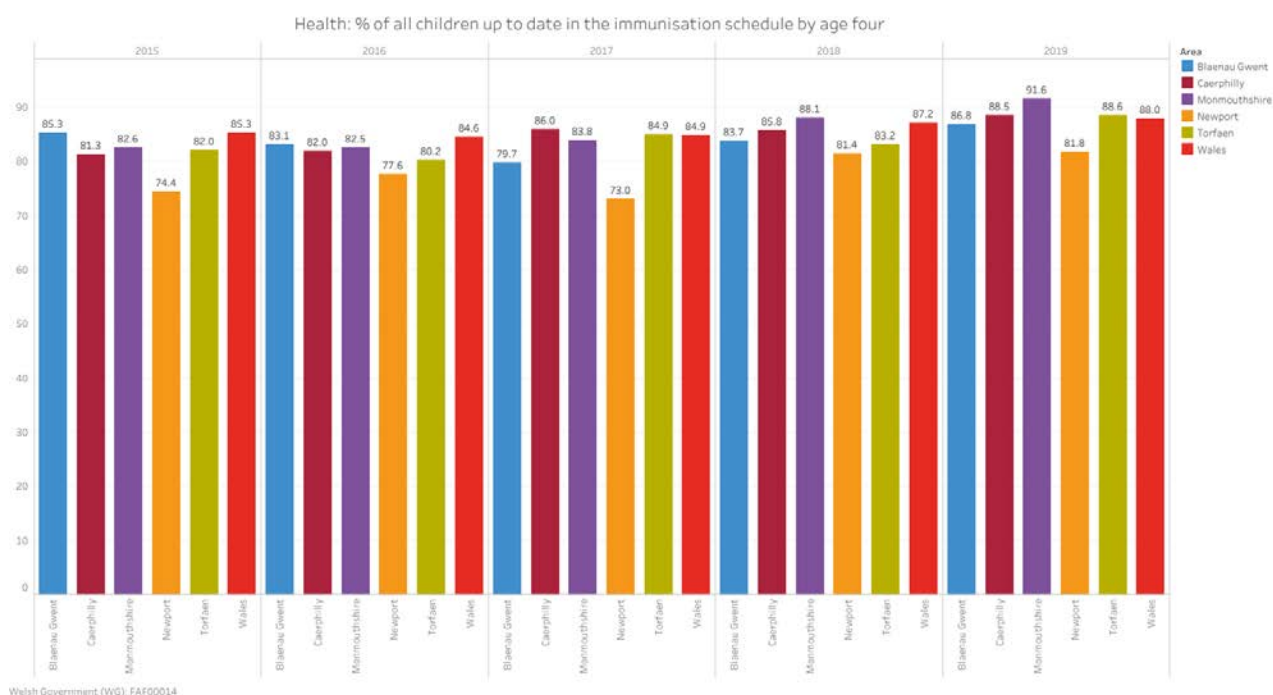


Figure S15 shows the percentage of children up to date in the immunisation schedule by age four for each of the local authority areas in Gwent and Wales as a whole, between 2015 and 2019. For most local authority areas, the percentage of children up to date in the immunisation schedule was within 5% of the Wales average in each year of the time period. The one local authority area that had a percentage significantly below the Wales average was Torfaen, a pattern observed in every year of the time period.

## 2.7 Oral health

Poor oral health impacts on health and well-being. There can be immediate problems such as pain and infection, but there can also be other long-term consequences on health. Tooth decay in children is almost entirely preventable, but poor oral health can make eating difficult, affect nutrition and subsequently growth and development. Poor dental health is the most common single reason that 5-9 year olds are admitted to hospital, and in some cases, children are admitted for multiple extractions under general anaesthetic, as the condition of their teeth is so poor.

*Figure S12: Average number of decayed, missing or filled teeth in children aged 5 years – 2007, 2011, 2014 and 2015*

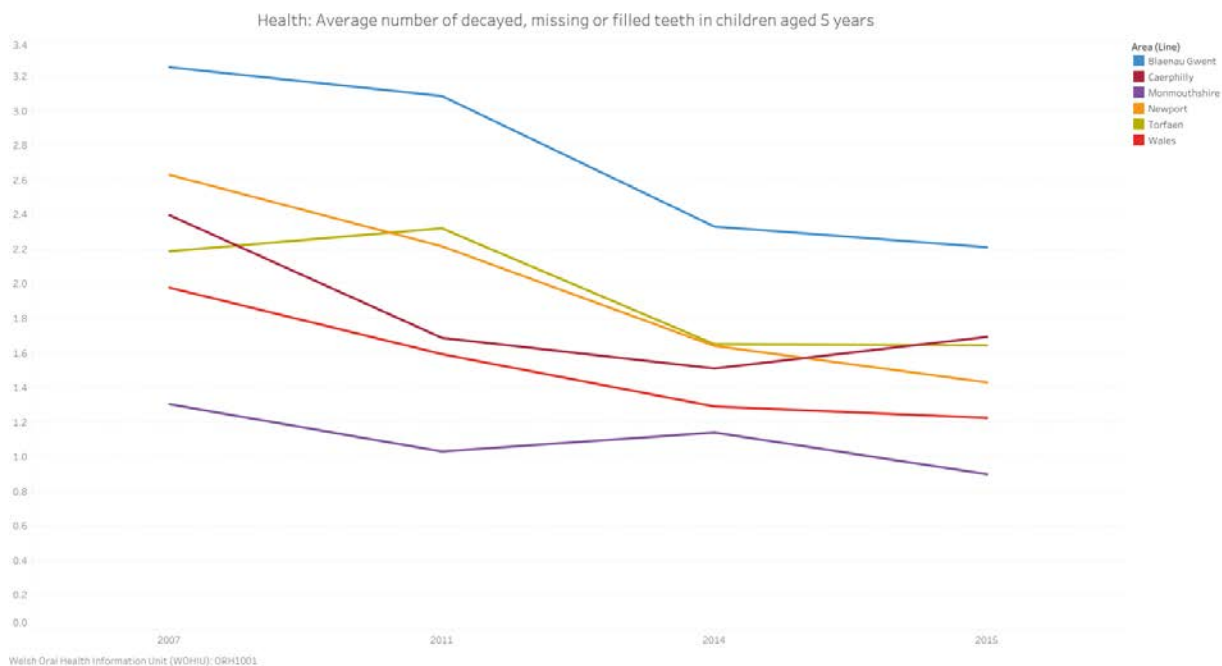
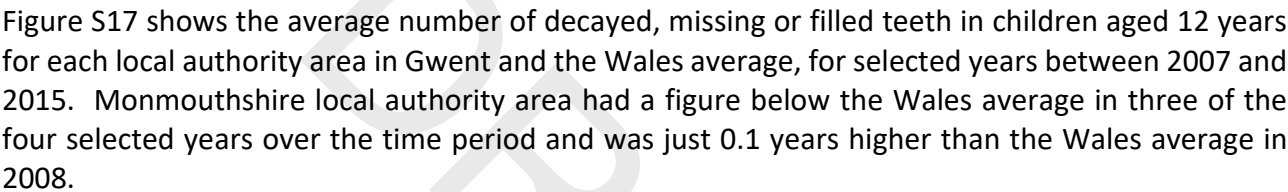


Figure S16 shows the average number of decayed, missing or filled teeth in children aged 5 years for each local authority area in Gwent and the Wales average, for selected years between 2007 and 2015. Only Monmouthshire local authority area had a figure below the Wales average in each of the selected years over the time period.

Blaenau Gwent, Newport and Torfaen local authority areas each had figures above the Wales average in each of the selected years over the time period, although the general trend for every local authority area was that the number of decayed, missing or filled teeth in children aged 5 years decreased over the time period.

*Figure S 13: Average number of decayed, missing or filled teeth in children aged 12 years -2004, 2008, 2012 and 2016*



Blaenau Gwent and Caerphilly local authority areas had figures above the Wales average in each of the selected years over the time period, and Torfaen had a figure above the Wales average in 2008, 2012 and 2016. Once again, the general trend for every local authority area was that the number of decayed, missing or filled teeth in children aged 12 years decreased over the time period. However, with cancellation of routine six monthly dental check-ups during Covid, backlogs to see a dentist and longer time periods between check-ups now being offered, it is quite possible that this downward trend in dental decay may increase.<sup>xv</sup>

Adverse Childhood Experiences (ACE's) are chronic stressful experiences in childhood that can directly hurt a child (such as abuse or neglect), or affect them through the environment in which they live (such as growing up in a house with domestic violence or with individuals with alcohol or other substance use problems).

Public Health Wales (in collaboration with Liverpool's John Moores University) have undertaken a study<sup>xvi</sup> of ACE's and their impact on health-harming behaviours in the Welsh adult population, surveying 2,028 people about their current health behaviours and their exposure to ACE's.

The survey found that 47% of respondents reported having experienced at least one ACE, with 14% experiencing four or more. These proportions are comparable to those found in other parts of the UK, as well as further afield. It is also known that those living in areas of deprivation are at greater risk of experiencing multiple ACE's.

The study also looks at how poor experiences in childhood can often affect negatively in adolescence and adulthood, contributing to mental health issues and ill health such as cancer, heart disease and type II diabetes, causing not only premature death but also possibly poor performance in school and involvement in crime. ACE's tend to be experienced through generations of families and lock successive generations into poor health and anti-social behaviour.

Figure S18 shows how many adults in Wales have been exposed to different types of ACE's.

DRAFT

Figure S14: % of adults in Wales exposed to different types of Adverse Childhood Experiences

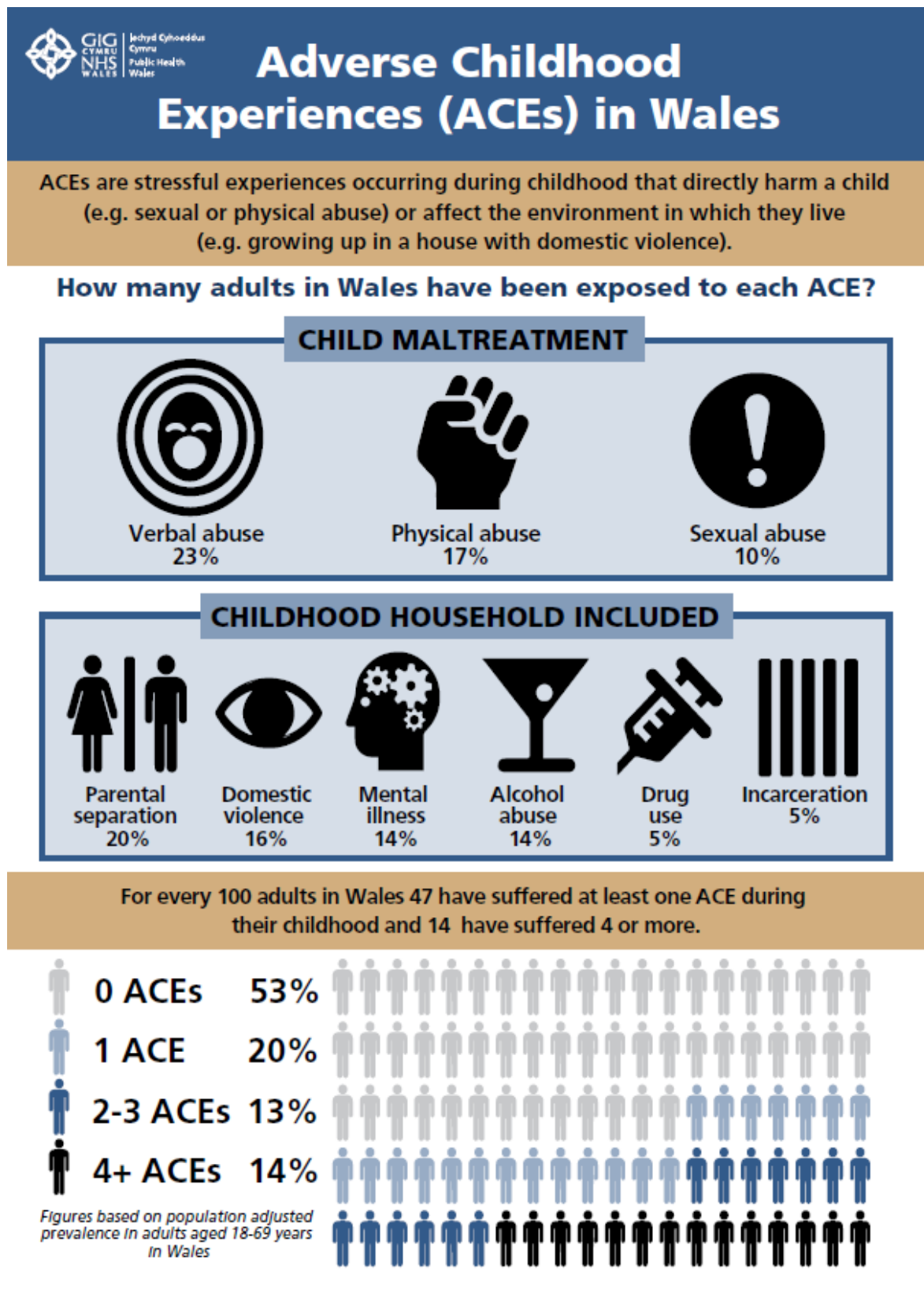
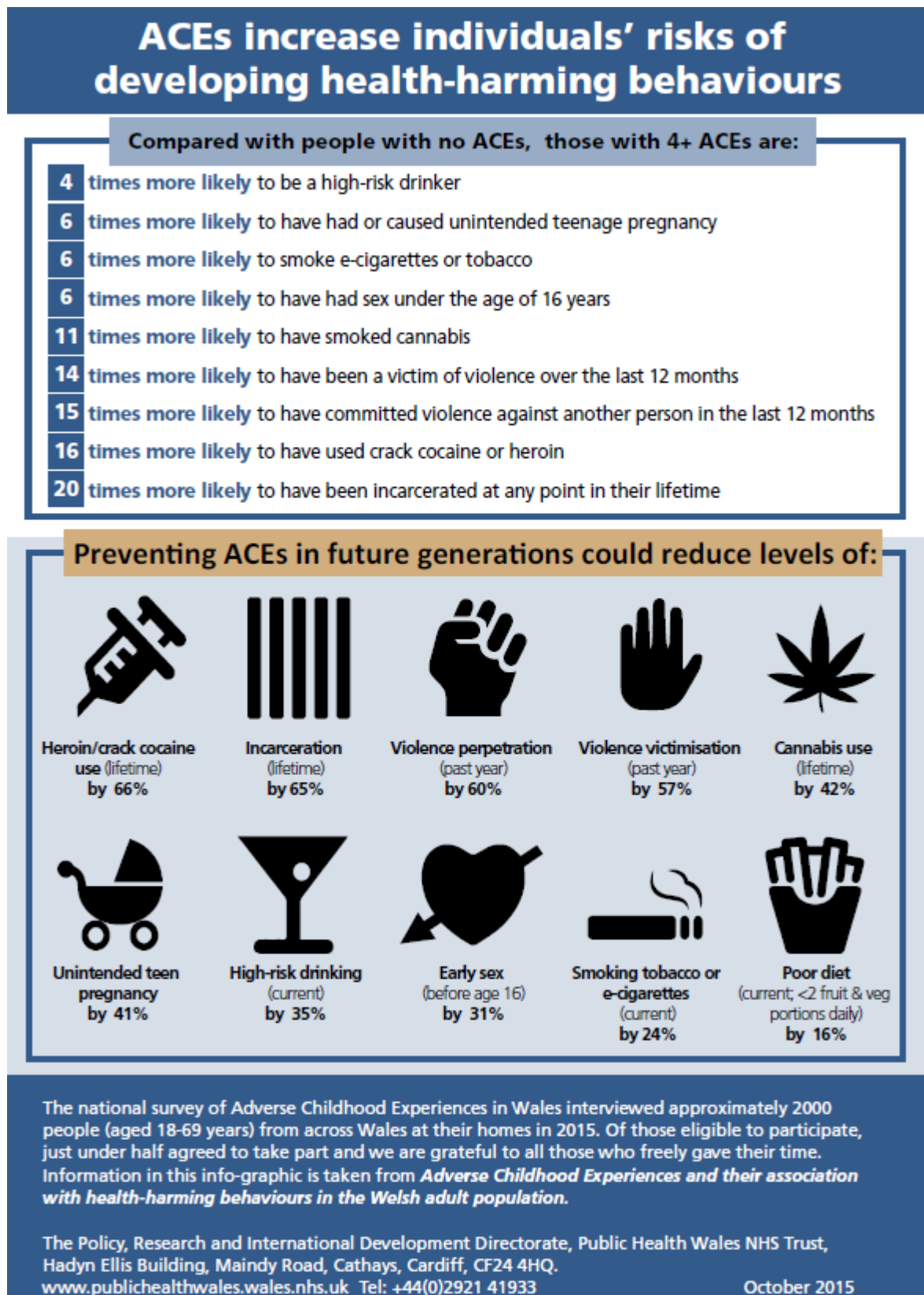


Figure S19 shows how experiencing ACE's can increase the risk of a person developing health-harming behaviours.

Figure S15: Likelihood of those with 4+ Adverse Childhood Experiences developing health-harming behaviours



By working together Public Services Boards can have positive effects through adopting a united approach in preventing ACE's, and in developing the most appropriate service response. The

prevention of ACE's is likely not only to improve the early years' experiences of children, but also reduce levels of health harming behaviours throughout the life course and across generations. The benefit of preventing ACE's is not limited to health, but also impacts on violent crime and social issues, such as teenage pregnancy rates.

*What are the well-being strengths?*

*What are the issues impacting well-being?*

*What are the gaps in understanding of well-being?*

*What are people telling us?*

*Future trends and challenges*

## 1 Healthy lifestyles

Lots of factors can influence our health from adequate housing, education, affordable food and clean water, affordable clean energy, a stable eco-system, sustainable resources, social justice and equity. Good health and well-being enables individuals to contribute positively to family, community and productivity.

There is much evidence to suggest that adopting four or more healthy behaviours (not smoking, maintaining a healthy weight, eating lots of fruit and vegetables, being physically active, having moderate alcohol intake) promotes health and reduces the risk of diseases significantly.

**Creating the conditions that make healthy behaviours the easiest option will improve the health of future generations living in Gwent.**

There is also evidence that un-healthy behaviours (smoking, not getting enough physical activity etc.) cause or make worse most serious and prevalent poor health outcomes, causing the most damage to health. Having healthy behaviours keeps people healthy and free from ill health, extending healthy life expectancy, preventing premature death, mitigating the negative effects of our ageing population and enabling those with chronic ill-health to lead healthy lives for longer. Most health-harming behaviours have a strong relationship with deprivation and the life circumstances that go with it, meaning that rates are higher in areas of higher multiple deprivation and are influenced by a wide range of social, environmental and economic factors.

### 3.1 Physical activity

Described by the World Health Organisation as the "best buy in public health", increasing levels of physical activity has been shown to have beneficial consequences in terms of increasing peoples'

healthy life expectancy and significantly reducing the risk of at least 20 of our most common chronic diseases, including circulatory diseases, some cancers, type II diabetes, back pain, osteoporosis, mental ill health, falls and dementia.

Being physically active outdoors can make a significant contribution to physical health and mental well-being over and above the physical activity benefits. Physical activity, more people walking and cycling as part of their daily lives, being active in their communities and participating in group activities brings benefits across the wellbeing goals, from enjoying local culture, more connected and vibrant communities and benefitting local economies. There is also evidence that increased activity can help children concentrate and that engagement in sport can reduce anti-social behaviour.

**Many outdoor physical activities are free of charge meaning that affordability isn't a barrier to participation, although the cost of travel might be.**

The amount of physical activity needed to improve health differs across the life stages. Children should get an hour a day of mixed moderate and high intensity physical activity and adults a minimum of 150 minutes of moderate intensity or 75 minutes vigorous intensity per week. ADD REF Other important recommendations are to reduce sedentary behaviour (time spent sitting or on screens) and, reduce the proportion of physical inactivity (reporting no activity on any days in the past week). Add ref.

**In the future more people might choose to be more physically actively so that they can keep healthier into old age.**

During Covid, there is evidence that more people took exercise outdoors and the physical and mental health benefits of this during a period of lockdown were significant.<sup>xvii</sup>

*Figure S16: % of adults who reported being active for 150 minutes in the week, 2016 to 2018*

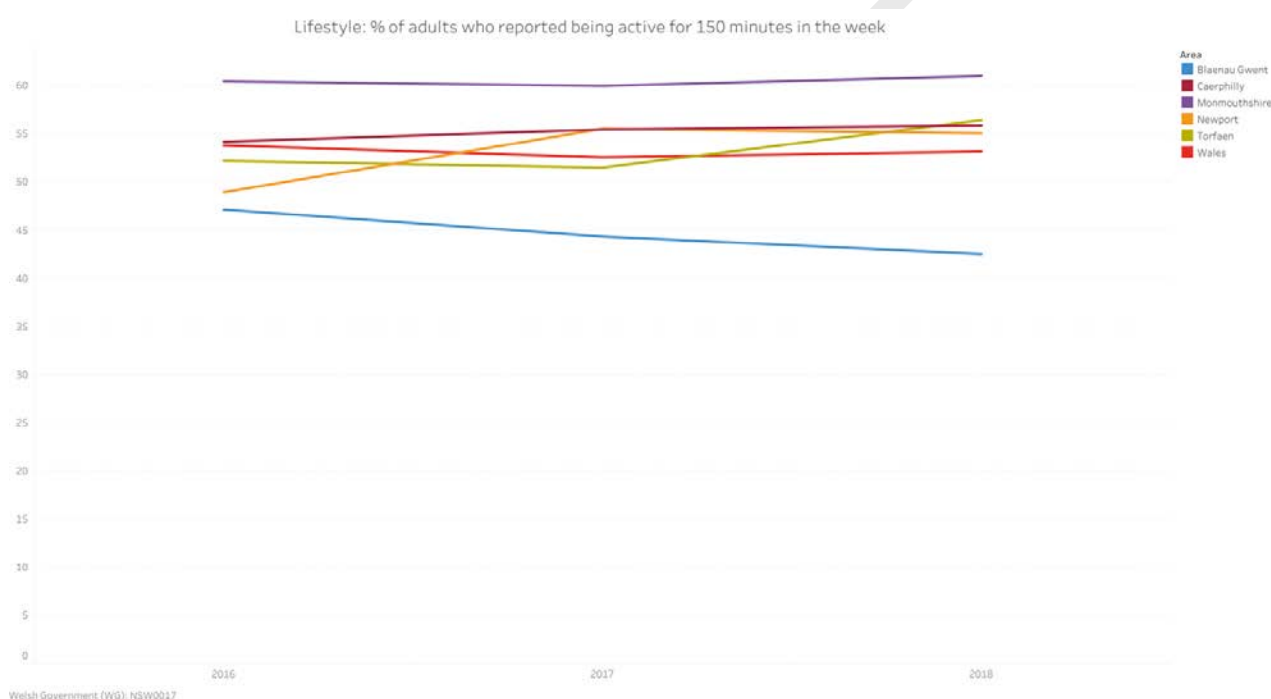


Figure S20 shows the percentage of adults who reported being active for 150 minutes in the previous week for all local authority areas in Gwent and the Wales average, between 2016 and 2018.

Monmouthshire and Caerphilly local authority areas had percentages higher than the Wales average in each of the years over the time period. Blaenau Gwent had percentages significantly lower than the two remaining local authority areas in Gwent (Newport and Torfaen) and the Wales average, and this percentage is decreasing over the time period.

### 3.2 Healthy diet

A healthy diet can contribute to the promotion of health and the prevention of diseases such as diabetes, hypertension, high cholesterol, heart disease, stroke and bowel cancer. Poor diet is the biggest contributor to growing obesity rates and is related to several conditions of unhealthy ageing, such as osteoporosis and dementia.

*Figure S17: % of adults who reported eating five or more portions of fruit and vegetables the previous day, 2011 to 2014*

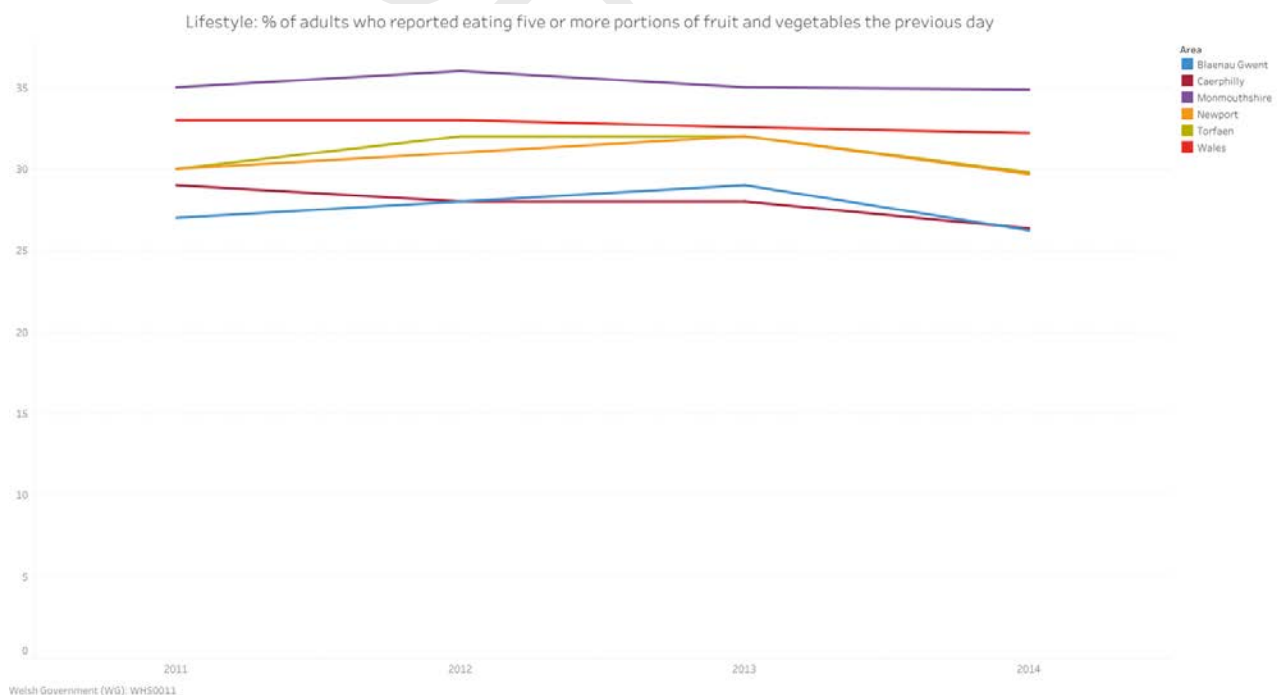


Figure S21 shows the percentage of adults who reported eating five or more portions of fruit and vegetables the previous day for each local authority area in Gwent and the Wales average, between 2011 and 2014. Monmouthshire local authority area had a higher proportion of adults who reported eating five or more portions of fruit and vegetable the previous day, ranging between 34.9% and 36% over the time period. The Wales average ranged from 32.2% to 33% over the time period.

The proportions for the other four local authority areas in Gwent were all below the Wales average in every year across the time period. The percentages for Blaenau Gwent and Caerphilly were consistently lower than the percentages in Newport and Torfaen in every year across the time period.

### 3.3 Alcohol

Alcohol misuse has become a serious and worsening public health problem in Wales and for other parts of the UK. Alcohol misuse not only poses a threat to the health and well-being of the drinker, it can also cause harm to family, friends, communities and wider society through such problems as crime, anti-social behaviour and loss of productivity. Anecdotally, alcohol misuse has become even more of an issue for some individuals during the lockdowns experienced over the last 18 months due to the Covid-19 pandemic, which is likely to have negative impacts on both their mental and physical well-being.

19% of adults in Wales were drinking above the weekly guidelines in 2016/17-2017/18. Drinking above guidelines was more prevalent in males than females in all 10-year age groups. For some age groups, the difference was as much as double for males compared to females. Males aged 55-74 had the highest levels of drinking in Wales at around a third drinking above 14 units of alcohol in a usual week<sup>xviii</sup>.

Persons living in the least deprived areas of Wales reported a higher prevalence of drinking above guidelines in a usual week in 2016/17-2017/18 than those in the most deprived areas. The figures presented have been age-standardised for comparison purposes. While 19% was the average for Wales, in the least deprived area it was 22% compared to just 14.5% in the most deprived areas. Both of these figures were statistically significantly different to the all-Wales average, however the prevalence of drinking above weekly guidelines was not significantly different to Wales for the middle three deprivation quintiles.

*Figure S18: % of adults who reported binge drinking alcohol on at least one day in the past week, 2011 to 2014*

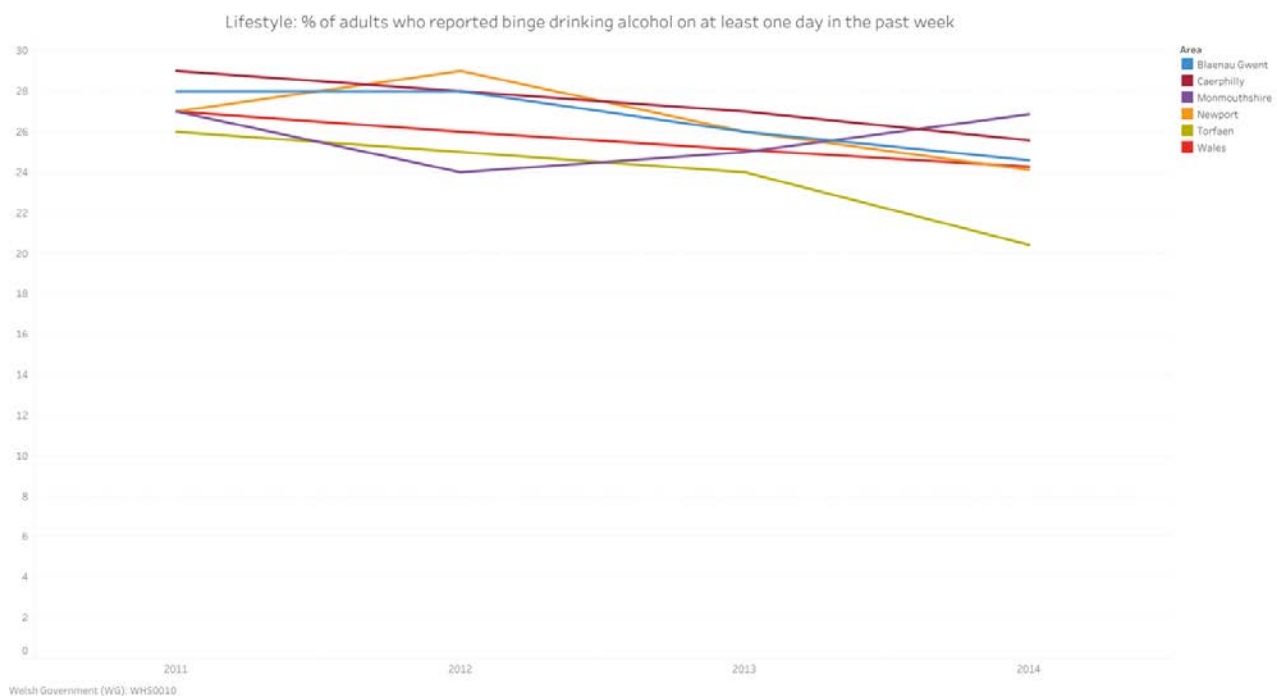


Figure S22 shows the % of adults who reported binge drinking on at least one day in the previous week for each local authority area in Wales and the Wales average, between 2011 and 2014. The Torfaen local authority area had a figure marginally lower than the Wales average in three of the four years, and significantly lower than the Wales average in 2014 (20.4% compared with 24.3%). The Blaenau Gwent and Caerphilly local authority areas had percentages slightly above the Wales average over the whole time period.

*Figure S19: % of adults who reported consuming more than 14 units or more of alcohol per week, 2016 to 2018*

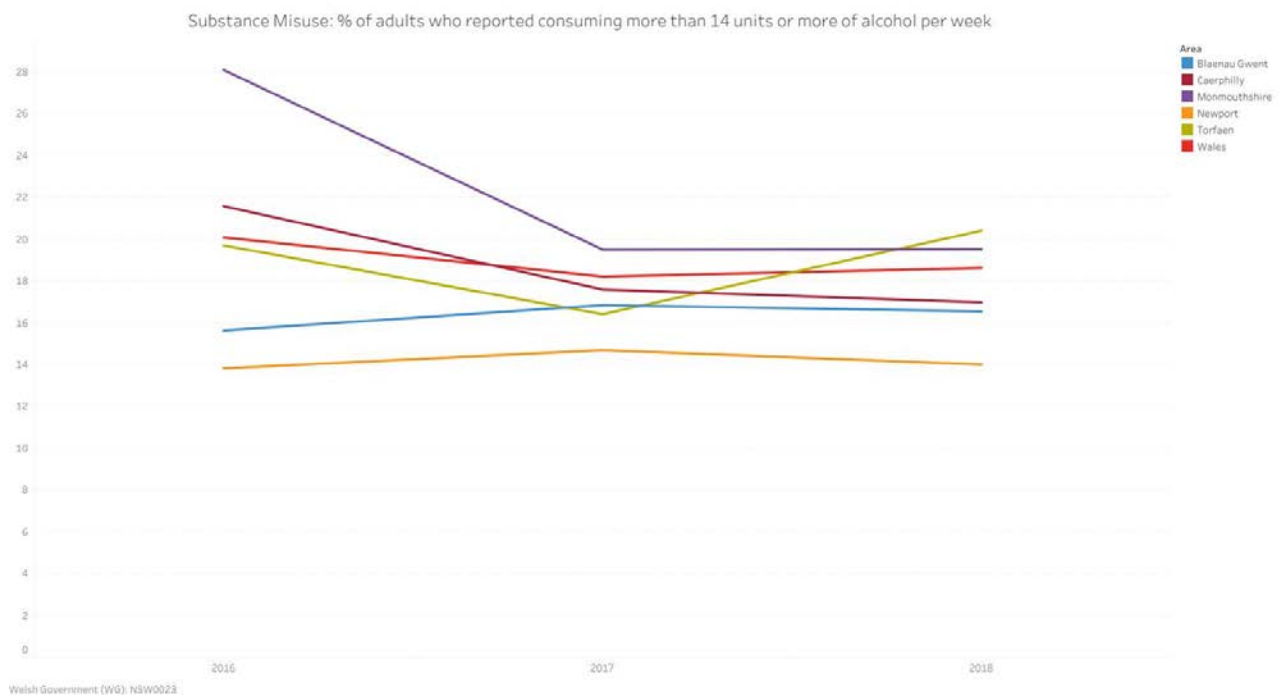


Figure S23 shows the percentage of adults who reported consuming more than 14 units or more of alcohol per week for all the local authority areas in Gwent and the Wales average, between 2016 and 2018. The local authority areas of Blaenau Gwent and Newport had percentages of adults reporting consuming more than 14 units of alcohol lower than the Wales average across the whole time period, and the local authority areas of Caerphilly and Torfaen had percentages lower than the Wales average in two of the three years of the time period.

The Monmouthshire local authority area had figures above the Wales average in every year of the time period, with the percentage being significantly higher in 2016.

*Figure S20: Number of individuals assessed for alcohol misuse*

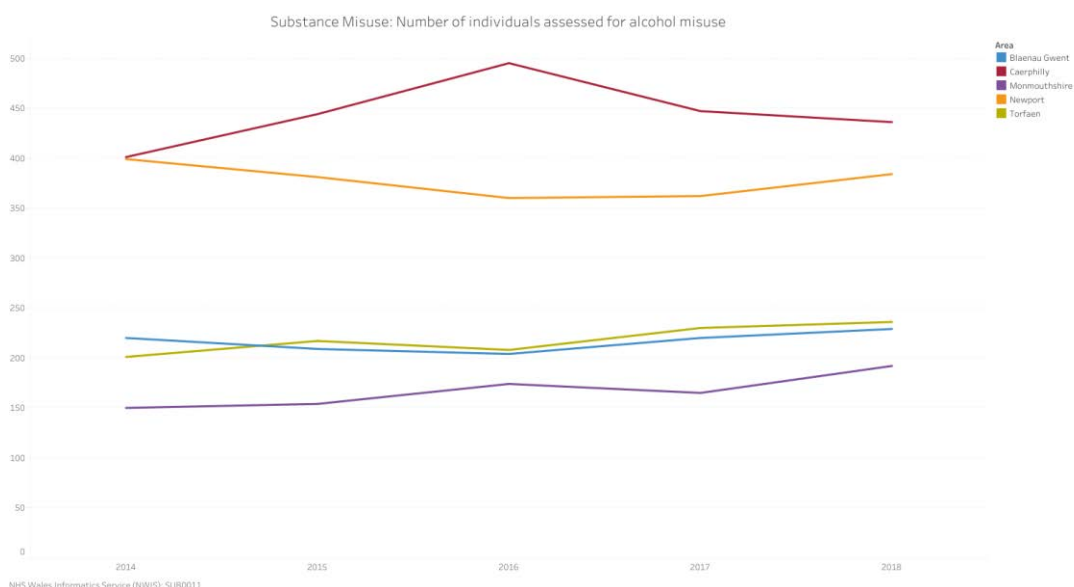
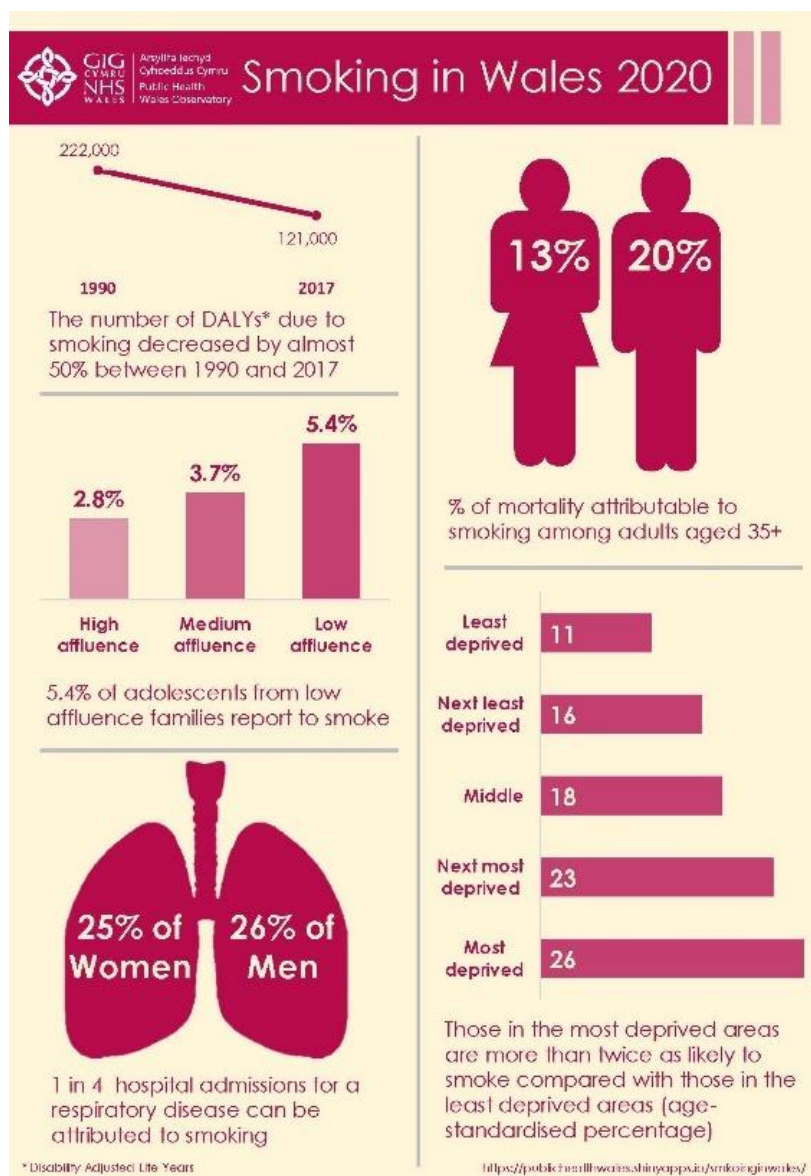


Figure S24 shows the number of individuals who were assessed for alcohol misuse in each local authority area, between 2014 and 2018. The Caerphilly local authority area had the highest number of assessments over the time period, ranging from 401 (2014) to 495 (2016). This was followed by the Torfaen local authority area with a range of between 360 (2016) and 399 (2014).

The Monmouthshire local authority area has the lowest number of individuals who were assessed for alcohol misuse over the time period, ranging from 150 in 2014 to 192 in 2018, which evidences an increasing trend over time.

### 3.4 Smoking



According to the World Health Organisation (WHO), tobacco kills more than 8 million people a year worldwide and is one of the biggest public health threats ever encountered. Both smoking and passive smoking are linked to a range of serious illnesses including cancers and heart disease<sup>xix</sup>.

Smoking is the largest single cause of avoidable early death in Wales. In 2018, around 5,600 deaths in people aged 35 and over were attributable to smoking, which is 16.5% of all deaths in this age group. Smoking is associated with a wide variety of diseases that can result in admission to hospital. In 2018/19, around 28,000 admissions in people aged 35 and over are estimated to be attributable to smoking, which represents around 4.6% of all admissions in this age group.

According to the National Survey for Wales 2016/17-2018/19, 18.4% of adults in Wales reported smoking, and 6.6% of adults reported using e-cigarettes, daily or occasionally. Prevalence is self-reported, which may be prone to respondent bias, meaning smokers may be less likely to answer questions about smoking.

*Figure S21: % of adults who reported being a current smoker, 2011 to 2014*

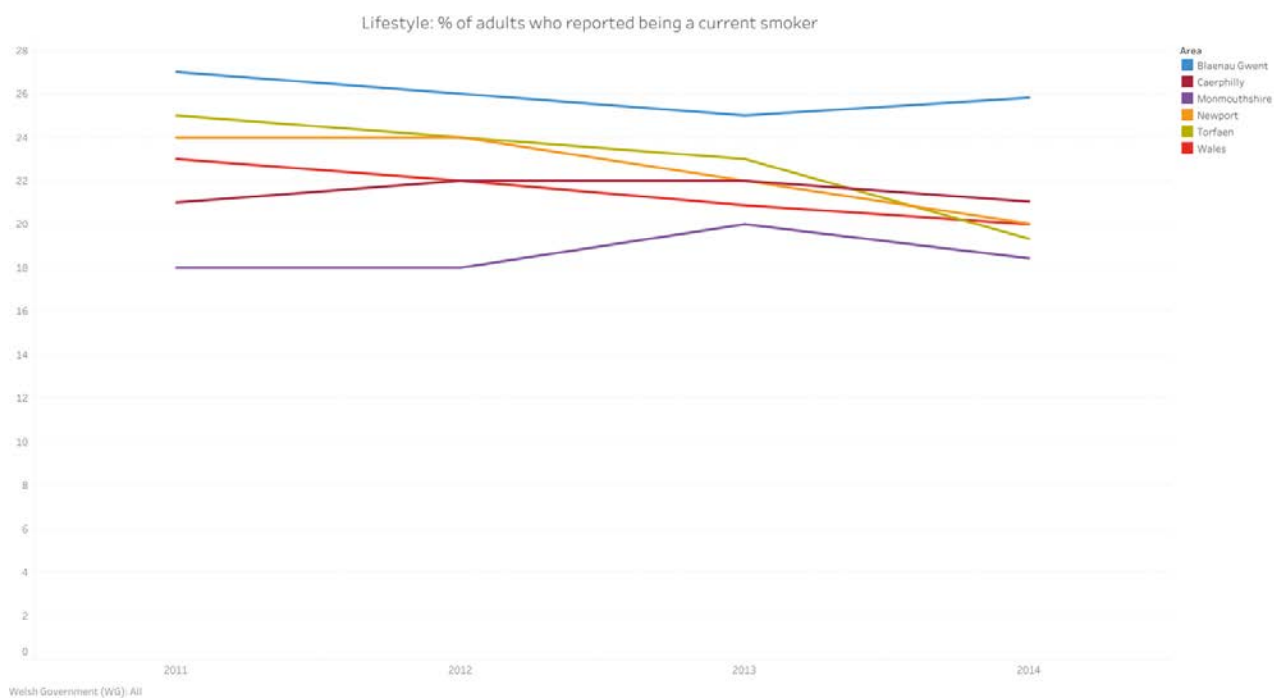


Figure S25 shows the percentage of adults who reported being a current smoker for each local authority area in Gwent and the Wales average, for each year between 2011 and 2014. The Monmouthshire local authority area had the lowest percentage of adults who reported being a current smoker, and the percentage was consistently lower than the Wales average over the whole time period.

The percentage of adults who reported being a current smoker was significantly higher than the Wales average in the Blaenau Gwent local authority area over the whole time period, and it was higher than every other local authority in Gwent over the time period.

### 3.5 Individuals who are overweight or obese

The World Health Organisation regards obesity as one of the most serious global public health challenges for the 21<sup>st</sup> Century. It is well accepted that adult obesity results in shorter life expectancy and less healthy life expectancy. Health conditions associated with obesity include Type II diabetes, coronary heart disease, high blood pressure, stroke and cancers. Wider impacts include less

contribution to family and community; reduced employment opportunities; less income; reduced productivity and increased absenteeism; poor school performance and poor mental well-being.

Maternal obesity and excess weight gain in pregnancy poses serious risks to the mother and child including gestational and type II diabetes, pre-term deliveries, macrosomia, late foetal loss, stillbirth, congenital anomalies and increased neonatal intensive care (Larsen, et al, 1990; Power, et al, 2003; Leddy, Power and Schilkin, 2008).

The harms to child health and well-being caused by obesity are serious and wide ranging and include physical, psychological and social harms. Children themselves report the emotional damage from stigmatisation and isolation as the most serious harms to their well-being. Obesity harms children in the short term but also, as most (between 55% to 80%) go on to become obese adults (Schonfeld-Warden & Warden 1997; Lifshitz, 2008), childhood obesity harms life chances and undermines a range of well-being goals in future generations.

The severity and likelihood of poor well-being increase as children age and progress through adolescence into adulthood. Childhood obesity leads to and exacerbates adult obesity, which in turn causes or exacerbates the most prevalent limiting long-term ill health conditions. It is well accepted that adult obesity results in less healthy life expectancy and shorter life expectancy. On the societal level, the economic consequences of obesity come in the form of increased healthcare costs and impact on the labour market which in turn damages prosperity. People with obesity have lower employment rates, lower productivity with more sick days, and people with obesity earn considerably less.

*Figure S22: % of adults who reported being overweight or obese (BMI 25+)*

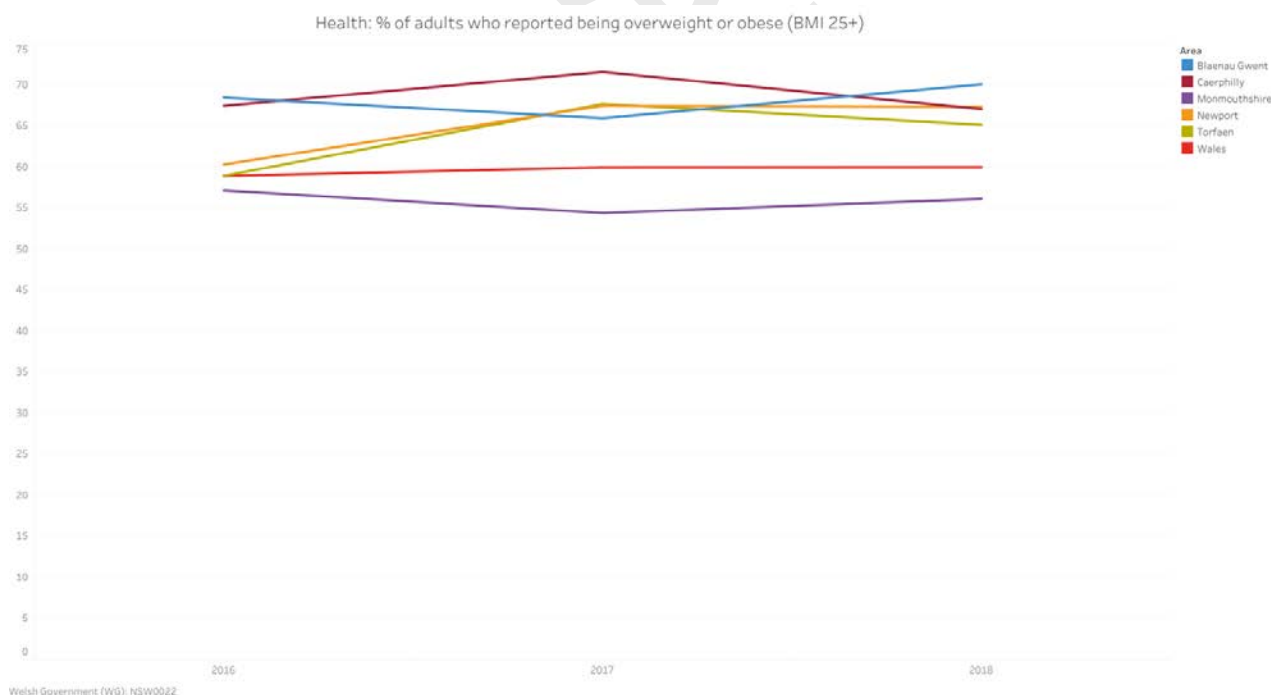


Figure S26 shows the percentage of adults who reported being overweight or obese (with a Body Mass Index of 25+) for each of the local authority areas in Gwent, between 2016 and 2018. Only the Monmouthshire local authority area had a percentage below the Wales average in every year

of the time period, ranging from 54.3% to 57.1% (compared with a range of 58.8% to 59.9% for Wales as a whole).

The other four local authority areas had percentages significantly above the Wales average in both 2017 and 2018. There appears to be a general trend of increasing levels of adults being overweight or obese over the time period for most of the local authority areas in Gwent.

## NEED INFORMATION ON CHRONIC CONDITIONS

### 3.6 Smoking

The UK and Welsh Governments have introduced plans and policies that aim to reduce the number of smokers. These include the smoking ban in 2007, the smoking in vehicles with children ban in 2015 and the Tobacco Control Delivery Plan for Wales 2017-202. Although smoking rates have been decreasing steadily, smoking is still a major cause of premature death in Wales.

Each 25 year old who reduces the amount they smoke could save the NHS in Wales £882 over the course of their lifetime, and this would increase to £1,592 if they quit<sup>xx</sup>.

### 3.7 Overweight/obesity

Rates of obesity are rising faster in Gwent than in Wales as a whole<sup>xxi</sup>. The Foresight Report<sup>xxii</sup> tells us that being overweight or obese increases the risk of a wide range of chronic diseases, principally Type II diabetes, hypertension, cardiovascular disease including stroke, as well as cancer. It can also impair a person's well-being, quality of life and ability to earn. The wider costs to society and businesses are estimated to reach £49.9 billion per year

By 2050 the Foresight Report forecasts that 60% of adult men and 50% of adult women will be obese, and 25% of children under 16 will be obese. The World Health Organization regards childhood obesity as one of the most serious global public health challenges for the 21<sup>st</sup> century.

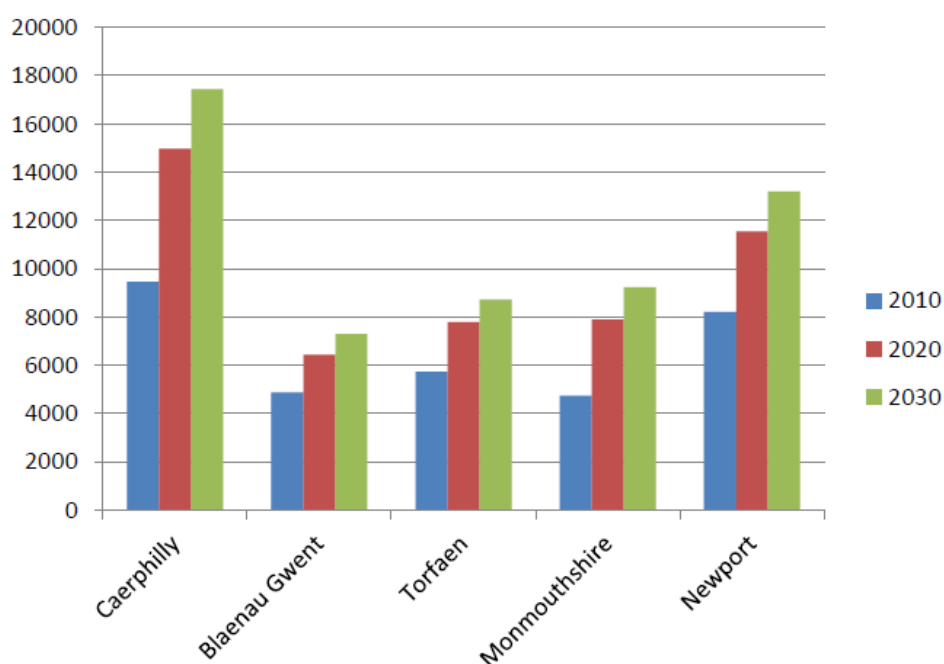
If rates of overweight and obesity continue to rise, by 2050 this will cost the NHS in Wales £465 million per year, with the cost to society and the economy of £2.4 billion<sup>xxiii</sup>.

### 3.8 Diabetes

Figure 27 evidences that diabetes among adults in Gwent is predicted to rise to 10.7% in 2020 and 11.9% by 2030, with the all-Wales rate predicted to rise to 10.3% in 2020 and 11.5% by 2030.

*Figure S23: Projected prevalence of Type II diabetes for Gwent local authorities 2010 to 2030*

## Projected Prevalence of Type 2 Diabetes by Local Authority Area 2010-2030



**Source:** Public Health England, 2013 using Association of Public Health Observatories (APHO) Diabetes Prevalence Model, 2010

Type II diabetes has been described as a 'ticking time bomb' for the health service because of its increasing prevalence and the expected demands on health and social care services. Diabetes is a life changing chronic condition which can lead to serious complications. There is no cure for diabetes, but most Type II diabetes is preventable. Reducing type II diabetes morbidity, disability and premature mortality is possible with appropriate self-management, education and health care.

Reducing the prevalence and impact of diabetes requires tackling the two biggest modifiable risk factors – obesity and physical inactivity.

## 4. Emotional health and well-being

### 4.1 Mental health

The World Health Organisation states 'there is no health without mental health'. Our mental well-being can be seen as a resource for life, influencing how we think and feel about ourselves and others, how we interpret events and consequently how we behave and function in day-to-day life. The Mental Health Foundation cites that one in four adults and one in ten children are likely to have mental health issues in any one year. This has a profound impact on the quality of peoples' lives, affecting the ability to form and sustain relationships, the ability to work in paid employment, and at worst the ability even to get through the day.

In the United Kingdom mental health issues are responsible for the largest burden of disease, 23% of the total burden, compared to 16% each for cancer and heart disease. Common mental health

issues such as depression and anxiety are more prevalent among people experiencing greater economic disadvantage<sup>xxiv</sup>.

Promoting well-being and preventing mental health problems is a crucial element of the wider public health strategy, since a person's mental health influences and is influenced by a broad range of social, economic, cultural, environmental and wider health factors.

There is compelling evidence to indicate that action to improve mental well-being and reduce mental illness across the population results in a wide range of health and non-health outcomes, including higher educational achievement, reduced unemployment and worklessness, reduced reliance on welfare and disability benefits, higher productivity in the workplace, reduced crime and anti-social behaviour, better social relationships and community involvement and reduced costs to health and social services<sup>xxv</sup>.

In the same context, poor mental well-being, the sense of poor self-image, social ostracism or bullying and real or perceived stigma jeopardises cohesion and social sustainability. Mental ill health is associated with poorer physical health, increased health risk behaviours, poor education and unemployment. It accounts for a substantial burden of ill health and disability in Wales with high costs to the NHS, society and the economy. As such, this theme is intrinsically linked to the Well-being Goals and many of the other population health priority themes.

Inequality is a key determinant of mental ill health, which leads to further inequality. In Wales, 24% of those who are long-term unemployed or have never worked report a mental health condition, compared with 9% of adults in managerial and professional groups.

The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) is a collection of 14 questions covering feeling and functioning aspects of mental wellbeing, which is captured in the National Survey for Wales (NSW). Scores range between 14 and 70 with higher scores indicating better mental wellbeing. The cut-off points used to categorise well-being scores in this survey are – low mental well-being (14-40), middle mental well-being (41-59) and high mental well-being (60-70)<sup>xxvi</sup>.

Figure S24: Warwick-Edinburgh Mental Well-being Scale, persons aged 16+ by Health Boards in Wales, 2016/17

**Warwick-Edinburgh Mental Wellbeing Scale, age-standardised average score, persons aged 16+, by health board, Wales, 2016/17**

Produced by Public Health Wales Observatory, using NSW (WG)

— 95% confidence interval

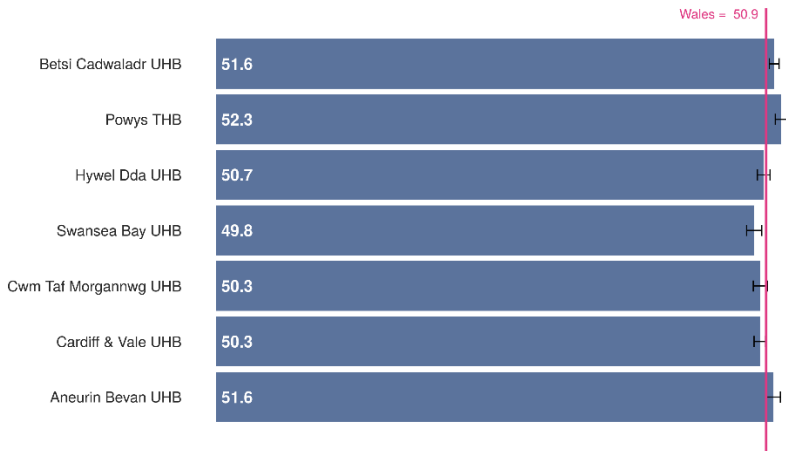


Figure S28 evidences that Aneurin Bevan University Health Board (coterminous with Gwent) had the second highest WEMWBS score in Wales (51.6) behind Powys Teaching Health Board in 2016/17. The average score for Wales as a whole was 50.9.

Figure S25: Warwick-Edinburgh Mental Well-being Scale, persons aged 16+ by local authorities in Wales, 2016/17

**Warwick-Edinburgh Mental Wellbeing Scale, age-standardised average score, persons aged 16+, by local authority, Wales, 2016/17**

Produced by Public Health Wales Observatory, using NSW (WG)

— 95% confidence interval

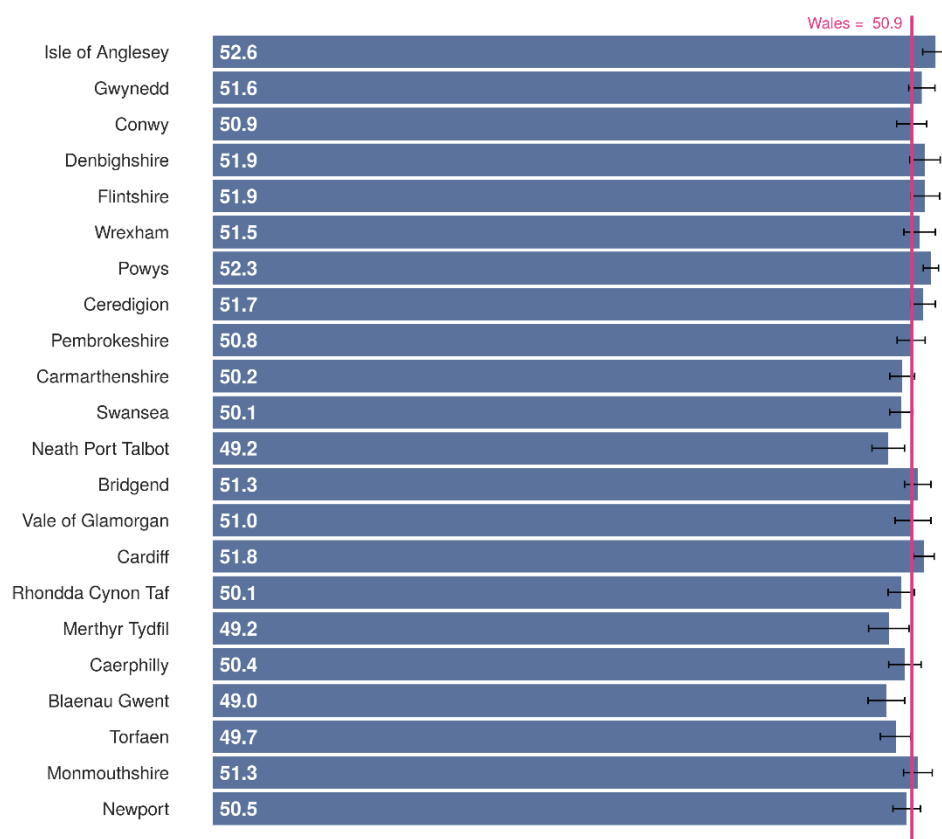


Figure S29 that the local authorities in Gwent had amongst the lowest WEMWBS scores in the whole of Wales. Blaenau Gwent had the lowest score in the whole of Wales (49.0), lower than the Wales average of 50.9. Monmouthshire local authority area had the highest score within Gwent (51.3), which is also higher than the Wales average.

Information to describe mental well-being in children and young people is not routinely available at a local authority level. The Health Behaviour of School aged Children (HBSC) Survey 2013-14<sup>xxvii</sup> asks a number of relevant questions, and the findings for Wales are outlined below:

- 18% of children said they had felt nervous more than once a week in the past 6 months
- 18% of children said they had felt low more than once a week in the past 6 months
- Among year 11 pupils (aged 15-16 years), 84% boys and 73% girls rated their life satisfaction as 6 or higher on a scale of 1-10
- Over a third of pupils reported being bullied at school in the past two months

Data is not collected on prevalence of mental health problems in children and young people. Numbers of children and young people with any mental health problem can be predicted by applying estimated UK prevalence to ABUHB population projections (data extracted from the Daffodil system). Estimations of prevalence are based on the report 'Mental Health of Children and Young People in Great Britain 2004', and at that time 10% of children and young people aged 5-15 had at least one clinically diagnosed mental disorder. The most prevalent disorders included:

- Anxiety and depression 4%

- Conduct disorder 6%
- Hyperkinetic disorder 2%
- Less common disorders (including autism, tics, eating disorders and mutism) 1%

This data also revealed that the prevalence of mental health problems appears to be greater in boys (11%) than girls (8%) and to increase with age.

Early life experiences, such as bullying or abuse, may have long-term consequences for the development of children and young people, with associated costs to society and public services. In Wales, in 2013/14, over a third of pupils reported bullying at school in the previous two months.

## 4.2 Loneliness

Most people will feel lonely at some point in their lives. It's a deeply personal experience that - in most cases - will thankfully pass. But for a growing number of people, particularly those in later life, loneliness can define their lives and have a significant impact on their well-being.

Loneliness and isolation have been shown to damage health and represents a significant and pressing problem in Wales that crosses all boundaries of age, social class, race, gender identification, sexual orientation, financial status and geography. Eradicating loneliness and isolation may be unrealistic, but working at all levels (individual, organisation and strategic) to identifying and tackle the root causes is not.

A recent research report<sup>xxviii</sup> looked at the gaps in existing knowledge on loneliness and the potential trigger points that can affect people of all ages. It found that 80% of people they surveyed have experienced loneliness, and 18% were always or often lonely. 30% of respondents thought that older people are most likely to be lonely, but only 10% of over 65s said they were always or often lonely. A number of other key issues also emerged from the research, as summarised here:

- 75% of people who are regularly lonely said they do not know where to turn for support.
- 29% of people with limited access to transport said they always or often feel lonely.
- 32% of people with long-term health conditions said they always or often feel lonely.
- 32% of young parents said they always or often feel lonely.
- 54% of people who are recently bereaved and are regularly lonely said they wouldn't know where to turn for help.

The research report also suggests that there is no one-size-fits-all solution to tackling loneliness and that different people need different kinds of support. A variety of approaches are needed. During March and April 2021 a group of organisations worked together to gather the experiences of people aged 50

or over in Wales during the winter lockdown and to understand the perspectives of older people on recovery<sup>xxix</sup>. 1,216 people took part in the research, aged between 50 and 94 years,

When asked about the positive aspects of lockdown the following were given:

- 46% of respondents mentioned the help they'd received from family and friends

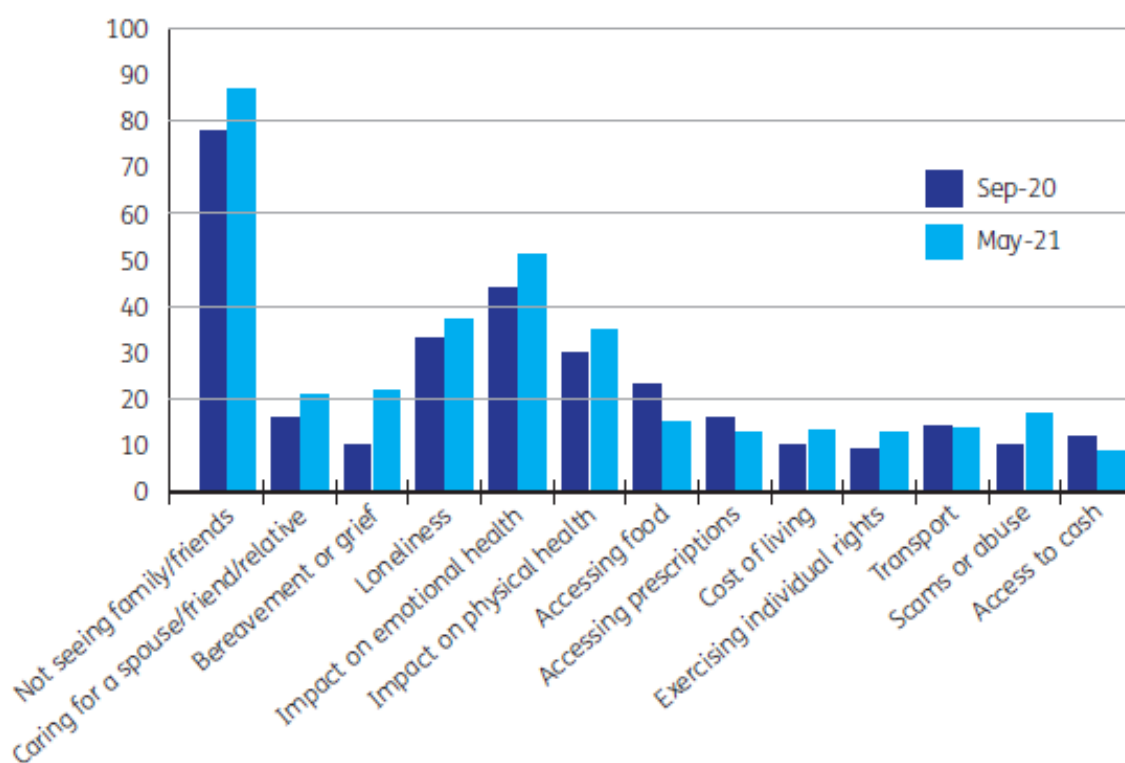
- 16% cited the help they had received from their local community
- 38% found they had more time
- 28% said they had felt less pressure
- 23% of those that commented in this section responded that they saw nothing positive in the pandemic

When asked about what they found challenging during lockdown, there were a significant number of areas that people found more of a challenge during the winter lockdown.

87% of respondents found not seeing family and friends an issue, an increase from 78% during the first lockdown. Those finding loneliness (37%), the impact on emotional health (51%) and impact in physical health (35%) a challenge all increased.

Figure S26: Challenges of lockdown – September 2020 and May 2021

**Table: Challenges of lockdown**



#### 4.3 Suicide and self-harm

Each year in Wales between 300 and 350 people die from suicide. This is about three times the number killed in road accidents. Although relatively rare, suicide has a devastating impact on all concerned. It is estimated that for every person who dies through suicide at least six others are significantly and directly affected<sup>xxx</sup>.

Suicide is one of the three leading causes of death in the 15-44 age group, the other two being road traffic injuries and inter-personal violence. Notably it is the second leading cause of death among young people in the 15-19 years age group. Men are around three times more likely to die by suicide than women.

In Wales suicide rates were highest in males in the 30 to 49 years age group during 2003 to 2012. There is a secondary but lower peak amongst elderly males of 80 years plus. For females, the highest rate is seen in 30 to 34 years age group and 45 to 54 years age group.

Among both males and females there is an association between suicide and deprivation. Rates are higher in our more deprived communities and this gap appears to be widening in Wales. This is consistent with existing literature and highlights that suicide prevention should address inequalities that exist in society.

It is important to note that suicide statistics and trends need to be interpreted with caution because the small numbers, delays in registration and inconsistencies in recording cause of death can produce unreliable rates. This is especially relevant to comparisons of annual fluctuations and small area /population group rates. Comparisons across different countries are difficult to make because of differences in coding and cultural differences in the classification of intent.

Self-harm is one of the top five reasons for medical admission in the UK and results in significant social and economic burden due to the utilisation of health services, particularly with respect to unscheduled hospital care, to treat the injury/overdose. The UK has one of the highest rates of self-harm in Europe.

In 2010 there were 4,450 individuals admitted to inpatient care in Wales following self-harm. Some individuals are admitted more than once in any year. This does not take into account those assessed in A&E departments who do not require admission, or the many more who do not attend following an incident of self-harm. The true scale of self-harm is estimated to be 1 in every 130 people. The age and pattern of self-harm shows that young women aged 15-19 years have the highest prevalence, with some evidence of an increase in males over 85.

It is clear from the evidence and data presented that there are large inequalities in health across Gwent. Some areas such as Blaenau Gwent consistently have poorer life expectancy, more ill health, more unhealthy behaviours and fewer healthy behaviours. This correlates with socio-economic deprivation, where in the more relatively affluent Monmouthshire, life expectancy and health are generally better. However, for Gwent as a whole, health issues are a significant issue.

## 5. What people are telling us

## 6. Future trends and challenges

## References

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- <sup>i</sup> Michael Marmot, Jessica Allen, Peter Goldblatt, Eleanor Herd, Joana Morrison (2020). Build Back Fairer: The COVID-19 Marmot Review. The Pandemic, Socioeconomic and Health Inequalities in England. London: Institute of Health Equity
- <sup>ii</sup> WIMD 2019, Welsh Govt
- <sup>iii</sup> WIMD 2019, Welsh Govt
- <sup>iv</sup> Currie, J. et al. 2021. Life expectancy inequalities in Wales before COVID-19: an exploration of current contributions by age and cause of death and changes between 2002 and 2018. Public Health 193.
- <sup>v</sup> Public Health Wales Observatory, 2019
- <sup>vi</sup> Public Health Wales Observatory, 2019
- <sup>vii</sup> Gap in life expectancy at birth for males between the most and least deprived fifth, 2015 to 2017. Public Health Wales Observatory, 2019
- <sup>viii</sup> Gap in life expectancy at birth for females between the most and least deprived fifth, 2015 to 2017. Public Health Wales Observatory, 2019
- <sup>ix</sup> <https://www.theguardian.com/world/2020/dec/10/covid-life-expectancy-england-wales> , 10<sup>th</sup> December 2020
- <sup>x</sup> Cancer Research UK. <https://www.cancerresearchuk.org/health-professional/cancer-statistics/risk>
- <sup>xi</sup> Measuring Inequalities 2016: Trends in Mortality and Life Expectancy in Aneurin Bevan UHB, Public Health Wales NHS Trust
- <sup>xii</sup> Making a Difference: Investing in Sustainable Health and Well-Being for the People of Wales, Public Health Wales NHS Trust
- <sup>xiii</sup> Promoting healthy weight in children, young people and families: A resource to support local authorities, Public Health England (2018)
- <sup>xiv</sup> Child Measurement Programme for Wales 2017/18, Public Health Wales NHS Trust
- <sup>xv</sup> <https://www.bbc.co.uk/news/uk-wales-58144671>
- <sup>xvi</sup> Welsh Adverse Childhood Experiences (ACE) Study: Adverse Childhood Experiences and Their Impact on Health-Harming Behaviours in the Welsh Adult Population, Public Health Wales (2015)
- <sup>xvii</sup> <https://www.ons.gov.uk/economy/environmentalaccounts/articles/howhaslockdownchangedourrelationshipwithnature/2021-04-26>
- <sup>xviii</sup> Alcohol in Wales, Public Health Wales Observatory (March 2019)
- <sup>xix</sup> Smoking in Wales, Public Health Wales Observatory (2020)
- <sup>xx</sup> Making a Difference: Investing in Sustainable Health and Well-Being for the People of Wales, Public Health Wales NHS Trust
- <sup>xxi</sup> Fit for Future Generations: A Childhood Obesity Strategy for Gwent to 2025 - Consultation Document (Aneurin Bevan University Health Board)
- <sup>xxii</sup> Foresight Tackling Obesities, Future Choices Project, Government Office for Science
- <sup>xxiii</sup> Making a Difference: Investing in Sustainable Health and Well-being for the People of Wales, Public Health Wales NHS Trust
- <sup>xxiv</sup> Mental Health Foundation (2015)
- <sup>xxv</sup> Joint Commissioning Panel for Mental Health (2015)
- <sup>xxvi</sup> Mental Well-being in Wales, Public Health Wales Observatory (2020)
- <sup>xxvii</sup> The Health Behaviour of School aged Children (HBSC) Survey 2013-14, Welsh Government (2015)
- <sup>xxviii</sup> Escaping the Bubble: Working together to tackle loneliness and social isolation across the UK, Co-op and British Red Cross
- <sup>xxix</sup> Experiences of people aged 50 or over in Wales during the winter Covid-19 lockdown, and the road to recovery, Age Cymru (May 2021)
- <sup>xxx</sup> Talk to Me 2: Suicide & Self-harm Prevention Strategy Wales 2015-2020, Welsh Government

# ECONOMIC WELL-BEING

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DRAFT

## 1. Introduction

This section of the assessment tells us about economic well-being in Gwent – the types of businesses in the area, how people make their money, where they work, how much they earn, employment trends, economic activity/inactivity, unemployment and worklessness.

Gwent has a diverse economy; from high tech manufacturers exporting products around the world to businesses providing the key every-day services that our communities rely on, such as food and care provision. This mixture should allow Gwent to take advantage of the emerging sectors that will play an increasingly important part of the low carbon and climate resilient economy of the future.

At a local level, each of the five local authority areas has its own economic strengths such as the environment and cultural heritage that contribute towards the economic well-being of people that live and work there.

As the population in Gwent ages, we will need to make sure that people remain healthy and active so that they can contribute to their local economy. Despite this, we know that there will be increased demand for some health and social care services in the future. However, with technological advances, social care needs may change which will require a workforce with new and different skills.

Actively contributing to the local economy and improving skills, including those that will be needed in the future, can positively impact on health and well-being. We know that there are people in our communities that are experiencing poverty, including in-work poverty, which has the potential to impact on just about every aspect of their lives and well-being. Having a range of decent work within our communities also helps to make them more cohesive places to live, work and study.

Shorter and more local supply chains would mean that Gwent of the future would be more resilient against fluctuations in global markets and to a changing climate. More local energy generation and efficient processes would mean that business would be protected from rises to wholesale energy costs.

Whilst the indicators in this chapter provide a picture of economic well-being across Gwent, it also takes into account, as far as is possible, the UK's withdrawal from the European Union and the significant impact that the Covid-19 pandemic has had on the local economy and across Wales.

As this chapter will demonstrate, the number of furloughed jobs and reduction in tourism and retail activity during the Covid-19 restrictions during 2020-21 has had significant implications for people of all ages. Despite this, Gwent is in a strong position to focus on economic recovery and long-term prosperity moving forward, but we may still not know the long-term consequences of the pandemic for some time.

## 2. Economic activity and employment

Economic activity is made up of two elements, those that are and those that aren't economically active. The economically active are people who are able to work whether they have a job or not. The economically inactive are those who are unable to work such as the long-term sick, the retired, full time students, or people caring for family or friends.

Gwent's diverse employment base means that there is a range of job opportunities in different sectors needing different skills. Diverse economies are more likely to be resilient to economic shocks. The region is also well placed to contribute to sectors that have been identified as important for future prosperity, providing decent jobs for future generations.

### 2.1 Economic activity rate

The percentage of those aged 16-64 who are economically active across Gwent is 78.0% which is slightly higher than the Welsh average of 75.7%. This ranges between 74.0% in Blaenau Gwent and 83.4% in Monmouthshire.

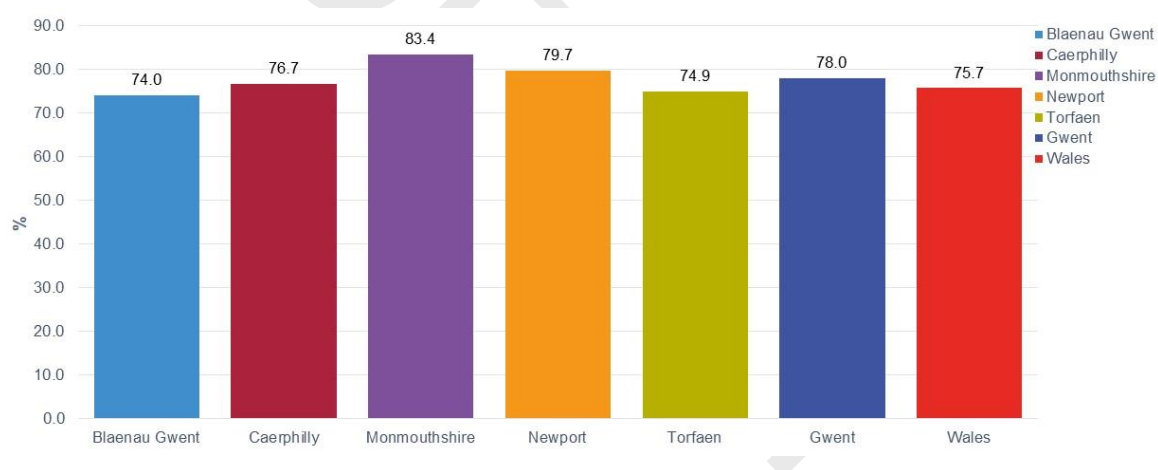


Figure 1: Economic activity rate - aged 16-64, Jan-Dec 2020.<sup>1</sup>

### 2.2 Employment

The employment rate is measured by the number or percentage of people aged 16-64 who did one hour or more of paid work per week and whose who had a job that they were temporarily away from (e.g. due to sickness). This includes employees and the self-employed.<sup>2</sup> The employment rate is 74.5% in Gwent which is slightly higher than the Wales average of 72.8%. This ranges between 70.8% in Blaenau Gwent and 80.0% in Monmouthshire.

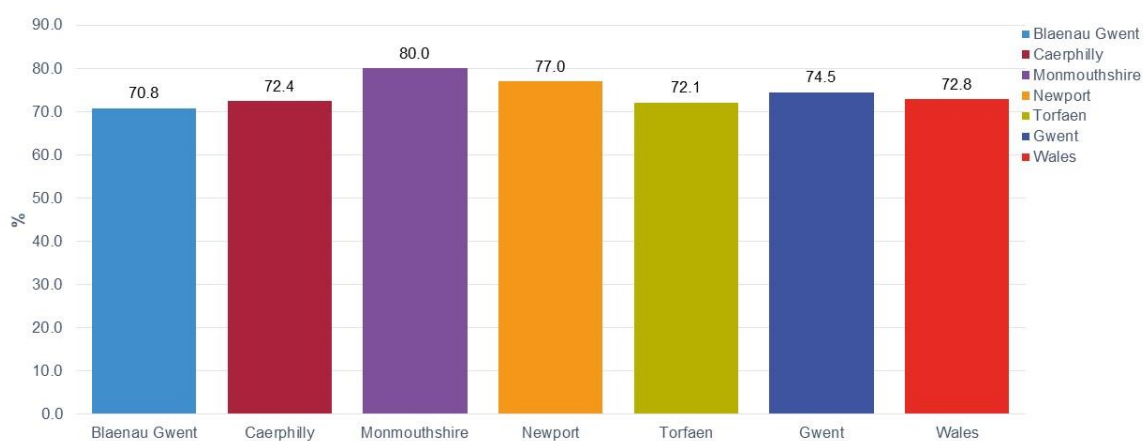


Figure 2: Employment rate – aged 16-64, Jan-Dec 2020.<sup>3</sup>

Figure 2 shows the employment rate by the broad age groups to determine the variation that exists within a local authority and between local authorities. Gwent's economic activity and employment rates suggests the area as a whole is outperforming the Welsh average but Figures 1 and 2 demonstrate that the below-average rates in Blaenau Gwent, Caerphilly and Torfaen need to be addressed.

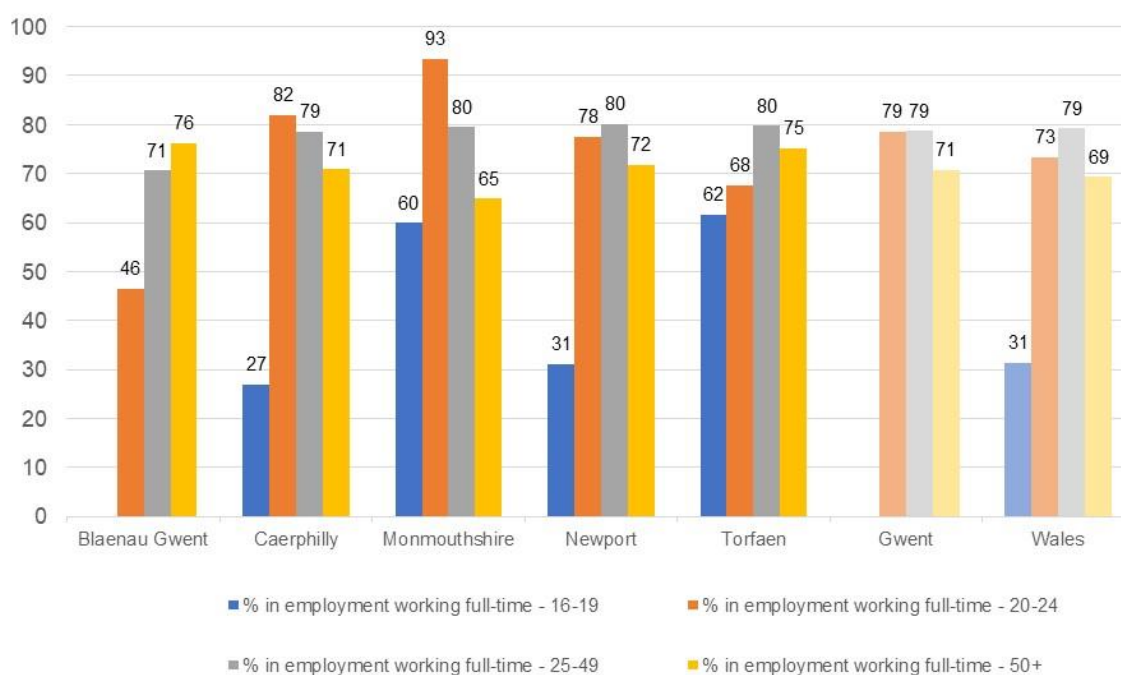


Figure 3 Percentage full-time employment 16-64 by broad age group, Jan – Dec 2020.<sup>4</sup>

Data has not been published for the rate of employed full time for aged 16–19 in Blaenau Gwent because of low sample numbers and would provide unreliable inference at population level. Therefore, it is not possible to aggregate a figure for Gwent for this age group.

Where sample data is available for age group 16-19 the rate of employed is generally notably less than the other age groups. Even so this is double the rate in Monmouthshire and Torfaen compared to Caerphilly and Newport. In contrast, Blaenau Gwent sees a low percentage of young people aged 20-49 in FTE compared to Gwent and Wales as a whole, but there is a

higher percentage of people aged 50+ in FTE, which suggests that more older people are staying in full time work for longer compared to Wales or any other Gwent LA.

According to Public Health Wales, there is some evidence that young people aged 16-19 have been affected most by the Covid19 pandemic in terms of employment. They have been impacted by disrupted education, suspended apprenticeships and restricted employment opportunities in the sectors most affected by the economic impact of Covid19 restrictions.<sup>5</sup> However, there has been a slight increase in young people in Wales entering education as a result of the pandemic, which combined with the lack of opportunities as bar staff, waiters/waitresses, retail sales etc. during the Covid19 lockdowns might explain the low proportion of 16-19 year olds in full time employment in Newport, Caerphilly, Blaenau Gwent, and Wales as a whole.

## 2.3 Self-employment

Self-employment includes those people who regard themselves as self-employed, that is, who in their main employment work on their own account, whether or not they have employees.

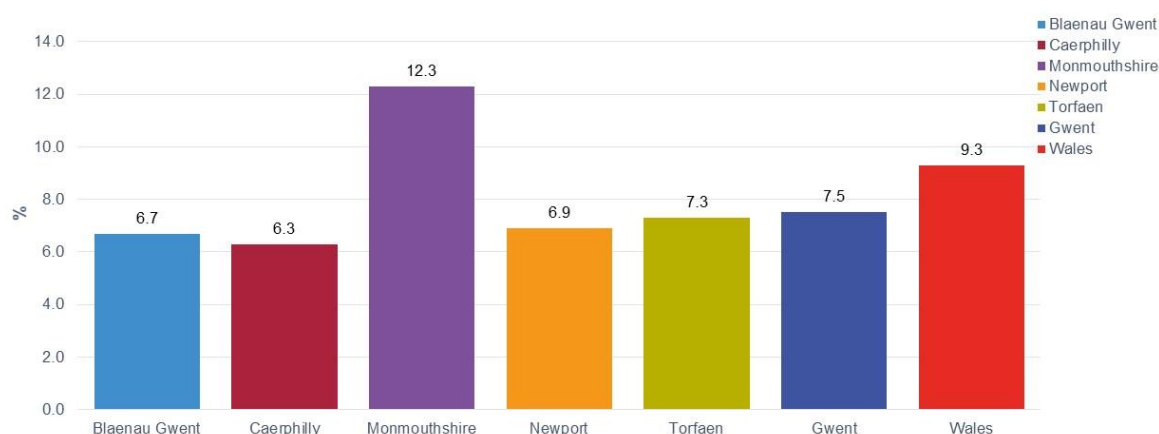


Figure 3 Percentage aged 16-64 who are self-employed, Jan – Dec 2020.<sup>6</sup>

Across Gwent the percentage of people that are self-employed is lower than the Welsh average except in Monmouthshire where it is considerably higher. As Figure 6 in section 2.5 below demonstrates, this may be partly due to there being a higher-than-average number of Monmouthshire residents aged 16-64 working in the Construction and Professional, Scientific and Technical Services sectors, where self-employment is more common.

Local Authority	Total potentially eligible population	Total no. of claims	Total value of claims (£)	Average value of claims made (£)	Total Take-Up Rate
Blaenau Gwent	2,400	1,500	3,800,000	2,500	62%
Caerphilly	6,300	3,900	10,600,000	2,700	62%
Monmouthshire	4,900	2,400	6,600,000	2,700	50%
Newport	5,200	3,200	8,400,000	2,600	62%
Torfaen	3,300	2,000	5,400,000	2,700	61%
(Gwent)	22,100	13,000	34,800,000	2,700	59%
(Wales)	140,000	77,000	203,000,000	2,600	55%

Figure 4 SEISS claims for the fourth grant of SEISS to 6 June 2021. <sup>7</sup>

Figure 4 shows the number of self-employed individuals assessed for potential eligibility for the fourth round of the Self-Employment Income Support Scheme (SEISS) grant as at 6 June 2021. This grant was introduced in response to Covid restrictions. Generally, this includes individuals that HMRC identified as having traded in the tax year 2019 to 2020 and submitted their Self-Assessment tax return on or before 2 March 2021 for that year.

A total of 13,000 applications amounting to almost £35 million s have been claimed in Gwent for the fourth grant of SEISS i.e. an average of £2,700 per claim. The take up rate is higher across Gwent than the average for Wales, with the exception of Monmouthshire. The lower take up in Monmouthshire and across other parts of Wales, where the average is only 55%, might be because eligible individuals were required to make four separate claims covering four different periods of time, with many self-employed people across the UK being unsure of their eligibility status. The claim period for the fourth grant closed on 30 September 2021 so it is possible that the Gwent take-up rate increased during summer 2021.

## 2.4 Employment by occupation

Around 18.6% of people living in Gwent work in professional occupations which is lower than the Welsh average. 14.5% of people work in associate professional and technical occupations.

There are higher levels of senior management in Monmouthshire compared to the other areas, especially Blaenau-Gwent which has the lowest level. Approximately half of Monmouthshire's resident workforce have occupations that are likely to require higher educational qualifications.

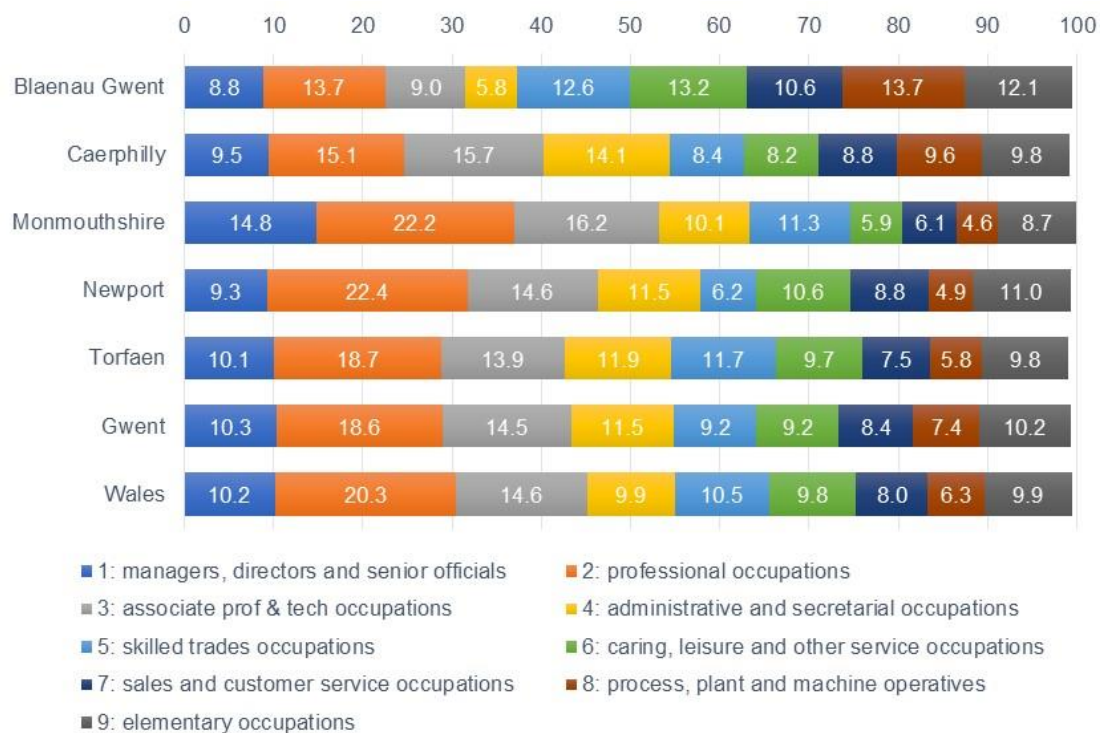


Figure 5 Employment by occupation, aged 16-64, 2020<sup>8</sup>

Blaenau Gwent has higher levels of elementary occupations, in particular process, plant and machine operatives. There are also double the rate of ‘caring/leisure/other service’ workers in Blaenau Gwent with 13% compared to 6% in Monmouthshire. Generally, these are the types of employment that do not require higher educational qualifications.

Gwent will need to ensure that it has people with the right skills to meet needs of the economic sectors of the future.

## 2.5 Employment by industry type

The main employment base in Gwent is manufacturing (15%), which is higher than the Wales average (10.7%). This sector is significantly larger in Blaenau-Gwent, Caerphilly and Torfaen. Transport engineering, semi-conductors and energy (and the environment) have been identified by Cardiff Capital Region as priority sectors with the potential to create prosperity in the region over the next 10 – 20 years. This means that Gwent’s core employment base is well-placed to work in these sectors of the future.

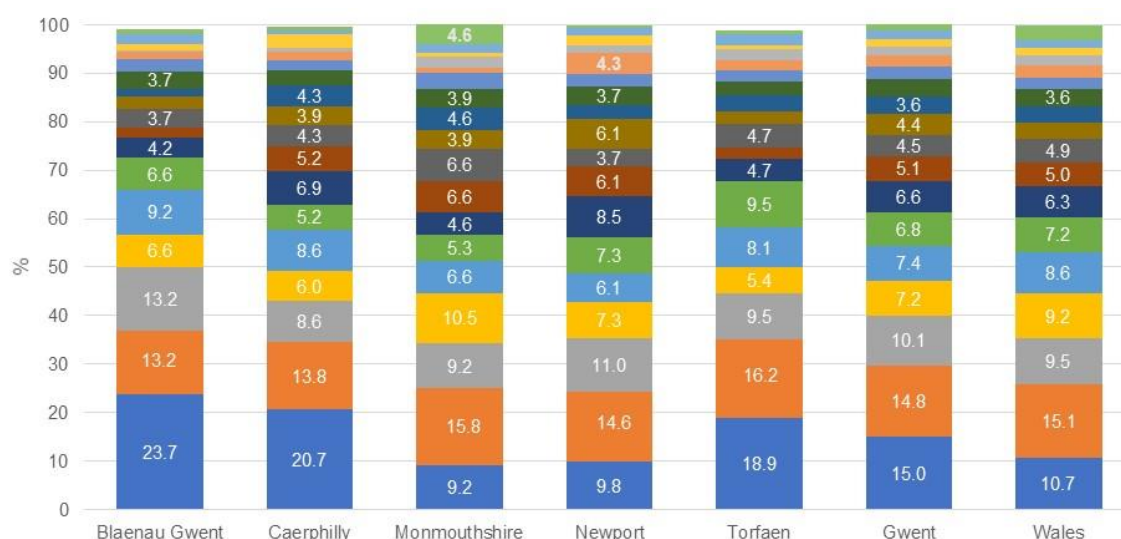


Figure 6 Employment by industry type, aged 16-64, 2019<sup>9</sup>. (Note that industry type percentage is only labelled where it comprises 3.5% or more employed within local authority)



Other significant sectors in Gwent are health, retail, accommodation and food services, education and public administration and defence. In Newport financial and insurance services form a larger part of the employment base than elsewhere, as does agriculture, forestry and fishing in Monmouthshire. Fin-tech or financial-technology has also been identified as a priority sector for the Cardiff City Region over the next 10-20 years – Gwent would be well placed to contribute building on Newport’s employment base.

A higher proportion are employed in ‘Retail’ in Blaenau Gwent, ‘Accommodation & Food Services’ in Monmouthshire and ‘Business, Admin & Support Services’ in Newport.

Over the past two to three decades, the Welsh economy has seen an industrial shift away from production industries towards service industries. This has been the case in Gwent too with health, retail, education, public administration & defence, businesses admin & support, professional, scientific & technical, and accommodation & food services now providing well over 50% of all jobs across Gwent.

However, Gwent has managed to maintain strength in its manufacturing sector, particularly in Blaenau Gwent, Caerphilly and Torfaen. The trend toward service industries is expected to continue, however Cardiff City Region has identified 8 priority sectors which will be important to the economy over the next decade and beyond (more information provided in section 4.5). Gwent with its manufacturing and health base is well positioned to contribute to these

priority sectors, particularly life-sciences and transport engineering and energy. there may also be opportunities for the employment base to diversify.

### 3. Income and deprivation

Having decent, well paid and regular work gives people enough money to do the things they enjoy. However, many people are on low pay and don't always work enough hours to meet their basic needs, leading to in-work poverty.

Having a well-skilled, diverse workforce where everyone is valued and respected helps to raise standards and aspirations, providing opportunities – for young people especially – to find work and help make Gwent's communities more resilient.

#### 3.1 Gross weekly pay

Figure 7 shows the gross weekly average (median) pay for full time workers by place or residence, irrespective of which location they work in. The median (or middle amount when arranged from lowest to highest) is usually used for pay as opposed to the mean in order to avoid distortion from outliers (significantly low or high amounts).

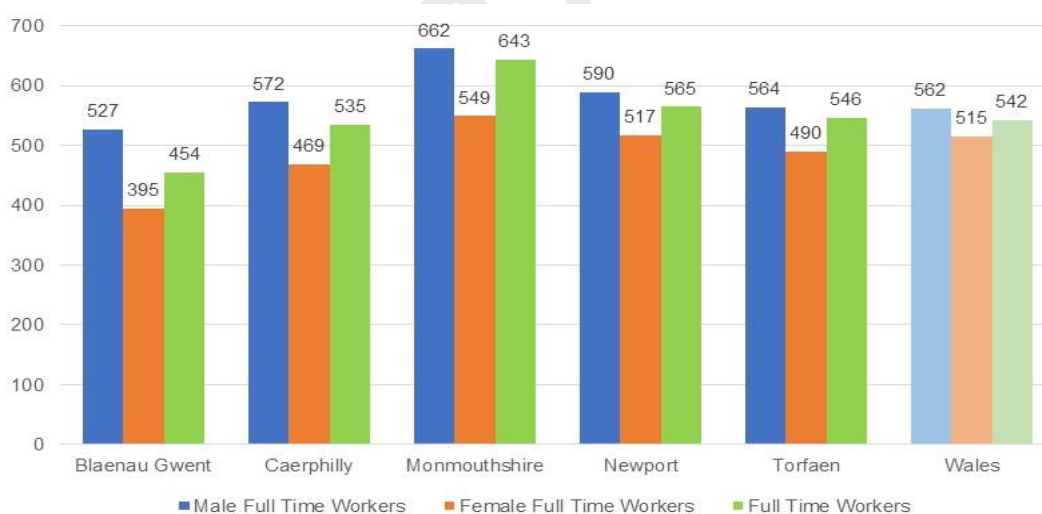


Figure 7 Gross weekly average pay by place of residence (£), Gwent local authorities, 2020<sup>10</sup>

Gross weekly average (median) pay for full time workers living in Gwent ranges between £643 in Monmouthshire to £454 in Blaenau Gwent, which is significantly below the Wales average of £542. Across Gwent male full-time workers pay is higher than that of females. The pay difference ranges between 12% in Newport and Torfaen and 25% in Blaenau Gwent.

The data tells us that for people working in Gwent but not necessarily living here, Monmouthshire's full-time workers are paid the highest in Wales, at £575 per week, followed closely by Torfaen at £573. This could be due to high rates of commuting out of Wales or to key employment areas such as Newport, Cardiff or Bristol. It may also be due to better educational attainment, offering better work opportunities.

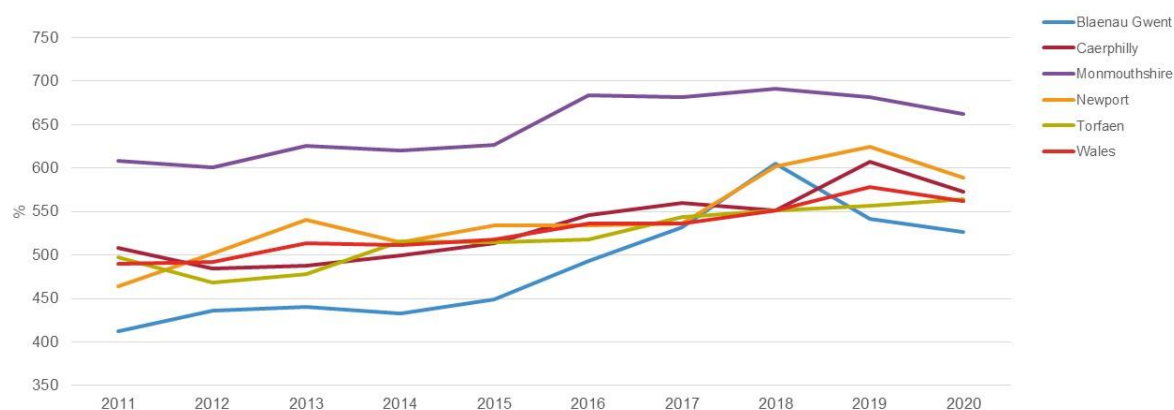


Figure 8 Gross weekly average pay (£) by place of residence Gwent local authorities, 2011 – 2020.<sup>11</sup>

The upward trend for gross weekly average (median) pay for Caerphilly, Newport and Torfaen full time workers has closely matched that of Wales over the last 10 years. Blaenau Gwent has been notably lower and Monmouthshire significantly higher over the period. Newport has shown the largest increase, of 30% over the period, followed by a 24% increase in Torfaen. This compares with a 19% increase for Wales.

Although there has been an upward trend over the 10 years in Blaenau Gwent, there has been a year on year decrease over the latest 2 years. The general pattern described for full time workers is similar for males and females. The downward trend from 2019 – 2020 across Gwent and throughout Wales could be attributed to the economic impact of the Covid19 pandemic. The significant downward trend from 2018 – 2019 in Blaenau Gwent might be due to manufacturing and other sectors preparing for the UK leaving the EU with No Deal, having to focus on stockpiling capital goods at that time instead of recruiting or retaining staff.

### 3.2 Disposable household income

GDHI (gross disposable household income) is an estimate of the amount of money that households have available for spending or saving after tax, property ownership and pension contributions etc. have taken effect, often referred to as 'disposable income'. The amount of disposable income a household has will impact on their ability to afford food, transport, fuel and digital services – especially if the cost of those increases. Across Gwent, GDHI is at a similar level to the rest of Wales although the figure in Monmouthshire is considerably higher than other areas, and over 50% higher than in Blaenau Gwent.

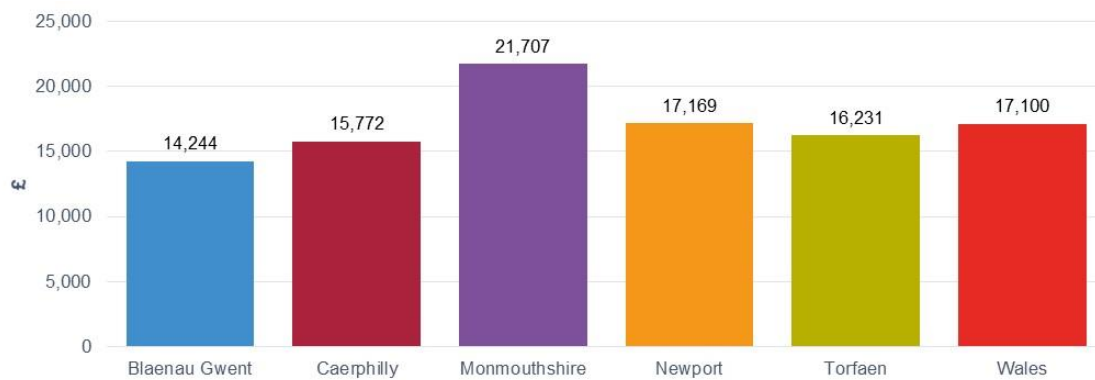


Figure 9 GDHI (£), Gwent local authorities, 2018<sup>12</sup>

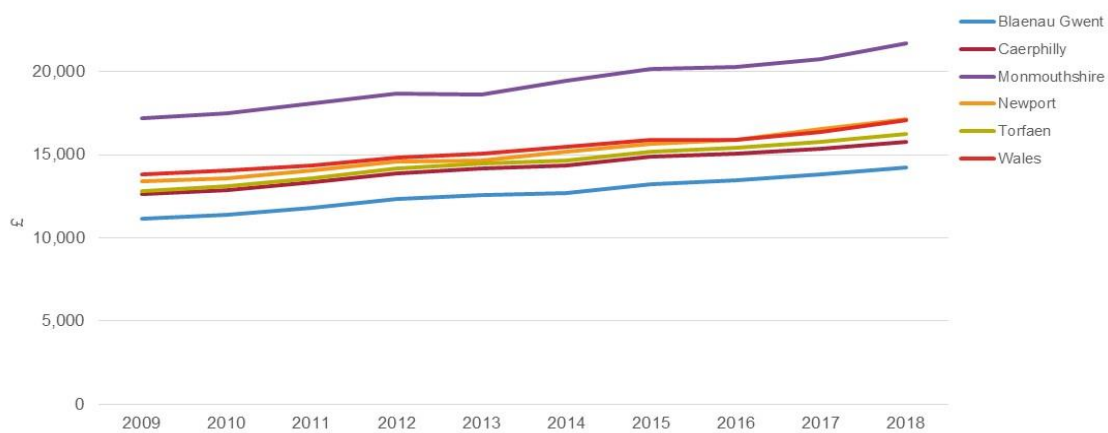


Figure 10 GDHI (£), Gwent local authorities, 2009 – 2018

Figure 10 shows the trend over time for GDHI within Gwent local authorities. All local authorities in Gwent have shown a growth in GDHI over the 10-year period from 2009 to 2018.

### 3.3 Working and workless households

Working households are those where all residents are working, mixed households are those with at least one of the residents working and workless households are where all people are unemployed or economically inactive.

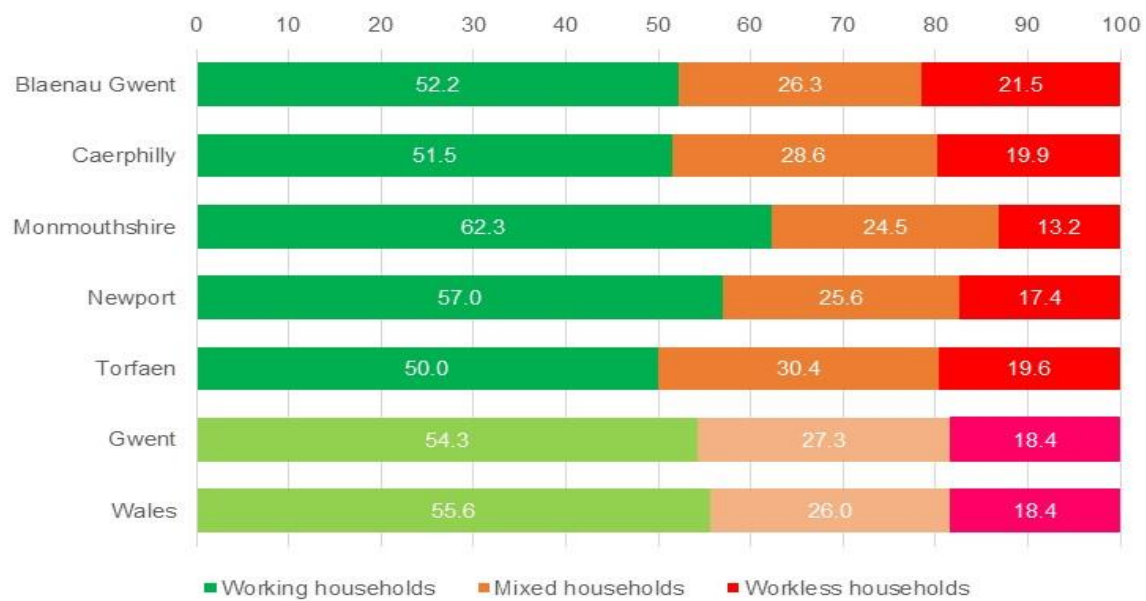


Figure 11 Working/mixed/ workless households aged 16-64 for Gwent local authorities, 2019<sup>13</sup>

There are more working households in Monmouthshire than anywhere else in Gwent and Blaenau Gwent has the highest proportion of workless households. Torfaen has the lowest proportion of working households coupled with its high proportion of mixed households.

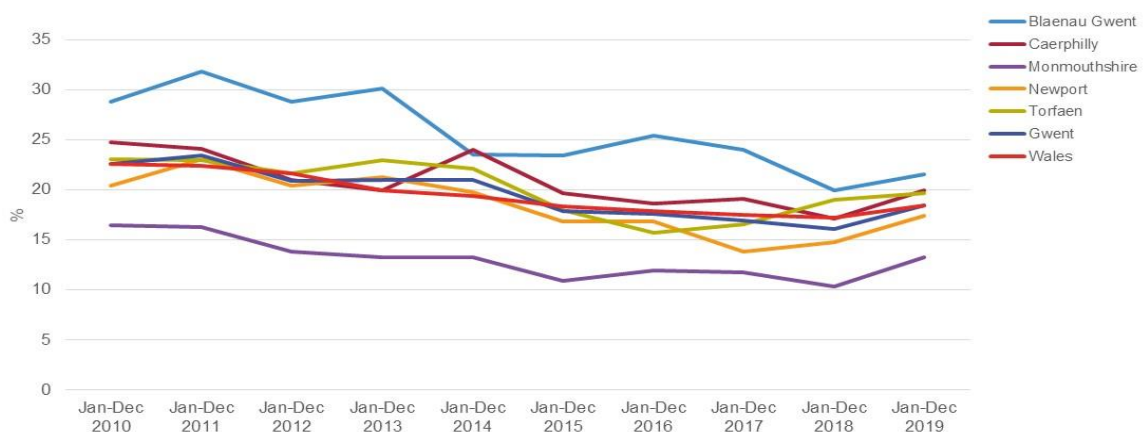


Figure 12 Workless households Gwent local authorities, 2010 – 2019<sup>14</sup>

Figure 12 shows the trend over time for workless households in Gwent local authorities. The downward trend in the rate of workless households in Gwent has closely matched that of Wales over the last 10 years. All local authorities in Gwent have shown a modest downward trend over this period.

Although the rate in Blaenau Gwent has been highest over the period, the area has shown the most improvement, with a decrease of 7% points from 29% to 22%, followed by Caerphilly with a 5% points decrease. This compares with 4% points decrease both for Gwent and Wales. The rate in workless households has remained lowest throughout this period in Monmouthshire. It remains to be seen what impact the Covid-19 pandemic and associated furlough or job losses has on these trends until the data is available.

### 3.4 Unemployment

Figure 13 shows the unemployment rate, which is the number of people unemployed expressed as a percentage of economically active (as opposed to employment rate which is expressed as a percentage of all persons aged 16-64). Having employment can have a positive impact on health, can improve life opportunities and provide people with the means to participate in social activities.

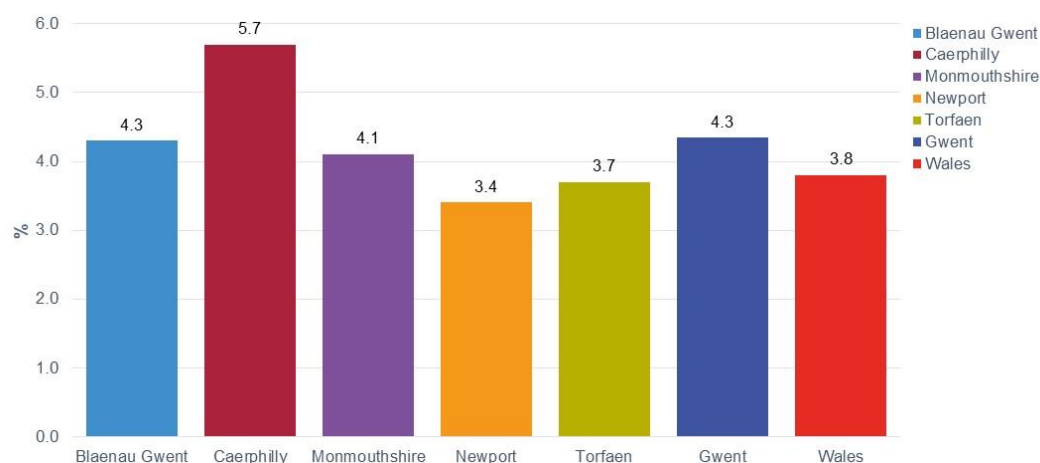


Figure 13 Unemployment rate - aged 16-64, Jan – Dec 2020. <sup>15</sup>

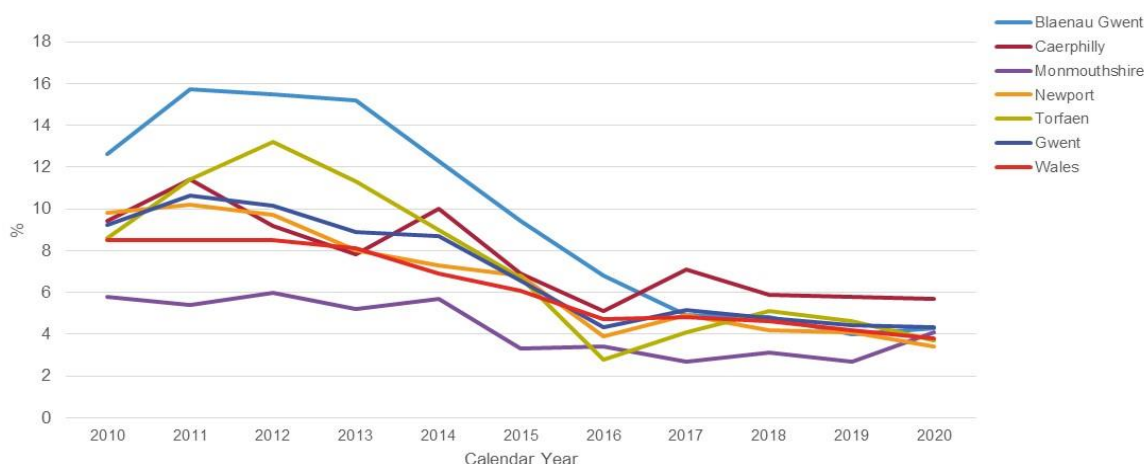


Figure 14 Unemployment rate – 2010 to 2020. Add ref as endnote<sup>16</sup>

Unemployment has decreased across Gwent since 2010. The latest four years shown (2017 – 2020), the rate has generally plateaued and even risen slightly in Monmouthshire. For the majority of this period Blaenau Gwent had the highest level of unemployment but Caerphilly has had the highest level since 2017.

Although employment data from during the pandemic is limited, it is believed that a significant number of jobs across Wales were lost while the Coronavirus Job Retention Scheme was active. Redundancy rates appear closely tied to the generosity of the furlough

scheme. For instance, over the period between July and November 2020, redundancy rates in Wales surged, reaching three times their pre-pandemic average.<sup>17</sup>

### 3.5 Coronavirus Job Retention Scheme

The Coronavirus Job Retention Scheme (CJRS – also referred to as Furlough) was applied from 1 March 2020 and finished at the end of September 2021. Figure 15 shows provisional figures for furloughing supported by the CJRS – also referred to as furlough as of 31 March 2021.

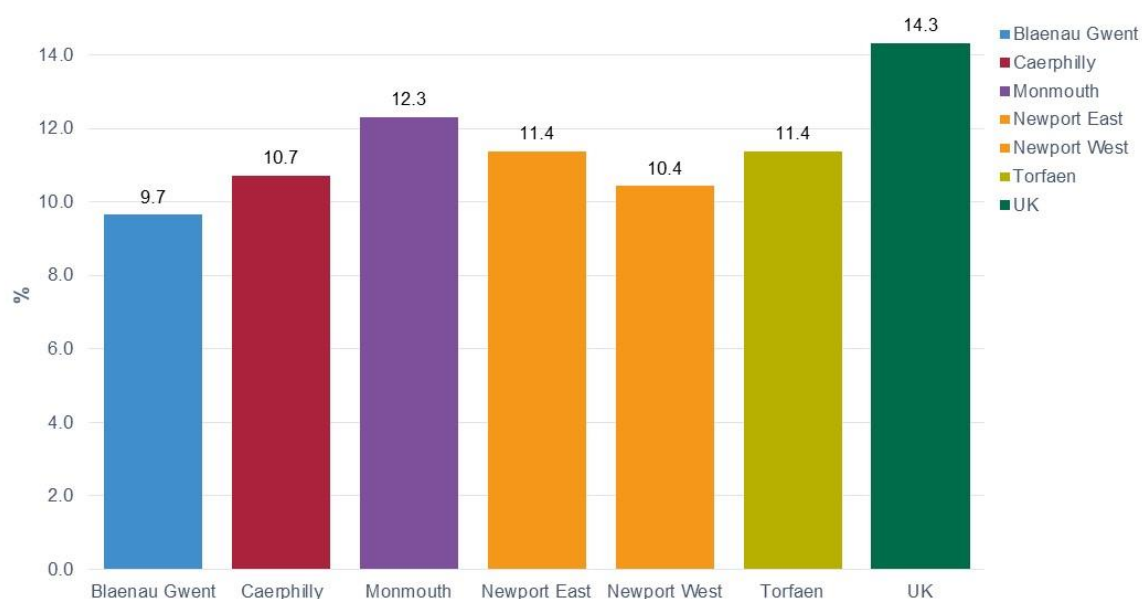


Figure 15 Furloughed employments within constituency, as of 31 March 2021.<sup>18</sup>

Across Gwent as of 14 April 2021 over 74,000 people were furloughed. A slightly higher proportion were female. Whilst the retention scheme kept people in employment it only provided 80% of salary costs which may have impacted on people's ability to meet their basis household expenses.

Some sectors have been much more affected by the response to the pandemic, and this is reflected in furlough levels. As of 31 March 2021, the three sectors with the highest furlough rates were the accommodation and food services, with 55% (1.06 million) of eligible jobs on furlough, the arts, entertainment and recreation sector at 54% (298,000) of jobs on furlough, and the other service activities, with 39% (211,700) of eligible jobs on furlough. All other sectors had rates of 20% or less, and over half of these had rates of less than 10%. Those aged 24 and under had the highest proportion of furloughed jobs, with women in this age group more likely to be furloughed than men.

From 1 July 2020, the scheme was made more flexible so that furloughed employees could be brought back part-time. As lockdown restrictions eased, the number of jobs partially furloughed rose while the number of those fully furloughed fell. The announcement of the

November lockdown caused a much sharper increase in full furlough, and this happened again when January lockdown began.

**Impact on the labour market** - It is clear that the CJRS has been instrumental to avoiding a large rise in unemployment. In April 2020, the OBR (Office of Budget Responsibility) published a forecast for unemployment peaking at 10% although the highest unemployment rate in 2020 was 5.1%.<sup>19</sup>

How many redundancies the CJRS will avoid in the longer term will depend on how the scheme is wound down. The expectation of the Office for Budget Responsibility (OBR) was that most of those on furlough at the end of January 2021 would have returned to their jobs by June<sup>20</sup>. However, 68,800 people in Wales remained on furlough at the end of June 2021<sup>21</sup>.

Being furloughed has created challenging conditions for people's economic and social well-being. For many people furloughed across Gwent, daily life may have lacked structure, purpose and motivation. This could lead to a decrease in levels of self-esteem and self-worth. Financial concerns due to income being reduced or longer-term fears of being made redundant were both common amongst furloughed workers.

Not being in contact with colleagues may increase feelings of isolation and loneliness. Having too much time to think about the current situation may be overwhelming and trigger new mental health problems or make existing ones worse. Alternatively, many found themselves with less time and struggling with additional caring responsibilities if looking after children or vulnerable relatives.

The furlough scheme came to an end in on 30 September 2021, so it is not yet clear what the long-term effect of the furlough scheme will be for people across Gwent. Demand for staff in certain industries such as tourism and hospitality may remain lower than pre-pandemic levels if some of the travel and capacity restrictions due to Covid-19 remain in place longer term, which some economists have warned could lead to a cliff-edge of job losses when the furlough scheme ends.

### **3.6 Welsh Index of Multiple Deprivation (WIMD)**

WIMD is the Welsh Government's official measure of relative deprivation for small areas, including LSOAs (lower super output areas) in Wales. It identifies areas with the highest concentrations of several different types of deprivation, including income and employment deprivation. WIMD ranks all LSOAs in Wales from 1 (most deprived) to 1,909 (least deprived).

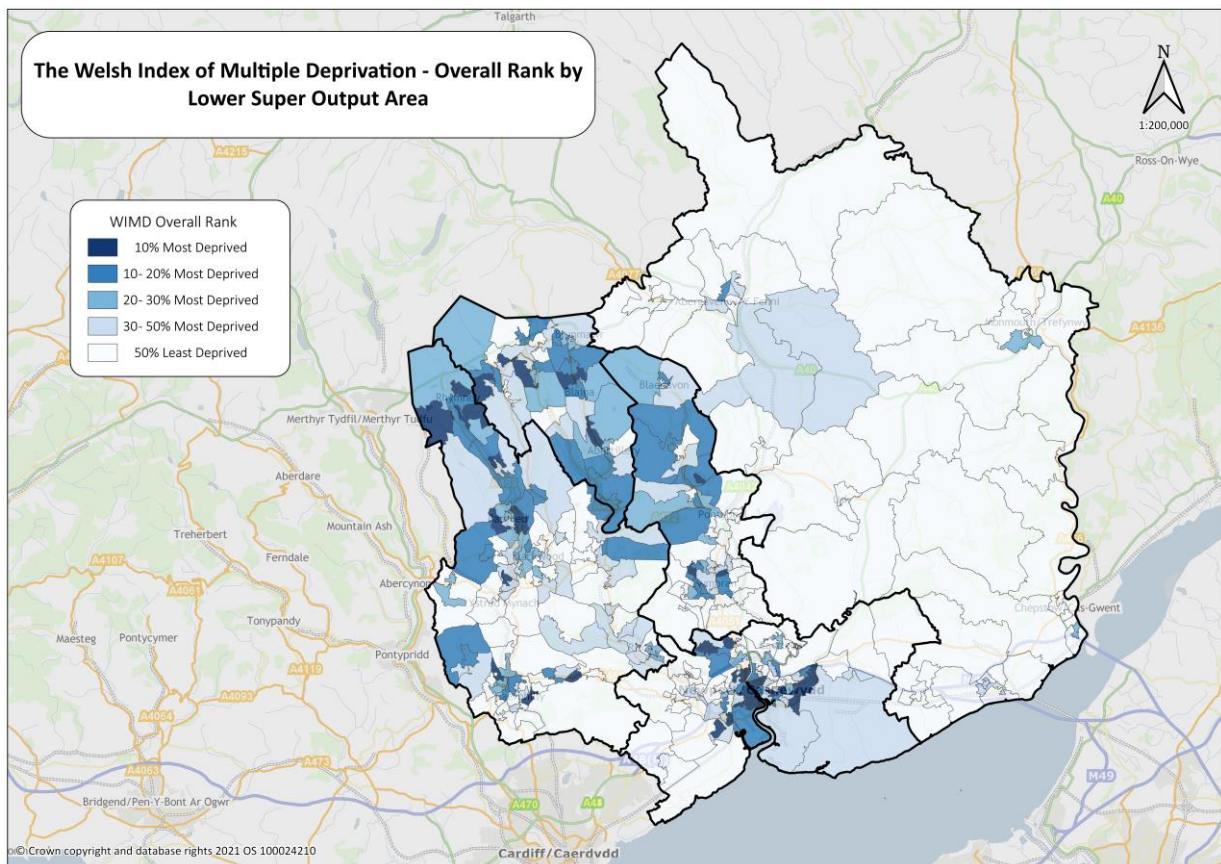


Figure 16 Gwent local authorities in highest overall WIMD deprivation ranking.<sup>22</sup>

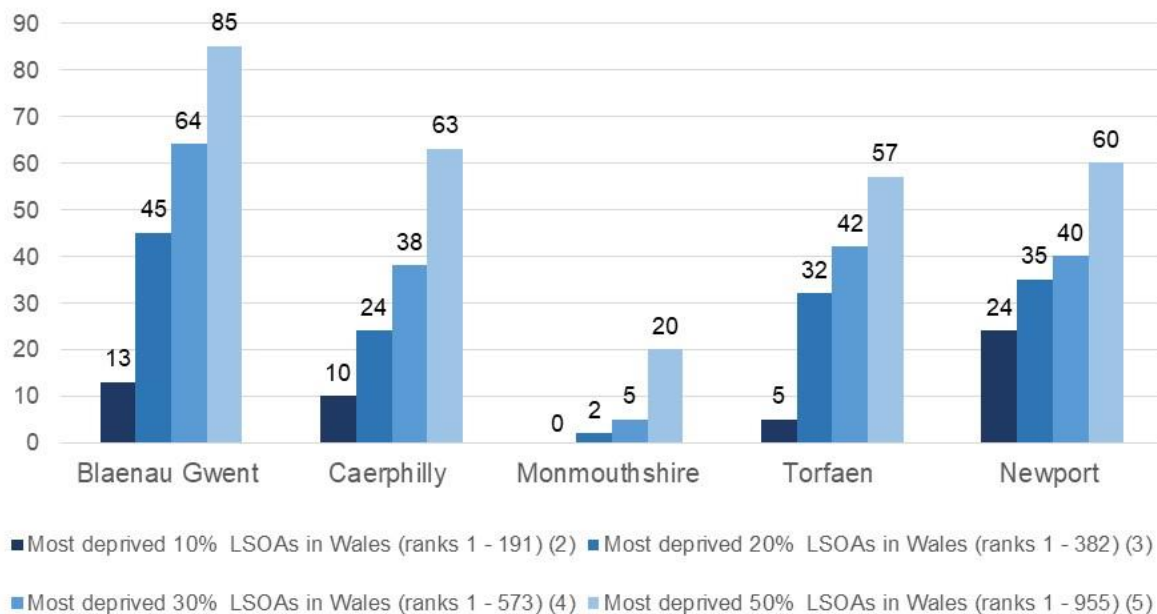


Figure 17 Percentage of LSOAs per Gwent local authority in highest overall WIMD deprivation ranking.<sup>23</sup>

Figures 16 and 17 shows the location and percentage of LSOAs each local authority in Gwent has in the 10%, 20%, 30% and 50% most deprived LSOAs in Wales for overall deprivation.

Newport has the highest percentage of its LSOAs (24%) in the 10% most deprived in Wales. Monmouthshire is the only local authority in Wales with none of its LSOAs in the 10% most

deprived. Blaenau Gwent has the highest percentage of its LSOAs in the 20%, 30% and 50% most deprived in Wales.

Employment deprivation is calculated from:

- Jobseeker's Allowance (JSA) claimants
- Employment and Support Allowance (ESA) claimants
- Incapacity Benefit (and Severe Disablement Allowance) claimants
- Universal Credit (UC) claimants who are not in employment

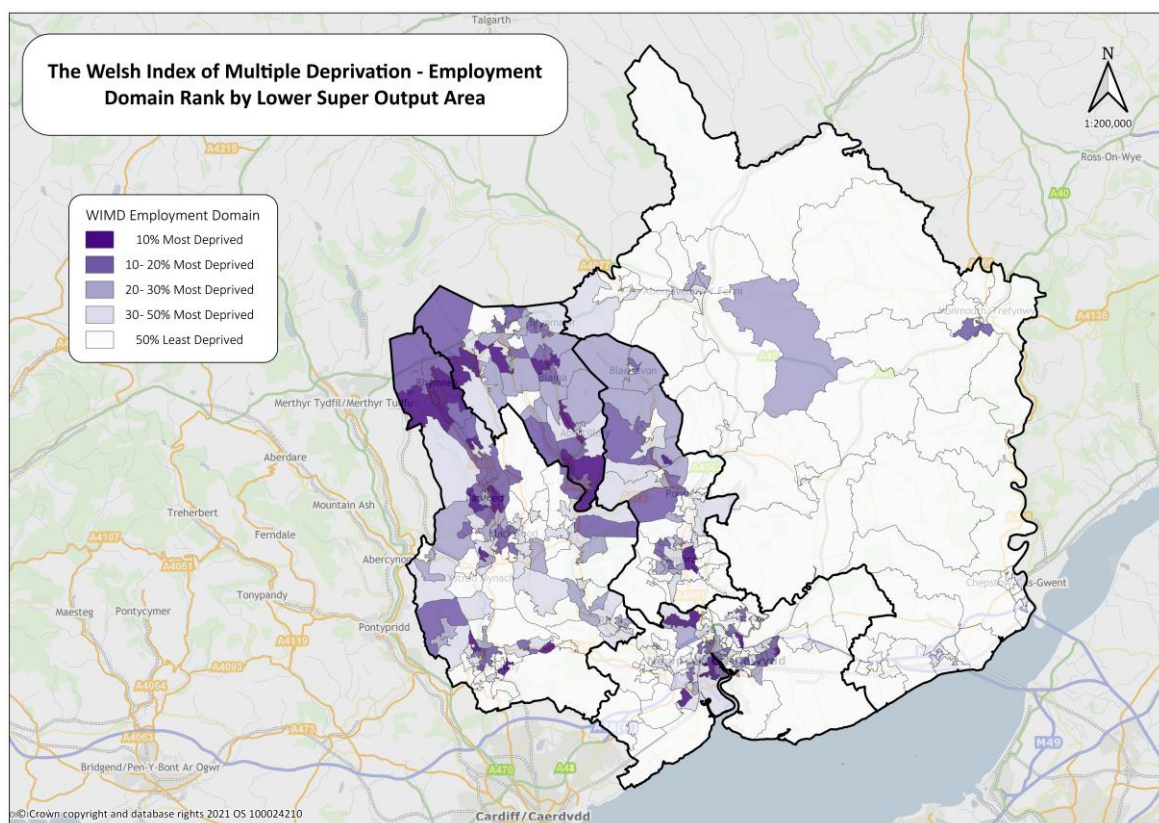


Figure 18 Location of LSOA's per Gwent local authorities in highest employment deprivation ranking<sup>24</sup>

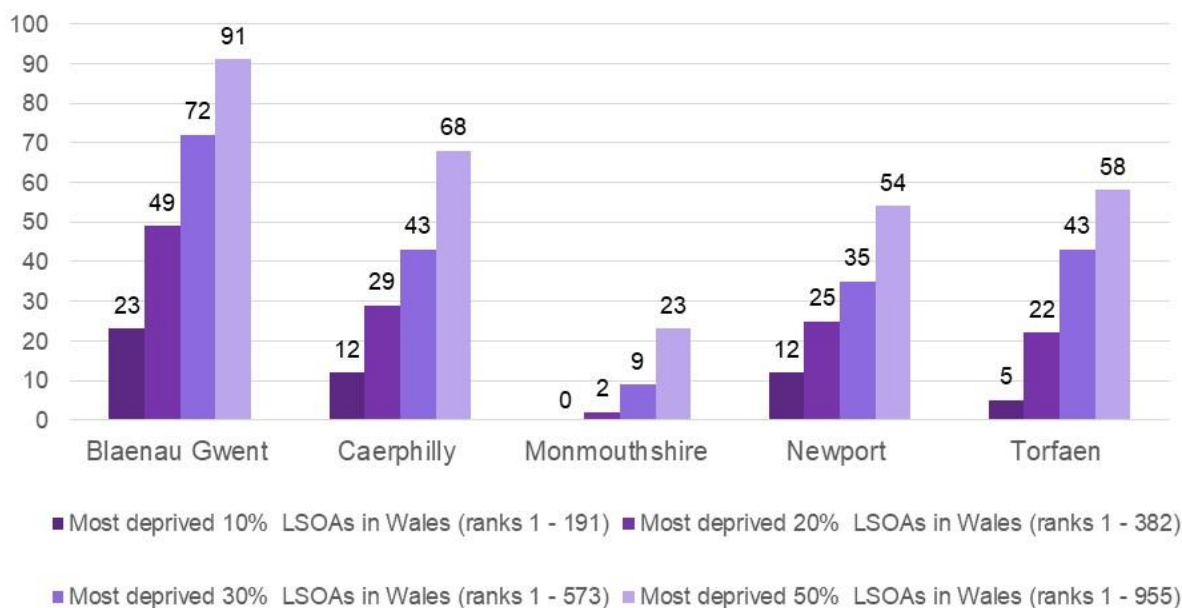


Figure 19 Percentage of LSOA's per Gwent local authorities in highest employment deprivation ranking<sup>25</sup>

Figures 18 and 19 shows the location and percentage of LSOAs each local authority has in the 10%, 20%, 30% and 50% most deprived LSOAs in Wales in terms of employment deprivation.

Blaenau Gwent has the highest percentage of its LSOAs (23%) in the 10% most employment deprived in Wales. Both Caerphilly and Newport have the 7<sup>th</sup> highest rate in Wales while Monmouthshire is the only local authority in Wales with none of its LSOAs in the 10% most employment deprived, in stark comparison with Blaenau Gwent which has the highest percentage of its LSOAs in the 20%, 30% and 50% most employment deprived in Wales.

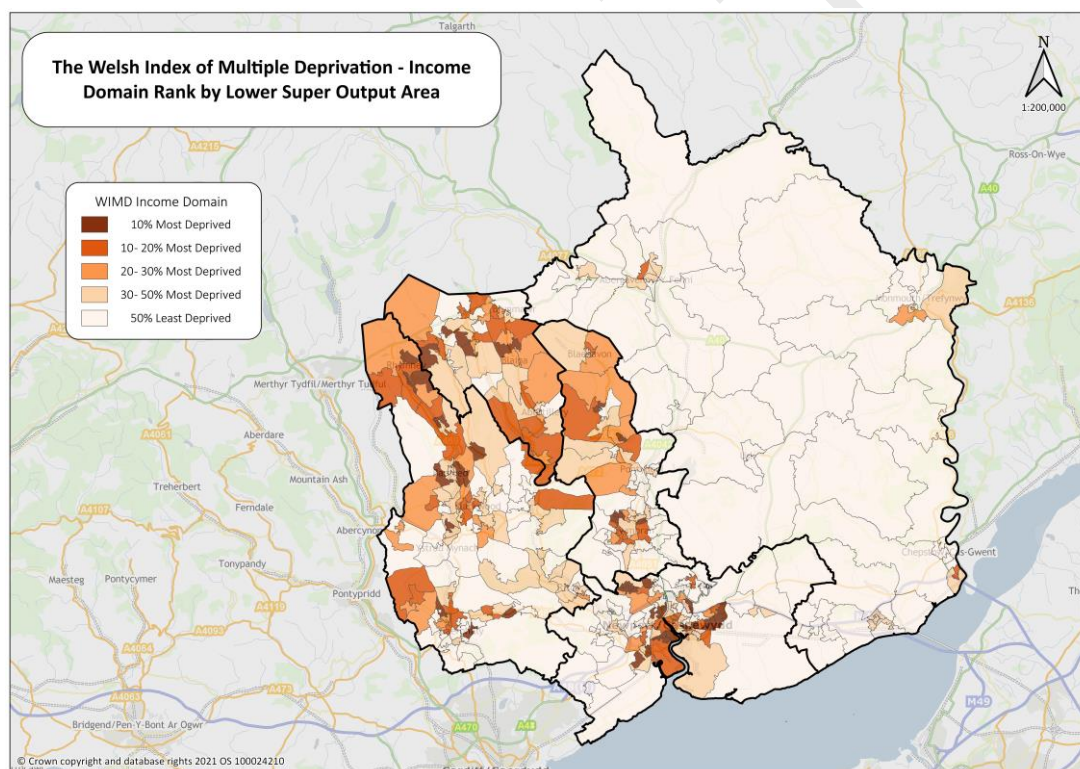


Figure 20 Location of LSOAs per Gwent local authorities in highest Income deprivation ranking<sup>26</sup>

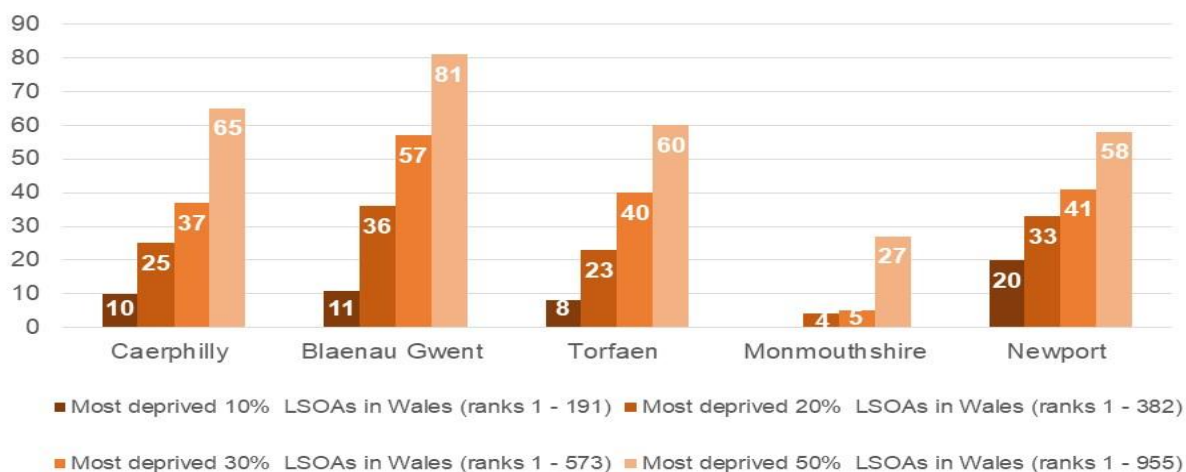


Figure 21 Percentage of LSOA's per Gwent local authorities in highest income deprivation ranking<sup>27</sup>

Income deprivation is calculated from:

- Income related benefit claimants: this includes Income Support claimants, Jobseeker's Allowance claimants, Pension Credit claimants, and Income Based Employment and Support Allowance claimants; and their dependent children
- The number of children and adults within families that are in receipt of Working Tax Credits and Child Tax Credits with an income which is less than 60% of the median income for 31 Wales (Before Housing Costs)
- Supported Asylum Seekers i.e. those who were supported under Section 95 of the Immigration and Asylum Act and their dependent children
- People on Universal Credit and their dependent children.

Figures 20 and 21 shows the location and percentage of LSOAs each local authority has in the 10%, 20%, 30% and 50% most deprived LSOAs in Wales in terms of income deprivation.

Newport has the highest percentage of its LSOAs (20%) in the 10% most income deprived in Wales, not only compared to Gwent local authorities but for all 22 local authorities in Wales. At an overall Gwent level this is 11% of LSOAs (derived from Health Board Level data). Monmouthshire is the only local authority in Wales with none of its LSOAs in the 10% most income deprived. Blaenau Gwent has the highest percentage of its LSOAs in the 20%, 30% and 50% most income deprived in Gwent and Wales.

Income deprivation doesn't necessarily stem from worklessness. The risk of poverty for adults living in working households in Wales rose by 26.5% between 2004 – 2015. From 2017-18 to 2019-20, 47% of working-age adults in Wales who were living in relative income poverty (after housing costs) were in households where at least one household member was in employment or self-employed.<sup>28</sup> This is often due to increased costs of living for people in both the social and private rented sector, particularly for lone-parent families or families with children who require support.<sup>29</sup>

### 3.7 Claimant count

The Claimant Count is the number of people claiming benefit principally for the reason of being unemployed. This is measured by combining the number of people claiming Jobseeker's Allowance (JSA) and National Insurance credits with the number of people receiving Universal Credit principally for the reason of being unemployed. Claimants declare that they are out of work, capable of, available for and actively seeking work during the week in which the claim is made.

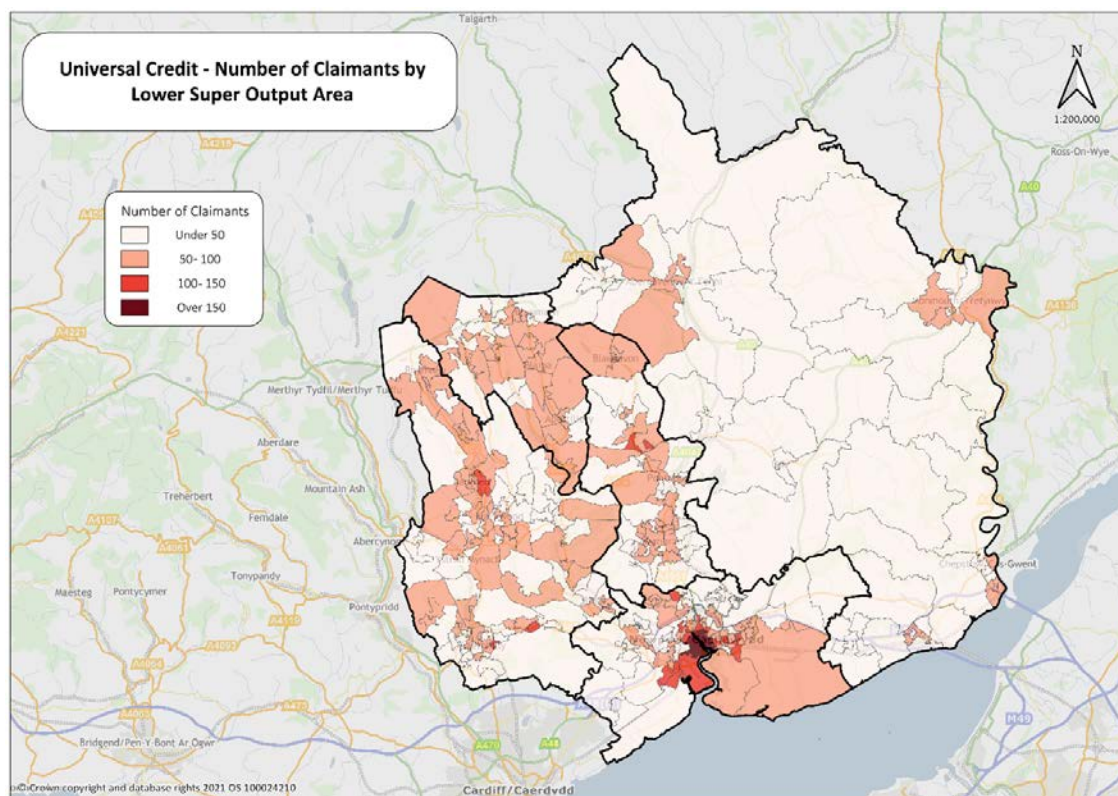


Figure 22 Claimant count - residents aged 16-64, May 2021

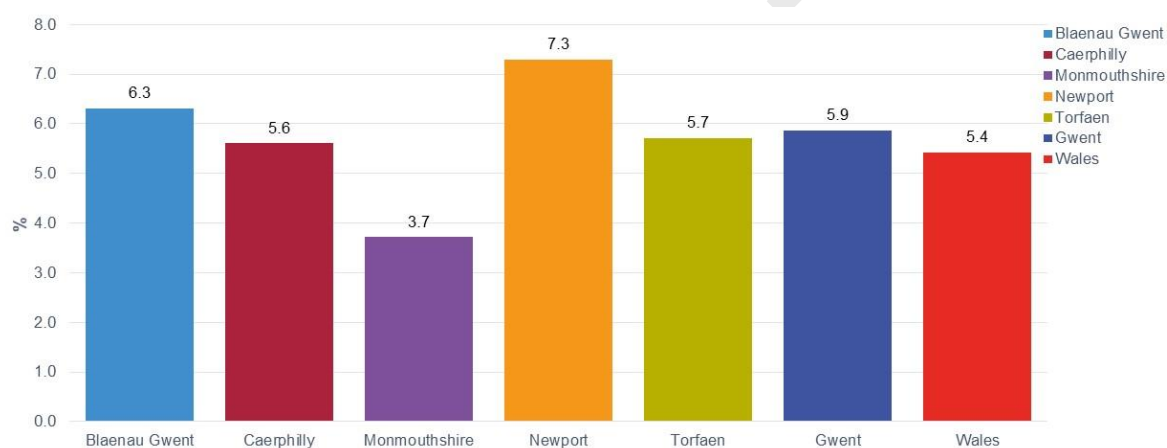


Figure 23 Claimant count as a percentage of residents aged 16-64, May 2021<sup>30</sup>

As of May 2021, the claimant count as a percentage of those aged 16-64 is higher at 5.9% in Gwent compared to 5.4% for Wales. This ranges between 3.7% in Monmouthshire and 7.3%

in Newport, with the lowest and highest rates out of 22 local authorities in Wales. Figure 22 shows that some LSOAs in Newport have a significant number of claimants compared to the rest of Gwent, with 20% of LSOAs having between 100 and 150 claimants and 6% between 155 and 305 claimants. Newport and Blaenau Gwent have the top two highest rates in Wales, whereas Monmouthshire's rate is the lowest.

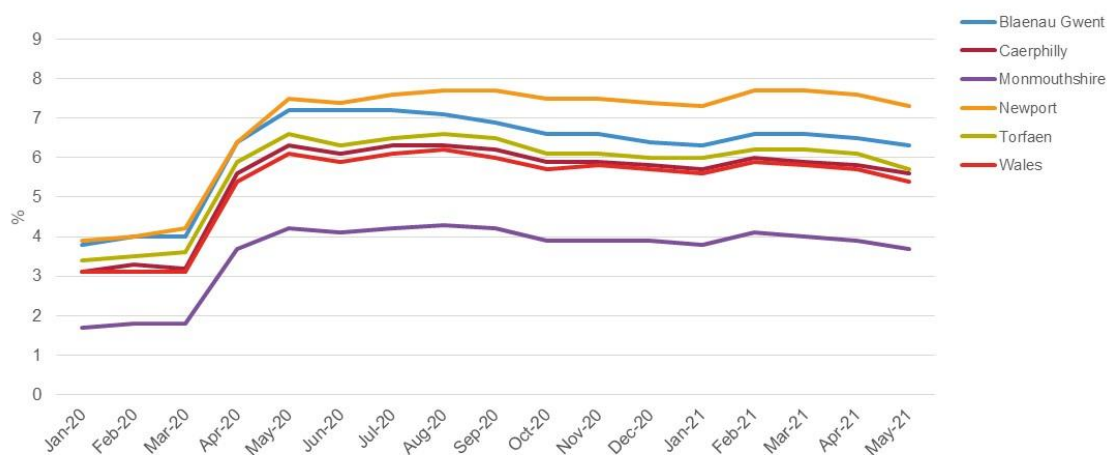


Figure 24 Claimant count as a percentage of residents aged 16-64

Figure 24 shows the sudden significant increase in the claimant count between March – May 2020 across all local authorities in Gwent and Wales as a whole due to the economic impact of the Covid19 pandemic. The rise in claimant count since the start of the pandemic has affected people across all age groups in Gwent. The average claimant rate for Gwent local authorities in March 2020 was 3.4% rising to 6.4% in May 2020, which has remained high since. The current rate for Gwent being 5.9%.

### 3.8 Changes to welfare benefits

#### Universal credit cut - impact by constituency

An analysis by the Joseph Rowntree Foundation on 26th Aug 2021 shows the number and proportion of families who will be impacted by the £20-a-week cut to Universal Credit and Working Tax Credit in each UK parliamentary constituency.

Universal Credit cut: impact by constituency of the planned cut to Universal Credit and Working Tax Credit in October:

- 140 constituencies would see more than one in four of all families (with or without children) affected.
- On average 21% of all working-age families (with or without children) in Great Britain will experience a £1,040-a-year cut to their incomes on 6 October.

- Over 400 constituencies are set to see over one in three working-age families with children hit by the cut.

In March 2020, as we were faced with the economic fallout from the pandemic, the Government recognised that our social security rates were too low to protect families when they need it. The Government increased Universal Credit and Working Tax Credit by £20 a week. However, this £20 a week was cut from 6 October 2021. This cut will impose the biggest overnight cut to the basic rate of social security since the foundation of the modern welfare state.

As much as 6 million low-income families will lose £1,040 from their annual income, creating serious financial hardship and leave 500,000 people to be swept into poverty - including 200,000 children. Families with children will be disproportionately impacted and 6 in 10 of all single-parent families in the UK will be impacted.

Figure 23 shows the constituency estimate percentage of families in Gwent who will be impacted by the cut to Universal Credit and Working Tax Credits in October 2021.

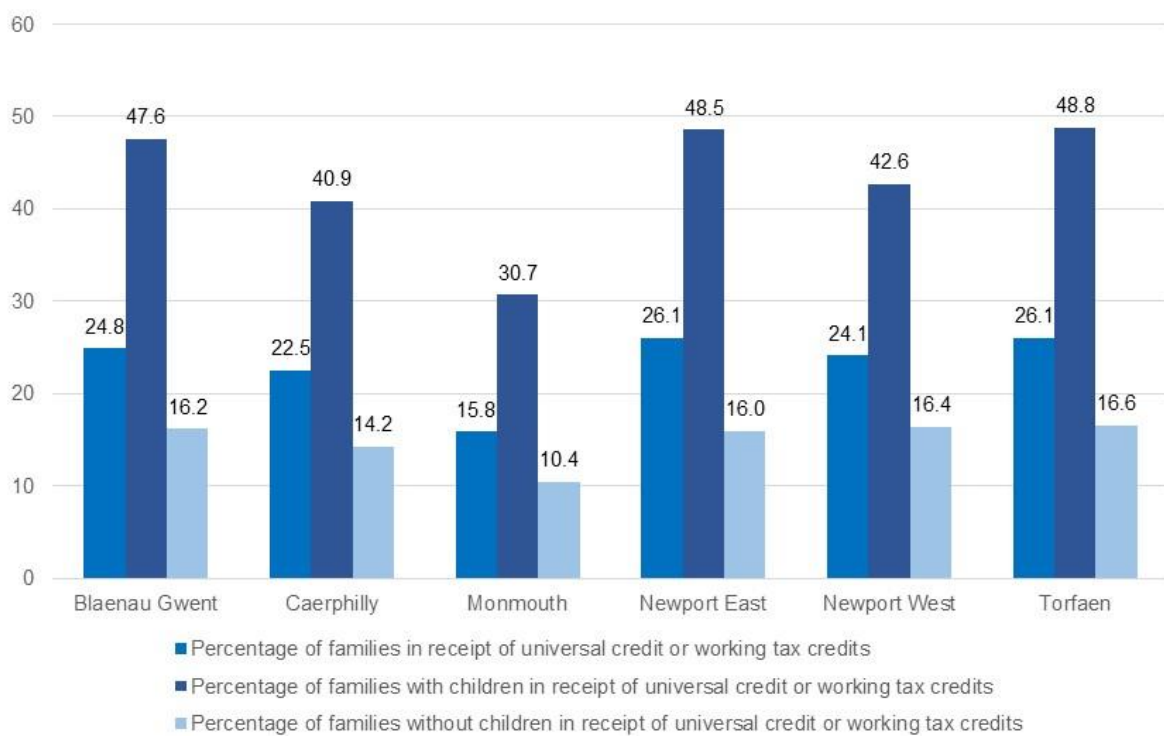


Figure 25 Percentage of families impacted by cut to universal credit and working tax credits in October 2021.<sup>31</sup>

The estimated percentage of families who will be impacted by the planned cut to Universal Credit and Working Tax Credits ranges between 15.8% in Monmouthshire and 26.1% in both Torfaen and Newport East constituencies. The latter being the third and fourth highest rate of 40 constituencies in Wales.

A much bigger percentage of families with children in receipt of Universal Credit and Working Tax Credits will be affected as this ranges between 30.7% in Monmouthshire and 48.8% in

Torfaen, the third highest rate in Wales. Although Newport East and Blaenau Gwent are not far below Torfaen with 48.5% and 47.6% respectively.

### 3.9 Economically Inactive

Economic activity for an area is made up of two fundamental components, those in the area that are economically active and those that are economically inactive. The economically inactive include those that are students, looking after family, temporary or long-term sick and retired.

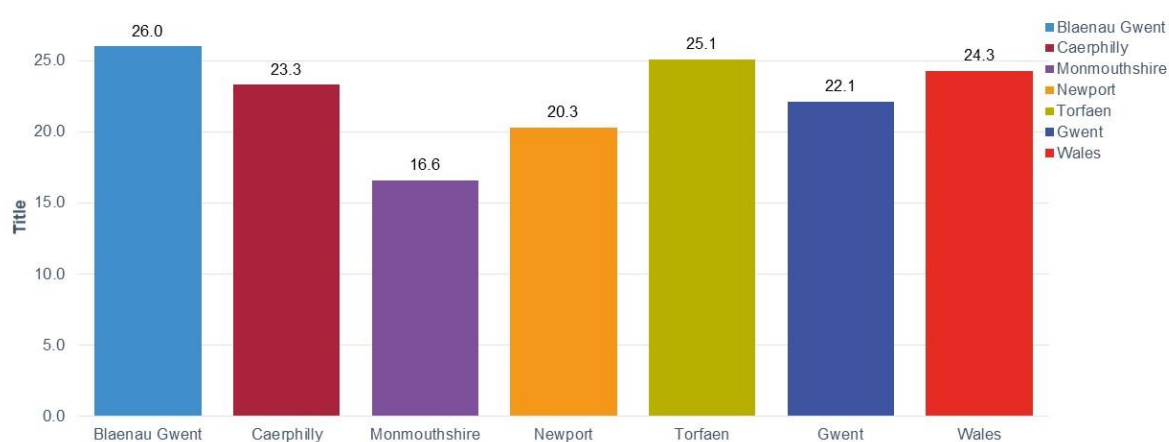


Figure 26 Economic inactivity rate - aged 16-64, Jan – Dec 2020<sup>32</sup>

The percentage of those aged 16-64 economically inactive is lower in Gwent compared to the Wales average. This however ranges between a low of 16.6% in Monmouthshire and highs of 25.1% in Torfaen and 26% in Blaenau Gwent.

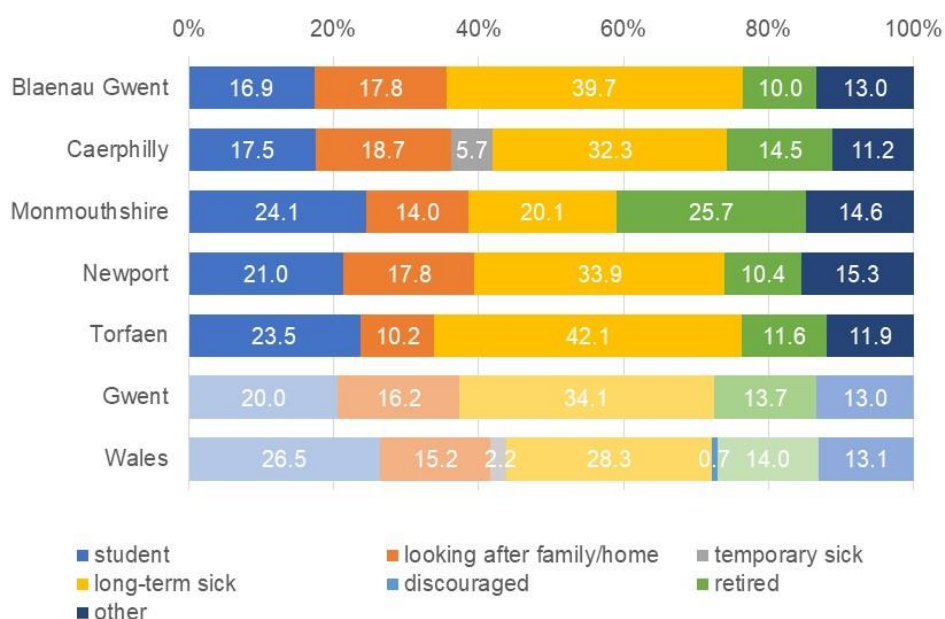


Figure 27 Economic inactivity rate by reason, Jan – Dec 2020<sup>33</sup>

Gwent has a similar percentage of economically inactive to Wales who are looking after family/home, retired and 'other'. However, Gwent has a notably higher percentage of long-term sick (34.1% compared to 28.3% in Wales) but a lower percentage of students (20.0% compared to 26.5% in Wales).

For economically inactive at a local authority level, the percentage of long-term sick is particularly high in Torfaen (42.1%) and Blaenau Gwent (39.7%), especially when compared to Monmouthshire which has about half the rate at 20.1%. Almost half (49.8%) of those economically inactive in Monmouthshire are either students or retired people. This is a significantly higher proportion compared to the other local authorities in Gwent.

Monmouthshire, like much of Wales and the UK, has an ageing population – and although growth in the number of older people can bring huge benefits to an area, it can also place increased pressure on public services as people become more likely to require care or support in later life. This also means more people may take on caring responsibilities for family or friends whilst ageing themselves.

### 3.10 Not in education, employment or training (NEET)

Data is not available at a local authority level and relates to the 2020 calendar year at a Wales level, most of which was during the Covid-19 pandemic.

Data in this government release of data relates to the 2020 calendar year, most of which was during the pandemic. Education, employment and training opportunities during 2020 may have been impacted by the pandemic (data released April 2021).

## **16 to 18-year olds**

Overall, the proportion of 16 – 18-year olds who are NEET had been gradually decreasing between 2011 and 2017, but increased slightly in 2018 and 2019. The size of this increase varies depending on the source used.

On the statistical first release basis (SFR), at end 2019, 11.1% of 16 – 18-year olds were NEET (11,200) compared with 10.6% (10,800) at end 2018. On the Annual Population Survey (APS) basis, for the year ending 2020 Quarter 4, 7.4% of 16 – 18-year olds were estimated to be NEET, compared with 10.2% at the year ending 2019 Quarter 4.

## **19 to 24-year olds**

On the SFR basis, at end 2019 15.7% of 19 – 24-year olds were NEET (37,400) a decrease compared with 16.0% (38,500) in 2018.

After the start of the 2008 recession, the proportion of 19 – 24 who were NEET saw a large increase from 17.4% in 2008 to around 22% to 23% between 2009 – 2012. It then decreased each subsequent year up to 2017. The decrease was driven by increased labour market activity, with participation in education and training remaining fairly stable.

On the APS basis, for the year ending 2020 Quarter 4, 14.9% of 19 – 24-year olds were estimated to be NEET, compared with 15.6% for the year ending 2019 Quarter 4<sup>34</sup>.

## **3.11 Food banks**

Trussell Trust figures cannot be used to fully explain the scale of food bank use across the UK, because the figures relate to food banks in their network and not to the hundreds of independent food banks. Parcels refer to the number of emergency food parcels distributed by food banks which can either provide three-days or seven-days' worth of supplies. No equivalisation has taken place to scale seven-day parcels down to three.

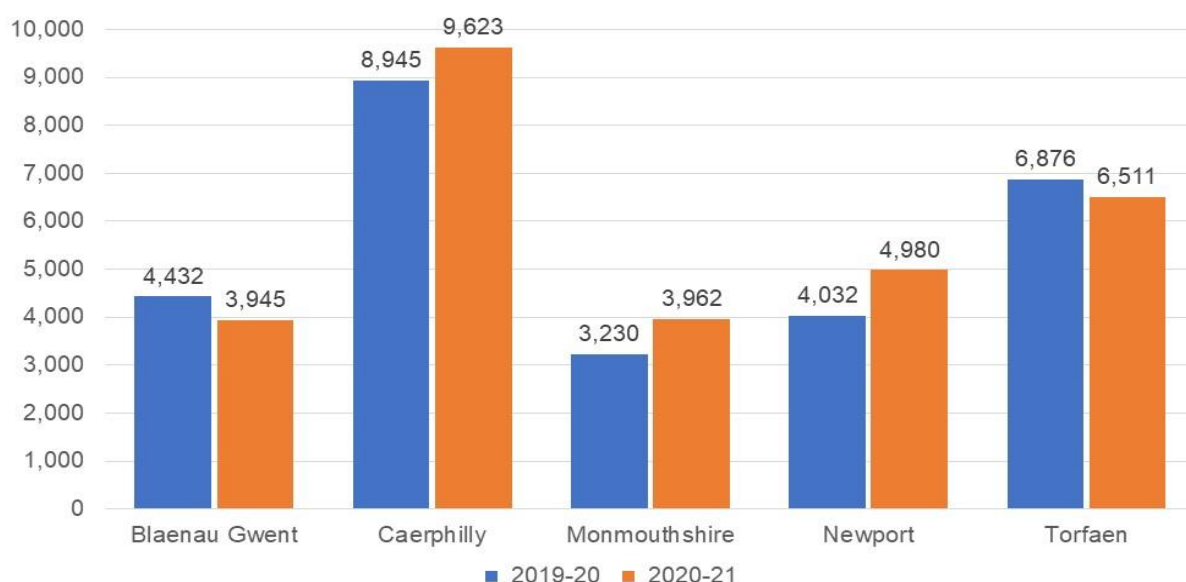


Figure 28 Food parcel deliveries, Trussell Trust distribution<sup>35</sup>

In 2019-20 Wales distributed a total of 134,892 food parcels. There were 27,515 parcels distributed in the Gwent between the five local authorities. Blaenau Gwent dispatched 4,432, Caerphilly 8,945, Monmouthshire 3,230, Newport 4,032 and Torfaen 6,876.

Then in 2020-21 an increased amount of 145,828 (up 8%) was distributed around Wales and, the number of parcels distributed around Gwent also increased by 1,506 (up 5%) meaning 29,021 were given out. For Blaenau Gwent the number of food parcels distributed decreased to 3,945 but, all the other local authority's distribution amounts increased. Caerphilly distributed 9,623, Monmouthshire 3,962, Newport 4,980 and Torfaen 6,511.

At the beginning of the pandemic the Trussell Trust reported that there was a 21% increase in the demand for food parcels in Wales, this is due to the reduction of household incomes as most people were unable to work during the pandemic therefore, more members of the public had to use their local food bank. In Wales accessible schemes was developed during the pandemic for those who were experiencing crisis such as the Discretionary Assistance Fund (DAF).

Comparisons in the growth in food parcel distribution between areas should be made with caution. There are many different factors that may influence the number of parcels distributed within a local area, such as prevalence of other food banks. For example, in Blaenau Gwent the reduction is probably due to an increase from donations elsewhere such as through Community Centres and Rotary Clubs for example, who were increasing their capacity during the pandemic and providing more of an independent food bank service, which won't be taken into account in the Trussell Trust figures.

It is also important to note here that food bank use on its own is not the only indicator for food poverty and food insecurity. Many families and households may not meet the low income or unemployment thresholds for some food bank vouchers or continue to avoid food banks due to the stigma associated with having to rely on them, so food bank use alone could be just the tip of iceberg when it comes to determining levels of food poverty within any area or region.

### 3.12 Food security

The Food Foundations report “The Impact of Covid-19 on Household Food Security” is based on data collected from seven rounds of nationally representative UK-wide surveys to monitor levels of food insecurity impacted by Covid-19 undertaken between March 2020 and January 2021.

Key findings from the report state that despite vital emergency measures in place, more people are food insecure now than before the pandemic. Community and voluntary sector groups helped millions of vulnerable people, but evidence shows too many food insecure households have struggled to access support. Reliance on overstretched food banks and food aid charities is not a sustainable safety net for individuals and families who can't afford a decent diet.

Households with children have consistently found it harder to put food on the table, particularly lone parents, large families, and low-income families. Covid-19 has deepened the financial hardship faced by low income households and has also created a newly vulnerable group who were financially stable pre-Covid.

The January 2021 picture of food insecurity is also reported, stating that:

- 22% of households have lost income since before the pandemic
- 9% of adults have experienced food insecurity in the past 6 months
- 12% of households with children live in households that have experienced food insecurity in the past 6 months
- 41% of households with children on Free School Meals have experienced food insecurity in the past 6 months

Some groups with higher levels of food insecurity: -

- ‘Limited a lot by health problems/disability’ are 5 times greater than those with no health problems/disability
- ‘Severely clinically vulnerable’ are twice as high as the average
- Food sector workers are 50% higher than compared to non-food sector workers
- Black And Minority Ethnic (BAME) households are twice as likely to suffer from food insecurity than White British
- Survey responses indicate that drivers of food insecurity are 55% not enough money, 31% isolation, 23% lack of supply and 8% ‘other.’

There are 3 main recommendations to address food poverty<sup>36</sup>:

1. **Review free school meals:** to ensure Free School Meals are delivering maximum nutritional and educational impact and promoting children’s learning and well-being throughout the school day. It should review the current eligibility threshold to make sure no disadvantaged children are missing out on the benefits of a Free School Meal.
2. **Pay fair and keep the uplift:** Businesses need to pay their employees the Real Living Wage. Combating the dire economic impact of the pandemic will require a broader set of policies to boost incomes for poorer households including the permanent

retention of the £20 uplift to Universal Credit (and its extension to those on legacy benefits), and the removal of the 5-week wait for Universal Credit, the two-child limit and the benefit cap.

3. **leadership and action on food insecurity:** As we move out of crisis mode, we need a designated authority in Government who has oversight on food insecurity tracking or responsibility to tackle it, with powers to inform and drive action at the national and local authority level in response to the data.

Further work has been undertaken using the 'current data' from the Food Foundation survey mentioned above, of 4,231 adults across the UK conducted in late January/early February 2021, by academics from Manchester Metropolitan and Sheffield Universities.

Their 'local' estimates use a technique that includes a multilevel logistic regression-based small area estimation approach. This includes an estimate of the key relationships between predictor variables and the food insecurity outcome variables. The Local authority codes are included in the survey to enable the small area estimation.

Food banks have been set up in communities where people have recognised this problem of hunger with the intention of meeting immediate food needs. Hunger is understood as having been hungry at least once in the previous month but were unable to get food.

The study identifies two further measures. Those who struggle include people who have cut back on food or skipped meals and those who worry about being able to adequately supply the food they need for themselves and their families. This latter group are typically considered marginally food secure because they have enough food. However, they may have traded down on the nutritional quality of the food they purchase.

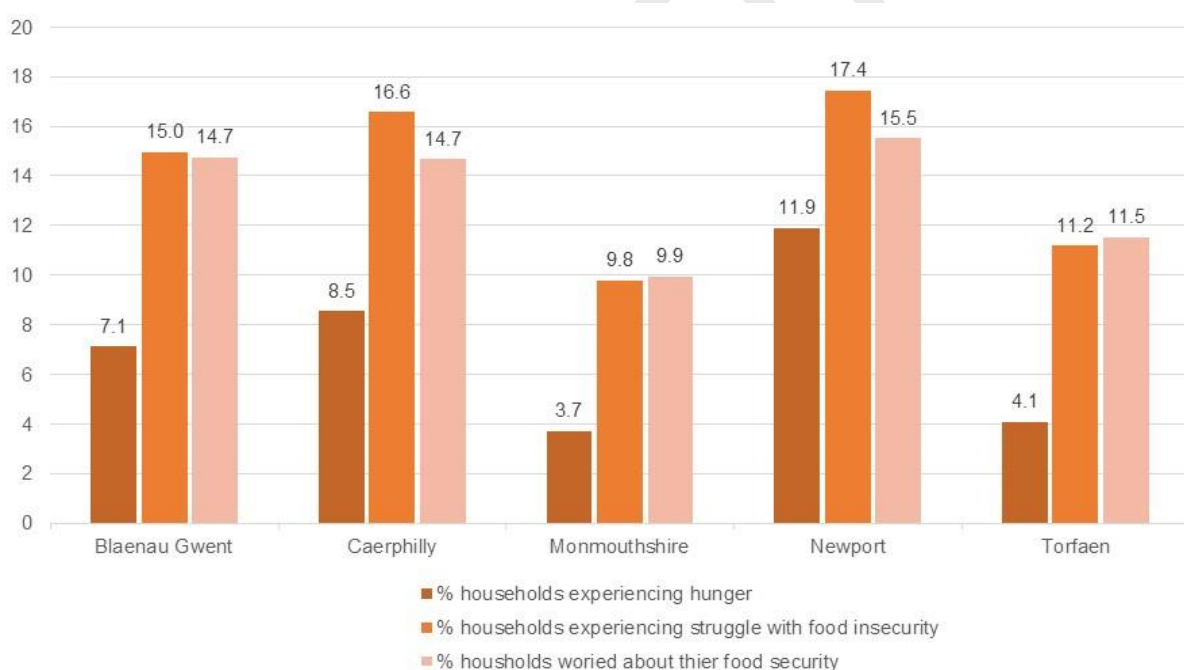


Figure 29 Food poverty groups, January 2021<sup>37</sup>

Each of the local authorities in Gwent are shown to have experienced levels of food poverty. Newport in particular is estimated to have 11.9% of households experiencing hunger, the highest percentage not only in Gwent but in Wales and third highest in the UK. Newport also has the second highest percentage of households in Wales, 17.4% experiencing 'struggle with food insecurity', and 15.5% 'worried about their food security'. Caerphilly and Blaenau Gwent also have a large percentage of households experiencing food poverty, being in the top quartile for each measure in Wales.

The authors of the study encourage researchers and policymakers to consider ways to provide support that extends beyond addressing the immediate food needs of the severely food insecure and use these data as a benchmark to demonstrate improvement over time. Also, to use the data to inform local and national policy debates that have implications for either exacerbating food insecurity or increasing food security across the UK.<sup>38</sup>

## 4. Childcare

Working parents of three and four year olds in Wales (all parents in the household must be working and earn less than £100,000 per year in total) can get 30 hours of free funded childcare per week for 48 weeks a year. If they need to pay for 20 extra hours to take this up to a full time place (50 hours per week to factor in commuting time), the average weekly price in nursery would £89.12 across Wales.<sup>39</sup> The 30 free hours of childcare provision does not however extend to families where a parent is in training, so it is difficult for those parents to boost their employment opportunities through training without access to the funded childcare.

All children aged three to four are entitled to at least 10 hours per week of free funded childcare, regardless of whether or not the parent or parents are in employment. Some two to three-year olds in Wales can get 12.5 hours a week of free childcare as part of the Flying Start scheme, which is provided in targeted areas where deprivation is higher than average. Despite the support available for parents across Gwent, it still means that access to and availability of childcare for the remainder of a working week can be a real barrier to employment for many.

Childcare is not just a service for parents who work; it is a valuable service for children too. Research indicates that childcare can provide immediate and long-term benefits to children from the poorest backgrounds if they receive high quality provision in their early years, improving prospects future generations.<sup>40</sup>

Under the Childcare Act 2006 local authorities have a statutory duty to secure sufficient childcare for the needs of working parents and carers in their area, for children up to 1 September after they turn 14 years, or until they reach the age of 18 in the case of children with a disability.

Assessments carried out for the 5 local authorities in Gwent in 2017 tell us that the total number of registered and unregistered childcare providers and total number of spaces available across Gwent are as follows.

- Blaenau Gwent – 66 providers offering 1,329 places<sup>41</sup>
- Caerphilly – 346 providers offering 2,080 places<sup>42</sup>
- Monmouthshire – 115 providers offering 2,304 places<sup>43</sup>
- Newport – 151 providers offering 5,632<sup>44</sup> (*as at March 2021*)
- Torfaen – 151 providers offering 4,286 places<sup>45</sup>

The Assessments also demonstrated that there are a variety of different reasons for parents with children using childcare services. The most common reasons for using childcare across Gwent were for employment or seeking employment. Other common reasons include the social or learning benefits for the child/children, university or college study.

However, engagement with parents identified expensive childcare costs as being a big factor for not using childcare, making it unaffordable for many families across Gwent, and also highlighted a need for more flexible opening times/wraparound arrangements to assist parents on irregular shift patterns. Parents looking after children because childcare costs are too expensive or they're unable to find support at suitable times of the day often leads to increased economic inactivity.

The Assessments indicate that there are a reasonable range of types of provision across most community planning areas. However, Welsh medium childcare and provision for children with special and educational needs and disabilities is generally low across Gwent. Being a stay-at-home parent or receiving support from family or friends who look after children were the most common reasons for parents in Gwent not using childcare.

## 5. Business

### 5.1 Businesses demography

Business demography gives an estimate of the number of registered (i.e. VAT or PAYE) business births and deaths as well as survival rates.

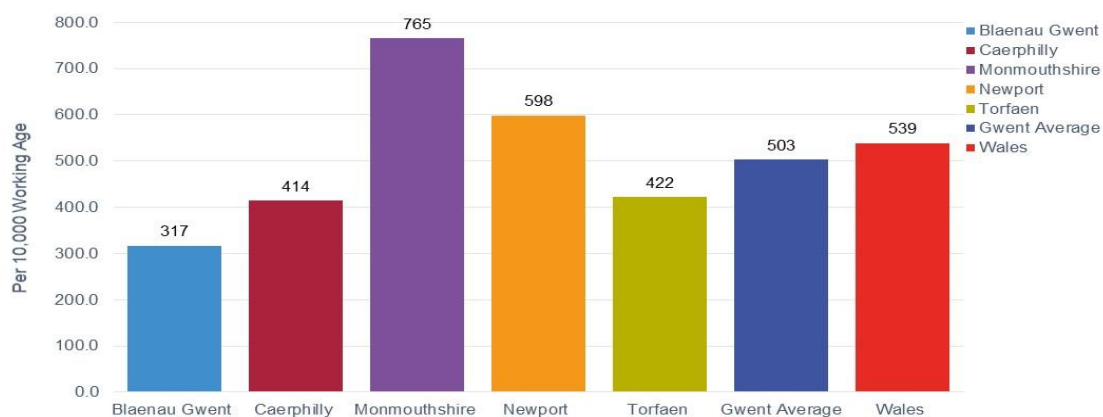


Figure 30 Active business enterprises per 10,000 working age, 2019<sup>46</sup>

The number of active business enterprises per 10,000 of the population is lower at 503 for Gwent compared to 539 for Wales. This ranges between 317 in Blaenau Gwent and 765 in Monmouthshire, which are also the lowest (Blaenau Gwent) and second highest (Monmouthshire) rates of 22 local authorities in Wales. Caerphilly and Torfaen have the 4<sup>th</sup> and 5<sup>th</sup> lowest rates in Wales respectively.

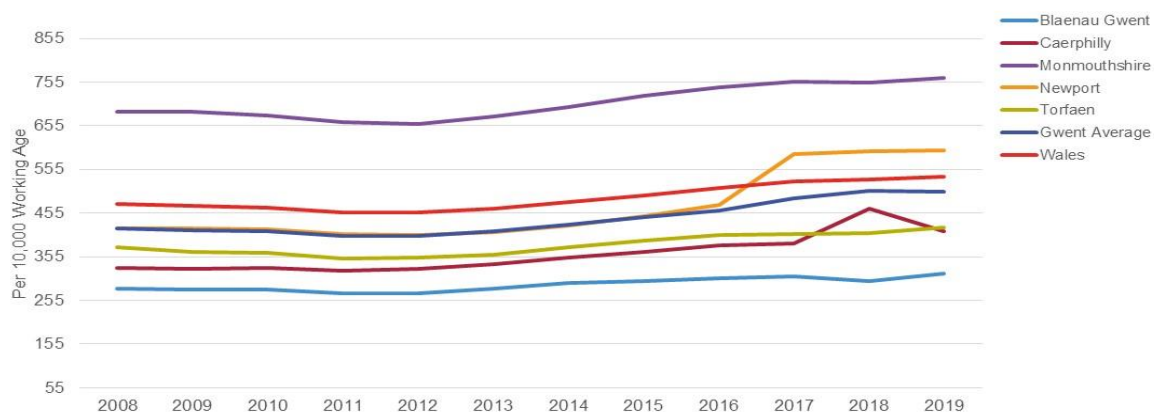


Figure 31 Active business per 10,000 working age, 2008 - 2019

Figure 32 shows the trend over time for active businesses per 10,000 population working age. The rate in Gwent has shown a slight upward trend since 2008, which generally became more pronounced between 2017 – 2019, particularly in Newport and Caerphilly. It is worth investigating why there was such a significant increase in 2017 and subsequent decrease in Newport.

Both local authorities also showed the largest increase in the number of active businesses between 2008 – 2019 with 178 and 84 more active businesses respectively per 10,000 of the population. The rate has constantly been lowest in Blaenau Gwent and highest in Monmouthshire over this period.

The rate of active businesses in 2019 in Gwent local authorities has been determined by the rate of new active businesses, active business closures and business survival rates in the preceding years to this. These can be seen over the latest 5 years in figures 33 to 35.

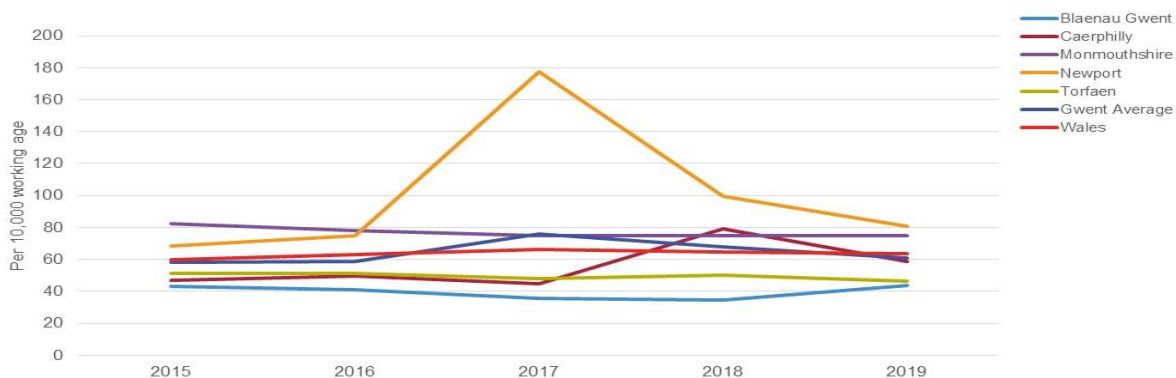


Figure 32 Rate of new active businesses per 10,000 working age population<sup>47</sup>

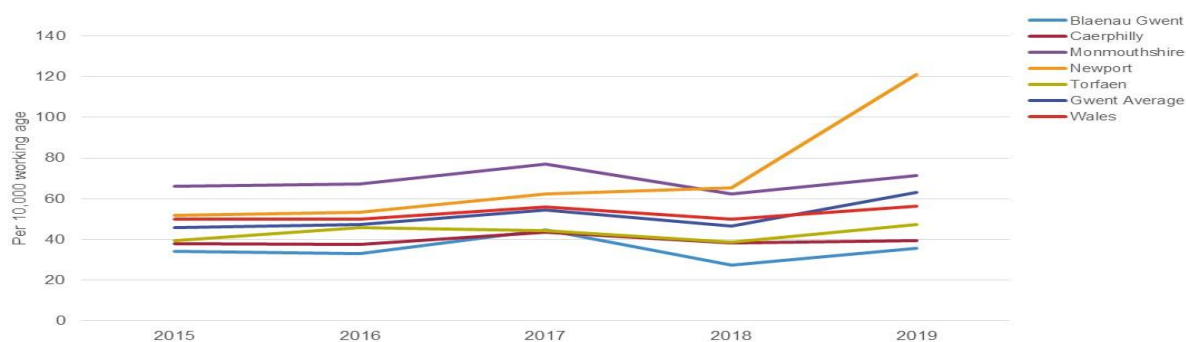


Figure 33 Rate of active business closures per 10,000 working age population

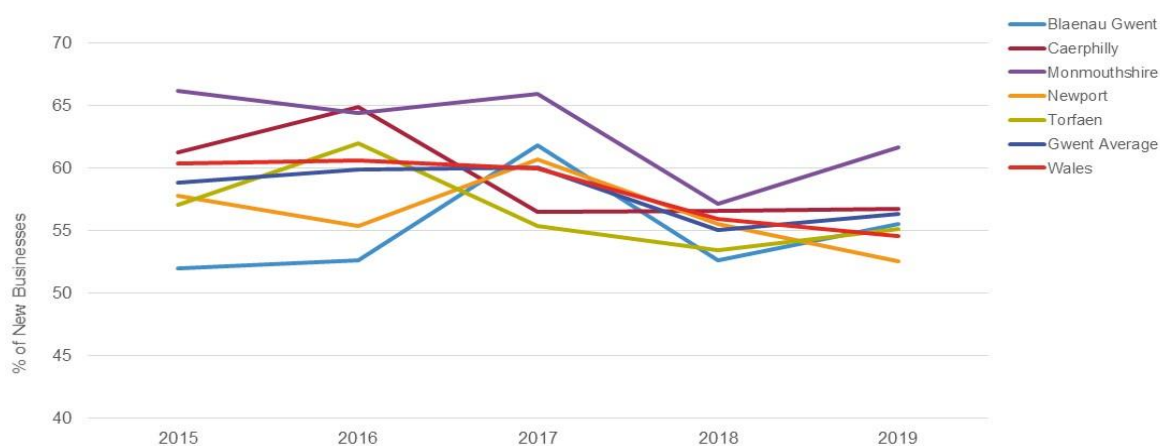


Figure 34 Percentage of new businesses surviving three years of trading

While Blaenau Gwent, Monmouthshire and Torfaen maintained a steady rate of active new businesses over the latest 5 years, there was a notable increase in 2018 for Caerphilly and a significant increase in 2017 for Newport.

However, there was also a notable increase in the rate of active business closures in Newport 2 years later in 2019. Despite this, Newport along with the other local authorities in Gwent, showed a net increase in the rate of active businesses over the period.

In terms of survival rates, the percentage of active businesses surviving 3 years of trading generally showed a downward trend for Gwent local authorities and Wales as a whole, while Blaenau Gwent bucked the trend, to a small degree.

## 5.2 Retail and Leisure

The Welsh Government will provide grant funding to the 22 local authorities in Wales to provide the Retail, Leisure and Hospitality (for example shops, pubs and restaurants, gyms, performance venues and hotels) Rates Relief scheme to eligible ratepayers for 2021-22. The scheme aims to provide support for eligible occupied properties by offering a discount of 100% on the non-domestic rates bill for a property, to all eligible premises. The scheme will apply to all eligible ratepayers with a rateable value of £500,000 or less.

### **How will the scheme be administered?**

It will be for local authorities to determine how they wish to administer the scheme to maximise take-up and minimise the administrative burden for ratepayers and for local authority staff.

### **Which properties will benefit from relief?**

Properties that will benefit from this relief will be occupied retail, leisure and hospitality properties – such as shops, pubs and restaurants, gyms, performance venues and hotels across Wales.

Relief should be granted to each eligible business as a reduction to its rates bill based on occupation between 1 April 2021 and 31 March 2022.

### **Other considerations**

As the grant of the relief is discretionary, local authorities may choose not to grant the relief if they consider that appropriate, for example where granting the relief would go against the local authority's wider objectives for the local area.

Ratepayers may view that they have been able to continue trading at a substantial level during Coronavirus restrictions and as such would be inclined to not accept the relief.

### **How much relief will be available?**

The total amount of government funded relief available for each property under this scheme for 2021-22 is 100% of the remaining bill, after mandatory reliefs and other discretionary reliefs funded by section 31 grants have been applied<sup>48</sup>.

## **5.3 Tourism**

Tourism plays an important role in the Gwent economy. Prior to the very serious negative impact of the Covid-19 pandemic in 2020, there was significant growth in tourism spend across the region. In Wales generally, tourism was one of the fastest growing industries and this was reflected in the upward trend in Gwent. However, the impact of Covid-19 was devastating for the sector across Gwent, Wales and the UK in 2020 with tourism revenues significantly down.

All five local authorities in Gwent use STEAM data, a robust economic activity monitor, to assess the value of tourism in their areas.<sup>49</sup> STEAM shows that pre-pandemic, in 2019, 10.6 million visitors came to Gwent, generating over £974 million for the local economy. Between 2015 and 2019, tourism revenue grew by almost 18% in Gwent, comparing favourably with a growth target of 10% between 2013-2020 for Wales as a whole.

In 2020, the economic contribution of tourism in Gwent reduced considerably to £297 m (70% decrease on 2019) due to the pandemic. Total visitor numbers reduced to 3,223m (70% reduction on 2019) and FTE jobs supported by direct tourism spend reduced to 5,112 (52% reduction on 2019).

Economic impact of tourism £M 2020					
	2015	2019	2020	% change 2015-2019	% change 2019-2020
Blaenau Gwent	49.15	62.51	19.81	27%	-68%
Caerphilly	135.40	137.69	28.30	2%	-79%
Monmouthshire	212.37	251.57	81.16	19%	-68%
Newport	351.32	440.53	148.76	25%	-66%
Torfaen	79.36	82.44	19.00	4%	-77%
<b>Gwent</b>	<b>827.59</b>	<b>974.73</b>	<b>297.04</b>	<b>18%</b>	<b>-70%</b>

Figure 35 Economic Impact of Tourism in Gwent 2015 - 2020

Visitor number - Total 000's					
	2015	2019	2020	% change 2015-2019	% change 2019-2020
Blaenau Gwent	676	744	259	10%	-65%
Caerphilly	1,774	1,809	299	2%	-83%
Monmouthshire	2,190	2,284	536	4%	-77%
Newport	3,042	4,674	1,917	54%	-59%
Torfaen	1,058	1,084	211	2%	-81%
<b>Gwent</b>	<b>8,739</b>	<b>10,596</b>	<b>3,223</b>	<b>21%</b>	<b>-70%</b>

Figure 36 Visitor Numbers (total) in Gwent 2015 – 2020

Visitor number - Staying 000's					
	2015	2019	2020	% change 2015-2019	% change 2019-2020
Blaenau Gwent	138	169	46	28%	-73%
Caerphilly	392	388	97	1%	-75%
Monmouthshire	494	559	195	22%	-65%
Newport	720	794	214	10%	-73%
Torfaen	216	220	57	5%	-74%
<b>Gwent</b>	<b>1,960</b>	<b>2,131</b>	<b>610</b>	<b>12%</b>	<b>-71%</b>

Figure 37 Visitor Numbers (staying) in Gwent 2015 - 2020

Visitor days - Total 000's					
	2015	2019	2020	% change 2015-2019	% change 2019-2020
Blaenau Gwent	864	993	330	15%	-67%
Caerphilly	2,305	2,354	432	2%	-82%
Monmouthshire	2,954	3,265	920	11%	-72%
Newport	3,872	5,578	2,198	44%	-61%
Torfaen	1,315	1,359	282	3%	-79%
<b>Gwent</b>	<b>11,310</b>	<b>13,549</b>	<b>4,161</b>	<b>20%</b>	<b>-69%</b>

Figure 38 Visitor Days in Gwent 2015 - 2020

While tourism is important across all parts of Gwent, it has greatest significance in Newport where there is a focus on high value business tourism, and in Monmouthshire, a well-established leisure destination where tourism assists diversification of the rural economy. Newport saw a 25% real terms increase in tourism revenue between 2015 and 2019, followed by a decrease of 66% in 2020. (£441 m in 2019; £149m in 2020). Monmouthshire's tourism revenues increased by 19% between 2015 and 2019 but then decreased by 68% in 2020 (£252m in 2019; £81m in 2020).

The tourism revenue and the visitor figures for each of the five local authorities in Gwent are shown below. The biggest percentage growth between 2015 and 2019 was in Blaenau Gwent (27%) however tourism plays a smaller part in the local economy here than in other parts of Gwent. Caerphilly and Torfaen experienced the biggest drops in tourism revenue in Wales between 2019 and 2020 at -79% and -77% respectively.

The UK and Welsh Governments' public health restrictions and the changes in people's behaviour due to the Covid-19 pandemic contributed significantly to the economic contraction in Wales. The impact was felt in most in those sectors unable to operate during lockdowns, such as accommodation and food. Tourism activity picked up during summer 2021 but the profitability of many businesses will have been adversely affected by earlier restrictions, and the economic effects will have significantly impacted the well-being of workers in this sector.

### Full Time Equivalent Jobs Supported by Tourism

Just as tourism revenue increased in Gwent between 2015 and 2019, so did the number of full time equivalent (FTE) jobs. In 2019, 10,572 FTEs were supported by tourism in Gwent (7,604 direct FTEs jobs and 2,968 indirect jobs). This represents an increase of 16% on 2015 of all FTEs jobs supported by tourism, with Newport, Monmouthshire and Blaenau Gwent seeing significant increases. However, as tourism revenues decreased in 2020, so did the number of FTE jobs supported by tourism. Between 2019 and 2020 FTE jobs supported by tourism reduced by 52% across Gwent.

FTE jobs supported by tourism spend (direct & indirect)					
	2015	2019	2020	% change 2015-2019	% change 2019-2020
Blaenau Gwent	582	730	372	26%	-49%
Caerphilly	1,599	1,626	466	2%	-71%
Monmouthshire	2,744	3,119	1,614	14%	-48%
Newport	3,326	4,172	2,359	25%	-43%
Torfaen	906	925	301	2%	-67%
<b>Gwent</b>	<b>9,157</b>	<b>10,572</b>	<b>5,112</b>	<b>15%</b>	<b>-52%</b>

Figure 39 Full Time Equivalent jobs supported by tourism spend in Gwent 2015-2020

## 5.4 Community strengths & tourism attractions

Gwent has a mix of natural beauty, high quality heritage attractions, opportunities for sport and outdoor recreation, a renowned food festival in Abergavenny and a growing business tourism infrastructure.

Pre-pandemic, the tourism sector offered considerable potential for continuing growth in Gwent, in particular, with new accommodation coming on stream to meet anticipated demand created by the opening of the Wales International Conference Centre in Newport and the area's increasing reputation for conferences, meetings and incentive travel.

The Wye Valley and Vale of Usk is a popular area for leisure travel and short breaks with the opportunity for spreading the benefits further into Gwent tourists including attractions in other areas as part of their stay.

The pre-pandemic potential of tourism to benefit all parts of Gwent is demonstrated in the rise of tourism in areas like Blaenau Gwent and Torfaen between 2015 and 2019. Investment in the tourism product is however continuing. For example, in Newport heritage lottery funding is being used to develop the city's Transporter Bridge into a significant attraction with improved facilities for visitors.

## 5.5 Cardiff Capital Region City Deal

The Cardiff Capital Region City Deal is a collaboration between the ten local authorities in the Cardiff Capital Region (CCR), the UK Government and the Welsh Government, aimed at catalysing sustainable regional growth. The CCR comprises ten local authority areas in South East Wales: the five Gwent LAs plus Bridgend, Cardiff, Merthyr Tydfil, Rhondda Cynon Taf, and Vale of Glamorgan.

With a 1.3bn investment fund, it is one of the CCR's primary mechanisms for implementing its growth ambitions and strategic priorities. Building on the region's sectoral strengths, skill base and academic expertise, investment is targeted at skills, infrastructure, innovation-led

scalable projects and, priority industry sectors and businesses that will be important for the regions prosperity over the next 10 – 20 years.

Over its lifetime of 20 years the desired outcomes from its programmes of intervention (£734m of which is ring-fenced for Metro developments with the remaining £495m available through a wider investment fund) are to have delivered 25,000 new jobs, generated an additional £4bn of private sector investment into the region and increased GVA by 5%.<sup>50</sup>

There are eight priority sectors identified within the CCR where the region has comparative strengths and competitive advantages. These are:

- Compound Semiconductors
- Fintech
- Cybersecurity & Analytics
- Artificial Intelligence
- Creative Economy
- Life Sciences
- Transport Engineering
- Energy & Environment

The region has seen significant regeneration and investment over recent decades to redevelop heavy industrial areas and to create new business parks, housing and recreational initiatives. Projects have included the Cardiff Bay regeneration and the reintroduction of a passenger rail service to Ebbw Vale, in addition to major road infrastructure works.<sup>51</sup>

The Gwent PSB includes five of the ten local authority areas within the CCR and Gwent accounts for one third of the region's population. The CCR deal aims to keep people connected, businesses competitive, and communities resilient across South East Wales. The region has a strong manufacturing industry across the board, like parts of Gwent, whilst it also experienced a notable rise in people employed in Banking, Finance and Insurance from 2015 – 2018, largely due to significant increases in Caerphilly (+32%), Torfaen (27.9%) and Newport (27.9%).<sup>52</sup>

The approach being followed to the deployment of the £495m Wider Investment Fund involves a set of guiding principles that include taking an evergreen approach to investment funds and co-investment. The aim is to improve both the business environment within the CCR, creating rich ecosystems that stretch and support the development of key sectors in the economy, and the CCR's comparative performance against other cities and regions within the UK and internationally.<sup>53</sup> The ultimate goal is to aim to make the CCR the most investible region within the UK, which would have a significant impact for economic well-being across Gwent.

## 5.6 Strategic development sites

In March 2021, Cardiff Capital Region's Regional Cabinet made a number of key decisions to maintain focus and momentum on new interventions and projects that will continue to boost the south-east Wales economy in the wake of Covid-19.

A new **£50m Investment Fund agreed for Strategic Premises** will support the delivery of CCR's Industrial and Economic Plan and Covid-19 priorities through the provision of early stage finance for the development of new sites and employment premises that allow new and

existing businesses to scale up and invest for the good of the region. If successful, the shortlisted schemes are projected to deliver 2,768 homes across the region whilst simultaneously delivering 3360 jobs and attracting £530m private investment.

**Metro Plus Programme restructured and extended by 1 year to ensure it can deliver for the whole region**

The following six projects will have a one-year extension to the original three-year term and are scheduled to fully deliver by March 2023:

- Barry Docks Park and Ride – Vale of Glamorgan
- Cardiff East Bus Priority Corridor- Cardiff
- Porth Interchange – RCT
- Severn Tunnel Junction Park & Ride – Monmouthshire
- Pontypool and New Inn Station Park & Ride – Torfaen
- Pyle P&R / Porthcawl Bus Terminus / Penbrysg (Pencoed) Level Crossing Bridge-Bridgend

The other four projects, which are larger much longer term initiatives, dependent on interventions outside of the control or remit of the Metro plus programme, will also be extended by 12 months and be continued to be developed to the point where they can attract funding from other programmes to enable their delivery. For these schemes funding will be provided up to March 2023.

- Newport – Cardiff Bus Priority Corridor (or alternative) Newport
- Merthyr Rail / Bus Integration Merthyr
- Abertillery Interchange (or alternative) – Blaenau Gwent
- Caerphilly Interchange – Caerphilly

**Taxi EV infrastructure plan in delivery** during summer 2021 – SWARCO awarded a contract to deliver 34 chargers at 31 sites across the ten Local Authority areas throughout the Cardiff Capital Region. These charging points will enable taxi drivers to charge their vehicles, encouraging a swift take-up of more electric vehicles across the South East Wales Taxi industry to help meet Welsh Government's target for zero emissions from taxis from 2028.

**ULEV Taxi "Try before you buy scheme"** to encourage transition launched in November 2021 – 44 Nissan Dynamo taxis to allow taxi drivers / operators the opportunity to try before they buy for one month per driver. The trail scheme will run for three years.

**Significant Progress made in identifying appropriate sites for expanding charging infrastructure** – 112 sites have been identified and costed to deliver public use charging infrastructure throughout the region, including locations such as on-street, public car parks and transport hubs.

**Educational Taxi webinar arranged for March 29** – to allow taxi drivers/ operators the opportunity to engage with the CCR to discuss opportunities and mechanisms for assisting with transition<sup>54</sup>.

## 5.7 Renewable energy and decarbonisation

In 2021, we have seen how issues with the supply of energy and increases in the whole sale cost of gas can impact on businesses – particularly the food sector.

Both current and future businesses in Gwent need secure supplies of energy.

Energy and environment is identified as a priority sector within the Cardiff Capital Region and has the potential to create prosperity in the region over the next 10 – 20 years<sup>55</sup>. As well as carbon reduction, generating more renewable energy locally has the potential to create local jobs, and community energy projects can provide useful income to invest back into communities.

Existing and currently proposed renewable / low carbon energy generation for Gwent is approximately 10% of current total energy demand and by 2033 the region could theoretically generate over 100% of its current energy demand and over five times its currently electricity demand.<sup>56</sup>

A recent study has identified that renewable / low energy generation in Gwent could be increased through a mixture of the following technologies<sup>57</sup>:

- **Wind** – there is potential to generate sufficient electricity to power over 300,000 homes. Potential generation capacity varies across Gwent, with the upland areas on the boundaries between Torfaen, Blaenau Gwent and Caerphilly being key resources.
- **Ground mounted solar** – Across the whole of Gwent, there is potential for the generation of enough electricity to power the equivalent of over 4 million homes. Given the larger land area, rural Monmouthshire has been identified as theoretically having the most potentially suitable areas for ground mounted solar.
- **Biomass** – Across Gwent, there is enough biomass resource to supply a conventional (steam turbine) Combined Heat and Power plant. If more fuel could be grown and processed locally there could be the potential for more power generation from biomass.
- **Hydropower** – The potential for hydropower within the region is relatively small, but it could still contribute to a holistic energy solution.
- **Roof top solar** – The greatest maximum theoretical potential of roof top solar photovoltaics is identified in Caerphilly due to this being the largest built-up area, but Monmouthshire currently has the greatest installed roof-top PV capacity.

It is not possible to bring forward all the renewable energy potential identified in Gwent as our environmental assets also provide other valuable services that contribute to our well-being and may be important to protect and maintain. The electricity network also has local limits regarding how much energy can be generated.

A regional energy strategy has also been developed for the Cardiff City Region to establish regional priorities for energy. Welsh Government also want more local energy planning to happen that looks at the whole energy system – from generation, storage and use patterns,

our buildings and how they are heated, how industry and business use energy and transport raw materials, goods and services and how people travel. Newport is already taking part in an energy planning pilot and will have learnings that can be shared with the rest of Gwent.

Undertaking Local Area Energy Planning (LAEP) that considers the whole energy system – heat, power and transport – will help ensure that future generations living in Gwent have enough energy to meet their needs.

## 6. Work patterns

Work location relate to the respondent's usual working pattern if coronavirus restrictions were not in place. Therefore, data for 2020 do not reflect actual commuting patterns observed during the pandemic. Figure 41 shows the percentage of working residents who commute out of the area they live in.

### 6.1 Commuting

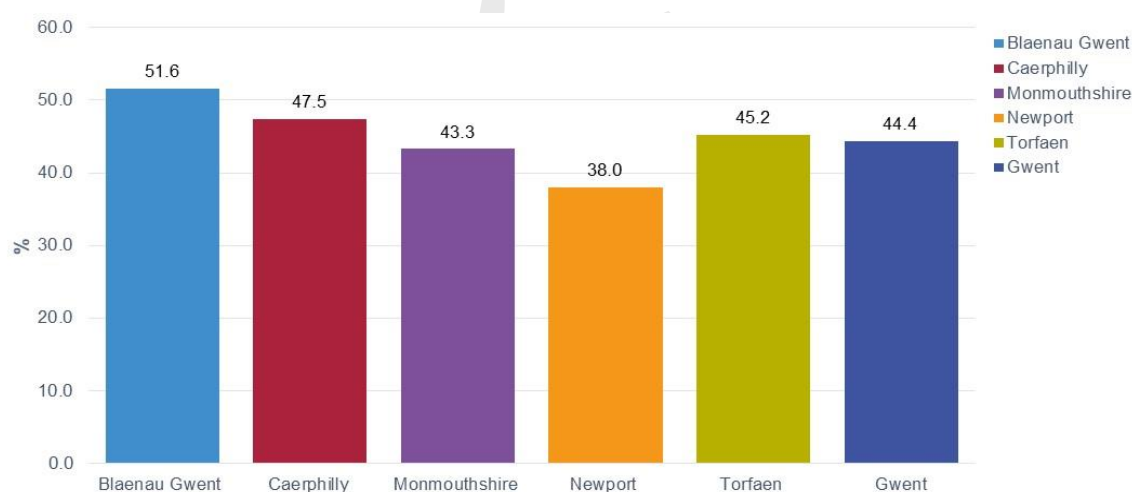


Figure 40 Percentage of working residents living in each local authority who commute out of the area, 2020<sup>58</sup>

The percentage of working residents who commute out of the area they live in ranges between 38.0% in Newport to 51.6% in Blaenau Gwent, which is also the 2<sup>nd</sup> highest rate in Wales, only marginally lower than the Vale of Glamorgan with 51.7%. More working residents in Gwent commute outside of their local authority are compared to the national average. The Wales local authority average is 33.4% of working residents while for Gwent the overall average is 44%.

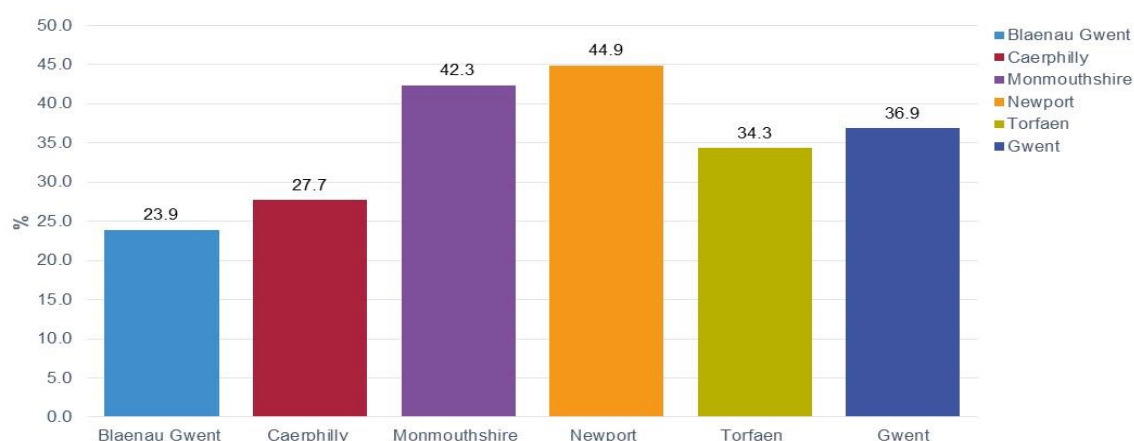


Figure 41 Percentage of people working in each local authority who are commuting into the area, 2020

The percentage of people working in each local authority who commute into that area ranges between 23.9% in Blaenau Gwent to 44.9% in Newport, which is also the highest rate in Wales. Monmouthshire has the 2<sup>nd</sup> highest rate in Wales with 42.3%. The Wales local authority average is 27.4% (over a quarter of people working in the area) while for Gwent overall this is 36.9%.

### Detailed commuting patterns in Wales by Welsh local authority, 2020

Responses for work location relate to the respondent's usual working pattern if coronavirus restrictions were not in place. Therefore, data for 2020 do not reflect actual commuting patterns observed during the pandemic. Figure 43 shows a detailed picture of commuting patterns for workers residing in each local authority.

Local Authority	Cardiff	Rhondda Cynon Taf	Caerphilly	Blaenau Gwent	Torfaen	Monmouthshire	Newport	Merthyr Tydfil	Wales	All outside Wales
Caerphilly	20%	4%	53%	-	2%	-	10%	-	97%	3%
Blaenau Gwent	4%	-	10%	48%	7%	8%	4%	5%	96%	4%
Torfaen	8%	-	2%	-	55%	7%	15%	-	93%	7%
Monmouthshire	4%	-	2%	2%	3%	57%	9%	-	79%	21%
Newport	12%	-	-	-	5%	4%	62%	-	87%	13%

Figure 42 Detailed commuting patterns in Wales by Welsh local authority, 2020<sup>59</sup> (Note that each local authority sum does not equal the Wales total due to use of sample data and low values are not reported)

A relatively high percentage of workers from Newport (62%) and Monmouthshire (57%) work in the local authority they reside in and also have a significant number who work outside Wales, 13% and 21% respectively. More Blaenau Gwent workers work outside their local authority (52%) than in it. A notable level commute into Cardiff and Newport from elsewhere, but in particular from Caerphilly and Torfaen.

## 6.2 How we commute

Wales has one of the highest levels, 80% of workers usually travelling to work by car with Scotland having the lowest at 70%. The latest figures released show that during October to December 2019, 80% of workers who reside in Wales travelled to work by car, which is significantly higher than in England with 67% and Scotland with 70%. Although the percentage who walked to work, at about 10% in Wales is similar to England and Scotland, notably fewer travelled by bus and rail. Note that there is no current data available at a local authority level.

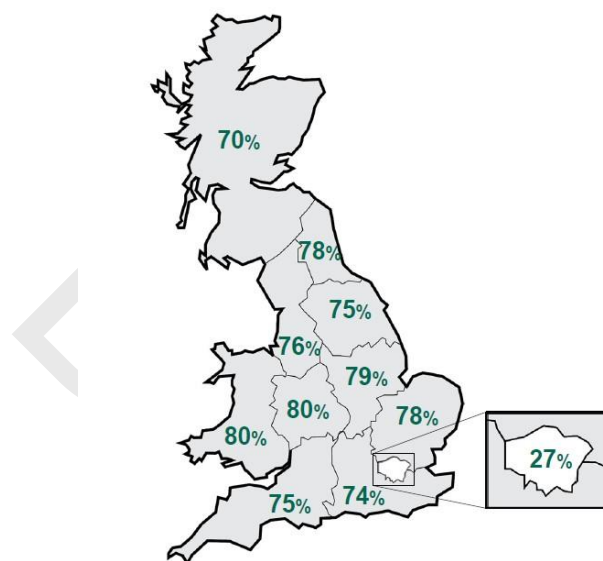


Figure 43 Percentage of workers usually travelling to work by car by region of workplace, Great Britain, 2018<sup>60</sup>

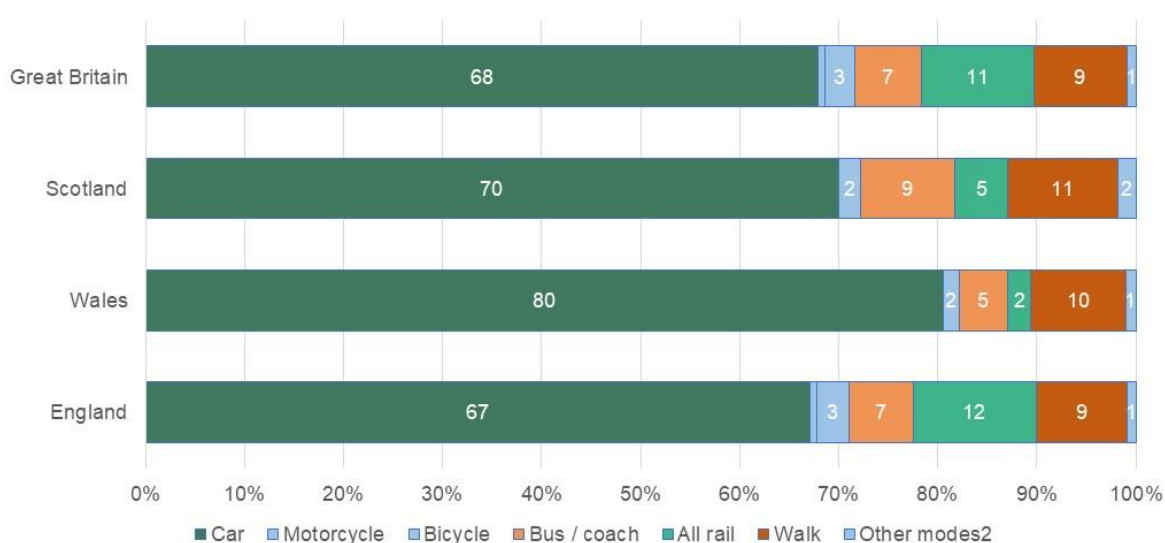


Figure 44 Usual method of travel to work by region of residence: Great Britain, October to December 2019<sup>61</sup>

### 6.3 Effect of the Covid-19 pandemic on place of work

The Annual Population Survey (APS) asks people what their main place of work is “in normal times”, therefore not all responses may reflect working patterns during the Coronavirus (COVID-19) pandemic. Based three variables in the Survey, ONS have defined four homeworking statuses:

- **Mainly** – those who report their main place of work as “in their own home” as opposed to “home as a base”, “same ground as home” or” another place entirely” (offices, factories, and so on)
- **Recently** – those who do not ‘mainly’ work at home, but reported doing some work at home in the reference week
- **Occasionally** – those who do not ‘mainly’ work at home, and did not report doing any work at home in the reference week, but say they do “ever” work from home
- **Never** – anyone not covered in the groups above

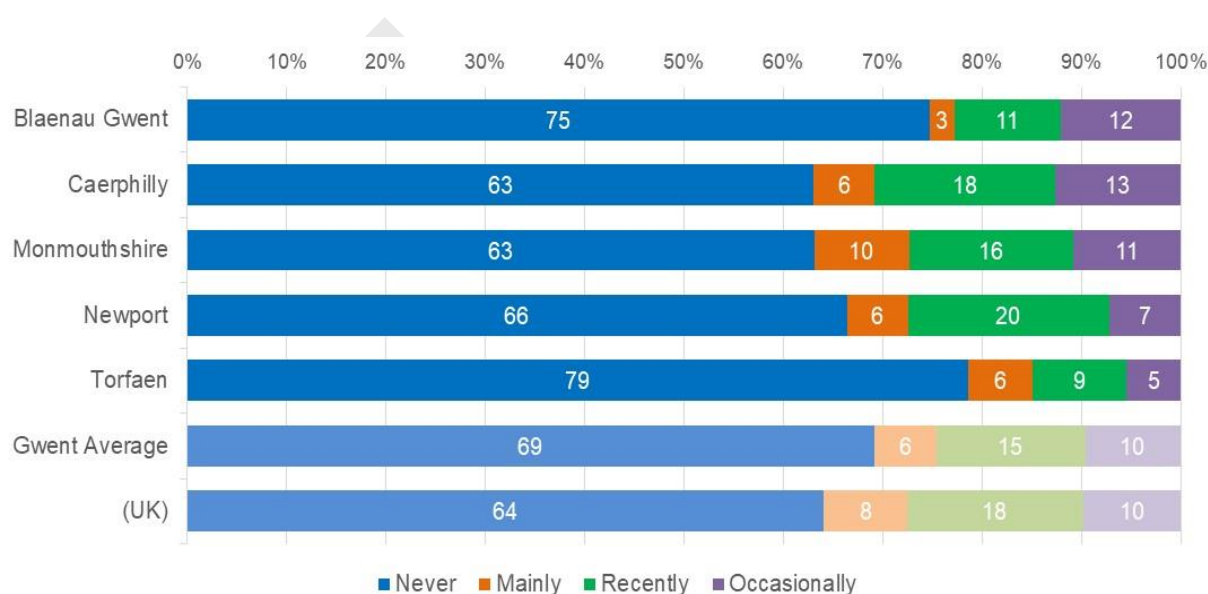


Figure 45 Proportion of workers that completed work from home, 2020<sup>62</sup>

Some of the values are based on a small sample size and may result in less precise estimates, which should be used with caution. However, values for ‘Never work from home’ and other than for Blaenau Gwent, ‘mainly work from home’ are shown as precise estimates.

Monmouthshire has the highest percentage in Gwent and for Wales reporting their main place of work as ‘in their home’ at 9.7% and compares with the Gwent average of 6.1% and UK rate of 8.4%.

Caerphilly and Monmouthshire have the highest percentage in Gwent reporting ‘some work from home’ at 37%, which are also the third and fourth highest rates in Wales. These compare with the Gwent average of 31% and UK rate of 36%. Torfaen has the lowest percentage in Gwent reporting ‘some work from home’ at 21%, which is also the third lowest rate in Wales.

In the UK in 2020, 35.9% of workers reporting doing some level of homeworking – an increase of 9.4 percentage points compared with 2019. This can be largely attributed to COVID-19

“stay at home” measures introduced by the government in March 2020, and the continued policy to encourage workers in Wales to work from home where possible in order to help stop the spread of the virus in offices.

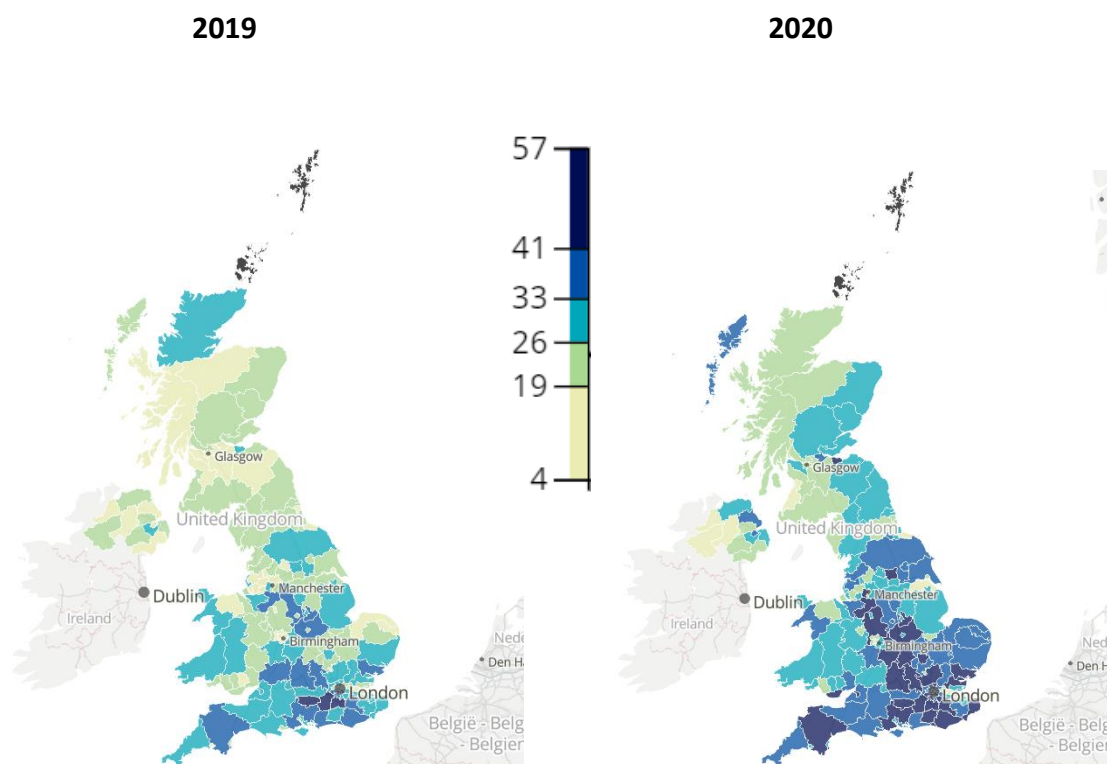


Figure 46 Percentage of workers that completed some work from home, broken down by NUTS 3, UK, 2019 compared to 2020.

In the UK in 2020, 35.9% of workers reporting doing some level of homeworking – an increase of 9.4 percentage points compared with 2019. This can be largely attributed to COVID-19 “stay at home” measures introduced by the government in March 2020.

In the UK in 2020, the industry with the highest proportion of any homeworking was information and communication, with 62.0% of workers having mainly, recently, or occasionally worked from home. This was followed by professional, scientific, and technical activities (56.1%) and financial services (54.2%). By contrast, the industries with the lowest incidence of homeworking at any level was accommodation and food services (12.3%), transport and storage (18.6%) and retail (19.7%). This variation across industries is largely due to differences in the demand for and opportunities to work from home.

In the UK, between 2011 and 2020 the propensity for homeworking increased with educational attainment. For example, in 2020 46.9% of workers with a degree level qualification completed some level of homeworking, compared with 13.9% of workers with no qualifications.

Covid-19 has definitely changed the way we live, work, travel and socialise, with many employers and workers in Gwent moving towards blended agile working practices or full-time homeworking. The rise in agile or homeworking means people commute differently and less

frequently, which drives down commuting costs for workers in Gwent and can have a positive impact on environmental and social well-being. Benefits for local economies, businesses individuals and the environment can include:-

- a reduction in travel time and expense
- more flexibility and better work life balance
- increased productivity
- less traffic, air and noise pollution, especially at peak times
- job opportunities for people in out-of-town Gwent communities and access to an increased workforce pool for employers
- the opportunity to redesign our towns and city centres<sup>63</sup>

The current Welsh Government would like to see a workplace model where staff can choose to work in the office, at home or in a hub location. Whilst this can bring benefits like those outlined above that can improve economic and social well-being and contribute towards the green recovery from Covid-19, permanent office workers spend money on public transport and in businesses like shops and cafés close to where they work. Public transport operators, town centres and high streets across Gwent could therefore be impacted by this reduction in trade associated with a shift away from office working in the long-term.

Future generations may have to spend less time and money on travel to/from work, which could mean an improved work-life balance and increased access to job opportunities within a wider geographical range, but local economics reliant on high street trade from commuters and office workers will need to be supported better in the long-term.

#### **6.4 The impact of innovative technology on the workforce**

The Welsh Government published a report in January 2021 on the key issues impacting the workforce created by the changing nature of work.<sup>64</sup> The key messages to come out of the report are:

1. A number of factors including the Covid-19 pandemic, budget constraints and the drive for productivity, delivering services through technology, and public expectation for services to be delivered differently are driving the introduction of innovative technologies in the public sector.
2. In order to support the workforce adapt to the expanding use of new technologies, international experts agree that government and the public sector need to increase relevant skills training, Address job design and workforce planning, develop close partnership working between unions and managers at an organisational and national level, and put protections in place to guard against some of the potential negative impacts of new technology.
3. Welsh Governments analysis of 3 pre-Covid case studies provided evidence of the potential benefits of innovative technology to improve working life when staff are fully

consulted on its introduction and implementation, and staff concerns about the introduction of innovative technology.

4. Furthermore, during the pandemic the Office of the Chief Digital Officer have collated many examples of innovation in service delivery. These demonstrate that public services have quickly introduced new ways of working to support the remote provision of services to the public and to improve internal processes.
5. Organisations in Wales have responded in the following ways to the general increase in the use of new technologies:
  - Unions have developed key principles which build on or add to those contained in the Partnership and Managing Change agreement which they propose should be adopted when new technology is introduced
  - The Welsh Government is funding Chief Digital Officers in health and local government and has launched a Centre for Digital Public Services
  - Health and social care leaders are recommending a digital workforce plan in their draft workforce strategy
  - The Deputy Minister for Economy and Transport has issued a statement on embedding remote working
  - Internationally, European social partners have published a framework agreement on digitalisation
6. Taking these matters into consideration and taking into account the views and advice of senior officers from each of the social partners who supported this work, the report recommends that:
  - Social partners develop and adopt a set of principles on digitalisation that support the involvement, participation and consultation of staff and trade unions when new digital and data methodologies and new technologies are introduced. The principles will align with the Partnership and Managing Change agreement and include the importance of training and job redesign when managing any change in roles and expectations.
  - The WPC to establish relationships to foster an effective exchange of information between social partners and the partnership of 3 national Chief Digital Officers, with a particular emphasis on public service workforce issues
  - The WPC to engage with the Knowledge Hub within the Centre for Digital Public Services to share knowledge and best practice between social partners and the hub on public service workforce issues complement the information it collects and shares with experiences from a trade union and employer perspective.

## 6.5 Internet access

Questions about internet access and personal use of the internet have been asked in each year in the National Survey for Wales since 2012-13. Figure 48 shows the proportion of residents with household internet access.

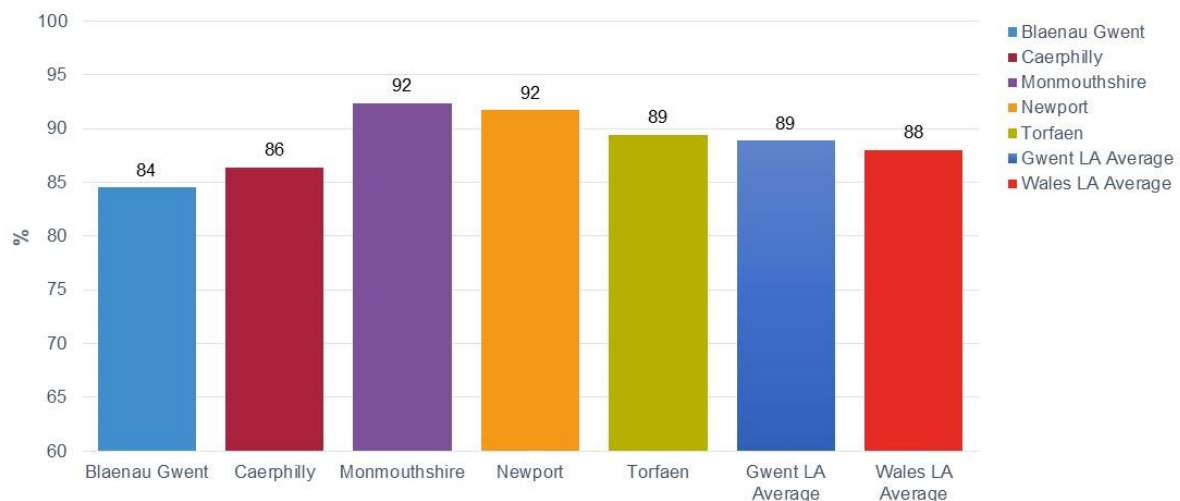


Figure 47 Proportion of residents with household internet access, 2019-2020<sup>65</sup>

The percentage of people with Internet access at home ranges between 84% in Blaenau Gwent to 92% in Monmouthshire and Newport. The Gwent local authority average is 89% while for Wales this is 88%.

New questions about people's online activity and their digital skills were introduced in 2017-18 in the National Survey for Wales and these questions were asked again in 2018-19. Figure 49 shows the proportion of residents use internet, including smart TV and handheld devices.

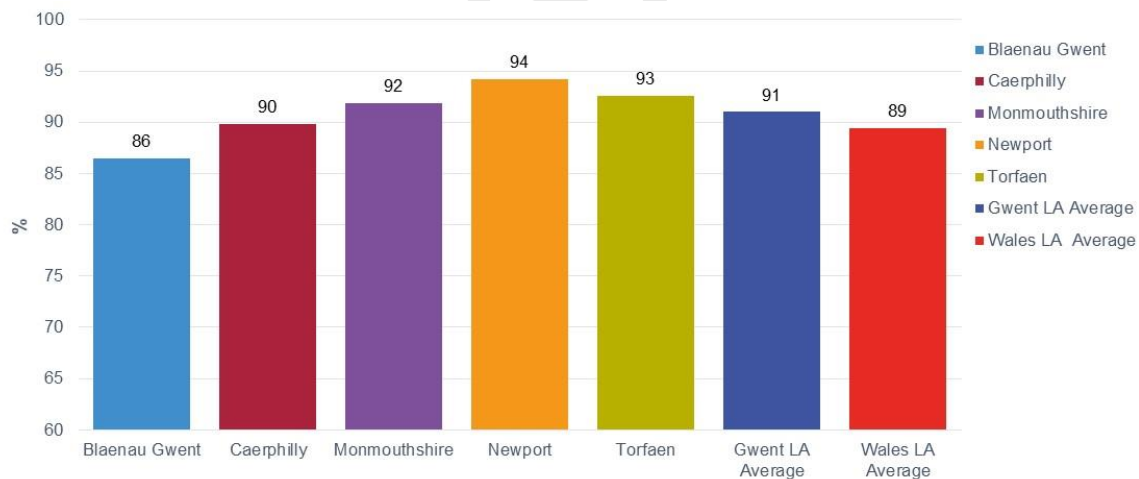


Figure 48 Proportion of residents who use internet (including smart TV and handheld devices), 2019-2020

The percentage of people who use Internet (including Smart TV and handheld devices) ranges between 86% in Blaenau Gwent to 94% in Newport. The Gwent local authority average is 91% while for Wales this is 89%.

The Covid-19 pandemic has given added importance to the need for Gwent to access the internet, with many utility, banking and shopping services moving away from face-to-face towards online and digital service delivery.

Being digitally excluded can have a significant impact on people's social well-being as well, with digital communication services making it easier for people who use the internet to participate in their hobbies and interests and stay connected with family and friends online. For those who don't or can't use the internet, digital exclusion can therefore increase the likelihood of loneliness and isolation as well as increasingly excluding access to some essential services. As figures 48 and 49 demonstrate, there is still some work to do across Gwent to get all areas above 90% for household access and internet use.

Embracing digital innovation can lead to greater economic opportunities and a more prosperous and resilient society. Equipping people with the digital skills they need and designing services around the user can also improve social cohesion, create a healthier and more equal society with well-connected communities and contribute to a thriving Welsh language. The Welsh Government's Digital Strategy Wales aims to deliver joined-up digital services through collaboration, integration, and good engagement to support the design of user-facing services that provide an efficient and consistent experience for citizens of all ages.<sup>66</sup>

## **7. Future trends and challenges**

The economic future for Gwent will offer opportunities and challenges. The Cardiff City Region has identified priority sectors that will be important for the region's economy over the next 10-20 years and these will be important to future Gwent's prosperity. Transitioning to a low carbon future and new digital infrastructure will provide jobs in new and emerging industries. People living in Gwent will need to have the skills and knowledge these initiatives require if they are to benefit from these changes.

Future Gwent will also need to be resilient to the changing climate including extreme weather events, and to shocks in global markets. Developing local supply chains and local energy production will help with this, and has the potential provide local, decent employment including for those who may find it difficult to find suitable work currently.

The UK Climate Risk Assessment identifies risks to business sites from flooding and risks associated with the loss of coastal locations and infrastructure<sup>67</sup>. Water scarcity, and reduced employee productivity due to high temperatures and infrastructure disruption have also been identified as risks<sup>68</sup>. Water shortages could be problematic for those businesses that are reliant on this resource for production processes – such as the food sector. Water efficiency measures will become increasingly important, which will also benefit the regions carbon footprint. Employee thermal comfort in the workplace will be a potential risk for all employers, and cooling measures also have the potential to increase energy use.

As 6.8% of Gwent's employment base is agriculture, forestry and fisheries<sup>69</sup>, there may be future economic opportunities related to warmer temperatures associated with a changing

climate. There may also be opportunities for Gwent's tourism sector. However, Gwent can also expect more extreme weather events in the future, which could impact on the viability of outdoor activities.

The aging population could result in skills shortages in key industries as people retire. Older people may also need more support to live healthy and independent lives, and ensuring that this support is available, affordable and of a good quality, while providing decent, rewarding work for those providing it will need careful thought and planning. Technology, new skills and practices may help to combat some of these issues, but Gwent needs to make sure that it's considering these long-term challenges in its economic development planning if the inequalities that currently exist in our communities are to be reduced.

## **7.1 Covid-19 recovery**

### **Challenges in supporting businesses to recover**

Some key economic sectors have been required to close for some or all of the past year. Long-term support will be needed to help these sectors get back to full strength – the Federation of Small Businesses Wales has pointed to the particular needs of the tourism sector which is “facing three winters”. More detail is available in our article on hard-hit sectors.

The recovery will also need to address underlying challenges. Wales has historically had a lower level of business start-ups than the UK average. Professor Dylan Jones-Evans has called for the new Welsh Government to focus more closely on entrepreneurship as there is “overwhelming evidence that new firms not only create the majority of new jobs in any economy but especially during a recession”.

Wales has lower productivity than other parts of the UK, with output per hour being 17% below the UK average in 2018. Professor Andrew Henley believes that Wales has tended to see tackling low productivity as “too difficult a challenge to address”, and that “in the long run, productivity is really important, and so we have to look at how we're going to address this challenge”. He highlights that spending on innovation and skills will be critical, particularly to support small businesses and microbusinesses.

Some businesses struggled to find workers as Covid-19 restrictions eased during the summer of 2021. The accommodation and food service sectors displayed a record number of vacancies and there was evidence of a shortage of skilled staff and of employees finding alternative areas of employment.<sup>70</sup>

Very significant numbers of jobs in the tourism and hospitality sectors in Wales were furloughed during the Coronavirus pandemic and this saved many jobs in Gwent. However, there was a reversal in this in summer 2021 as tourism businesses experienced difficulties in getting staff to return to work, resulting in nationwide staff shortages following the coronavirus pandemic.

## **Impacts on different groups**

The Centre for Economic Performance at the London School of Economics found that previous recessions disproportionately impacted the youngest, the poorest, and ethnic minorities. This has also been the case during the pandemic.

Young people in Wales were the most likely to work in a 'shutdown sector' before the pandemic, and also to be furloughed. There's concern that we may see a 'scarred generation' that experiences long-term effects of youth unemployment. The Fifth Senedd's EIS Committee called for the next Welsh Government to consider introducing a Youth Opportunity Guarantee for 16-24 year olds to help tackle youth unemployment.

The Resolution Foundation found that low-paid workers are "more likely to have lost their job, or hours and pay, or to have been furloughed". The Fair Work Commission, established by the previous Welsh Government, made wide-ranging recommendations to deliver fair work. However, the pandemic has added to the challenges many low-paid workers were already facing. In addition to calling for the Welsh Government to fully implement the Commission's recommendations, the Wales Trade Union Congress has outlined further ways that it believes the next Welsh Government should deliver a fairer society.

Professor Emmanuel Ogbonna's report for the previous Welsh Government outlined employment and income inequalities that ethnic minorities face. The Wales Centre for Public Policy has proposed actions to address these, including improving workplace representation and progression, tackling workplace discrimination, and addressing the ethnicity pay gap. The previous Welsh Government consulted on its draft Race Equality Action Plan, but it's for the next government to decide how to take this forward.

Redundancies in previous recessions have tended to be in sectors that mainly employ men. However, women represent 45% of those who have been made redundant since the start of the pandemic, compared to around a third of those made redundant following the 2008 recession. Women have also been more likely than men to work in a 'shutdown sector', and since July 2020 more women have been furloughed than men. Chwarae Teg has called for a feminist economic recovery, which recognises that care is as important as the production of goods.

## **Opportunities to change how the Welsh economy works**

Professor Gillian Bristow and Dr Adrian Healy state that building a more diverse economy, place-based development and local ownership will build long-term resilience to future shocks. They say that addressing long-term challenges such as the wellbeing of future generations and shifting to a zero-carbon economy would also build resilience.

There's consensus around the need for a 'green recovery', but different views on what this means in practice. The Confederation of British Industry Wales has called for green

infrastructure investment to be prioritised through retrofitting homes and developing electric vehicle charging networks.

The Welsh Green Recovery Task & Finish Group, agreed a definition of green recovery relevant to the range of ecosystems on land and sea including practical, prioritised actions that:

- reduce carbon emissions and increase resilience to the impacts of climate change
- reverse the decline in biodiversity
- connect people and nature
- tackle unsustainable levels of production and consumption by keeping resources in use for as long as possible, avoiding all waste and moving to more sustainable alternatives
- In taking forward these actions, investment should be targeted to ensure that:
- job creation, skills development and new markets are prioritised
- groups, communities and places that are most vulnerable / have been hit hardest are prioritised to address underlying socio-economic inequalities and inequities

The recovery plan must deliver on all six of these elements together, not just one in isolation<sup>71</sup>. RSPB Cymru believes that a green recovery should support the natural environment to recover and resources to be managed sustainably. The Future Generations Commissioner has highlighted the importance of focusing widely across a number of areas and investing in skills for new green jobs.

The previous Welsh Government sought to use the foundational economy to “build resilience in our local economies, to create better jobs closer to home and to build stronger local businesses”. But barriers will need to be removed to achieve this – such as reforming procurement, and addressing low pay and insecure working conditions.

The Welsh public sector spends approximately £6bn per annum through procurement. The current Welsh Government is looking to work with public sector partners and business to maximise the value of Welsh public procurement to the Welsh economy and help Wales-based businesses compete for contracts.<sup>72</sup> This is particularly important during the post-EU era where there is an opportunity to drive local business growth through public sector procurement.

The Foundational Economy if nurtured and supported with the correct interventions could be integral to a strong and stable economy in Gwent, offering specific opportunity for key sectors like health, social care and good and key population groups including those currently furthest from the labour market. In addition, there are opportunities to support, growth, diversification and new business within the Foundational Economy, like in the priority sectors identified by the CCR, increasing the number and breadth of jobs (and skills) available locally.

Reduction in carbon emissions and uncertainty associated with the economic impact of Covid19 and the UK’s exit from the EU, require alternative thinking to ensuring long-term sustainable employment and skills to support the Gwent economy. Supporting and strengthening the Foundational Economy is one way in which this could be explored.

Developing initiatives, especially linked to maximising local procurement and supply chains will support local businesses and therefore local employment. Additional support to the sector could also seek to raise standards (higher skills, better wages) offering better long-term prospects for future generations.

It's clear that there are significant short and long-term challenges facing the Welsh economy, and that these will be particularly acute in some sectors. However, there are also undoubted opportunities to improve the way that the economy works for all.

There are also a number of questions to which answers will emerge over coming years. What impact will greater remote working have on commuting and work patterns, and how will this affect our town and city centres? What does the future hold in terms of automation and artificial intelligence, and how might these impact on productivity and jobs? The next Welsh Government will need to respond to developments in these areas as well as securing economic recovery <sup>73</sup>.

## **7.2 Exit from the EU**

The Trade and Cooperation Agreement (TCA) between the UK and the EU was agreed on 24 December 2020, a week before the transition period ended on 31 December bringing in a new relationship between the UK and the EU.

The end of the transition period saw significant changes in practical terms to Wales' and the UK's relationship with Europe: the end of freedom of movement for people and barrier-free access to the Single Market, ending participation in the Customs Union and the application to the UK of the EU's rules and international agreements.

Tourism was also one of the key sectors impacted by the UK's exit from the EU and the combined impact of Covid-19 and Brexit has resulted in shortages of workers.

According to the Wales Tourism Business Barometer 2021 – Covid Impact Wave 7 (a survey of 800 businesses including 123 in South East Wales), the reasons given by businesses for difficulties in filling jobs included other sectors being perceived as offering better pay, more desirable hours (less antisocial) or greater job security. While staff had time to reflect on furlough, returning to their job in tourism no longer held appeal. Most (76%) of the businesses surveyed with vacancies were looking to fill positions requiring a low level of skill or experience.

While the tourism sector in Gwent has the potential to recover in terms of demand going forward, realising that potential will depend on the ability for businesses to find the staff and skills they need.

### **What it means for Wales, Austerity and Financial Stability.**

UK trade is projected to be around 10.5% lower in the long run under the new agreement, and productivity and GDP around 3.25% lower.

Whilst the key achievement of the agreement is that it provides for zero tariffs and zero quotas on all goods produced in the UK and EU, this does not mean we have the same sort of access to the EU markets which we previously enjoyed; there are significant new non-tariff barriers and new restrictions on what goods can benefit from the tariff and quota-free market access through the restrictive rules of origin

These trade restrictions will all have very real-world implications for the economy, businesses and people's jobs. Indeed, in the view of the Welsh Government and many independent analysts, the TCA only provides a framework for a relationship that will need to evolve further. In many areas there are substantial agreements and arrangements still to be put in place and it does not currently reflect the full complexity of the range of areas of collaboration which are needed between the UK and the EU.

The consequences of the agreement are broad-ranging and the actions being taken to prepare for them. Many of these are day one – week one issues with some actions needed to prepare our businesses and communities for the changes at the beginning of this year and actions in place to ensure we maintain a smooth supply of critical goods. But many other actions are required to prepare Wales for a fundamentally different relationship with the EU. This includes the significant programme of investment required at ports in Wales to be ready for the phasing in of new import controls.

These changes will have implications for communities around Holyhead and the ports in south west Wales but also for the businesses that trade through them. Our priority has been and will continue to be focused on supporting citizens in Wales and the Welsh economy to react to the inevitable change and challenges the TCA has delivered<sup>74</sup>.

A failure to replace lost EU structural funds could see austerity measures return to Wales, the current Welsh Government Minister for Economy has warned.

In an interview with the Financial Times, The Minister said: "The chancellor said there won't be a return to austerity. Actually, if money disappears . . . you could find yourselves having to make choices that look very similar to the choices I was having to make as a minister when austerity was at its height."

Wales has lost an estimated £375 million a year in EU economic aid<sup>75</sup>. Unless this shortfall is addressed, the Welsh Government would have to 'balance budgets' and make the kinds of decisions taken when 'austerity was at its height'.

### **7.3 EU transition for Gwent**

The EU structural funds ended in December 2020 but the UK Government has pledged to replace the shortfalls in Wales, Scotland and Northern Ireland. Westminster plans to create a UK Shared Prosperity Fund (SPF) with around £1.5 billion made available annually but there are no details on exactly how this will work.

In the meantime, a Community Renewal Fund (CRF) as part of the UK Government's Levelling Up agenda will provide £46m of funding across Wales to help local areas prepare for the

launch of the UK SPF in 2022. 100 “priority places” for the UK CRF have been identified based on a UK Govt. index of economic resilience, including 14 places in Wales, with two of these in Gwent: Blaenau Gwent and Torfaen. The funding was awarded to Welsh Local Authority areas in November 2021 to pilot new programmes that invest in local people and businesses, boost skills, and support decarbonisation. The total amount awarded across Gwent is as follows<sup>76</sup>:

- Blaenau Gwent - £2,708,218
- Caerphilly - £1,327,368
- Monmouthshire - £4,455,730
- Newport - £2,853,143
- Torfaen - £3,861,344
- **GWENT - £15,205,803**

As part of the previous 2014 – 2020 EU Structural and Investment Funds (ESIF) growth programme, it is estimated that Wales would have received at least £375m in new EU funding to invest during 2021. The £46m awarded to Wales through the replacement EU funding from UK Government therefore currently falls short of the levels of investment experienced previously through ESIF, but it remains to be seen whether investment will be levelled up to pre-Brexit levels across Wales via the SPF from 2022.

Wales, Scotland and Northern Ireland have raised concerns that the SPF and CRF plans by the UK Government bypass the devolved administrations <sup>77</sup>.

Grant Thornton undertook an analysis in 2020 on behalf of The Welsh Local Government Association (WLGGA) in connection with the EU Transition support programme for Welsh local authorities. This considers factors which are most likely to impact on a place's ability to adapt in a post-Brexit UK including a 'Community Vulnerability Index' comprising of unemployment, low skills, low level occupations, no qualifications, income and deprivation data.

- Blaenau Gwent ranks highest out of the Gwent local authorities, in the top 20% in Grant Thornton’s Community Vulnerability Index, indicating very high levels of social vulnerability to EU transition. Monmouthshire ranks lowest, in the bottom 20% of the Index, indicating low levels of social vulnerability to the EU transition.
- Notable areas of vulnerability include the very high levels of people employed in elementary occupations, very low skills levels, and very low total incomes in Blaenau Gwent; the very high levels of unemployment and high proportion of people with NVQ1 in Caerphilly; the very low income levels and high proportion of population qualified to only NVQ 1 in Torfaen; and very high deprivation levels in Newport.
- Blaenau Gwent and Caerphilly have seen large declines in EU NINO (adult overseas nationals entering the UK and allocated a National Insurance Number), reducing by 59.8% and 52.9% respectively, between 2016 and 2020. Newport has seen a 39.8% decline, which is very low compared to the comparator group.
- Blaenau Gwent has a high proportion of employment in both Manufacturing and Retail, Caerphilly - employment in Manufacturing and Wholesale, Monmouthshire - employment in Motor trades and Wholesale, Torfaen - employment in Manufacturing,

all of which are identified as the most 'at risk' industries in relation to the EU transition. Relative to all other Welsh authorities, Newport has low levels of employment in 'at risk' sectors.

- GVA per job in Gwent ranges between 6<sup>th</sup> ranking nationally in Caerphilly and 16<sup>th</sup> in Torfaen.
- The claimant rate has risen since March for all LA's and has remained above the Welsh and UK average in Blaenau Gwent, Torfaen and Newport but well below the Welsh and UK average in Monmouthshire. In Caerphilly this has remained at similar levels to Wales and the UK.

Blaenau Gwent, Caerphilly, and Torfaen have had an above average take-up rate of the Self-employment Income Support Scheme. Monmouthshire and Newport have had low CJRS take-up rates.<sup>78</sup>

In summary, the fundamental difference in our relations with the EU in 2021 as compared to 2020 is that we no longer participate in the free movement of people, goods, services and capital between the UK and the 27 Member States of the EU and consequently, face new barriers to trade in goods and services and to our rights to travel, live and work elsewhere in Europe.

The implications will be far reaching for all parts of the economy. Businesses and organisations across Gwent will need to possess the ability to adapt and navigate the changing circumstances associated with the UK's exit from the EU as well as the ongoing Covid-19 pandemic, in order for future generations to continue to gain opportunities to enhance their economic well-being.

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## References:

- <sup>1</sup> Nomis Official Labour Market Statistics (Annual population survey) <https://www.nomisweb.co.uk/>
- <sup>2</sup> ONS Guide to Labour Market Statistics  
<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/aguidetolabourmarketstatistics>
- <sup>3</sup> Nomis Official Labour Market Statistics (Annual population survey) <https://www.nomisweb.co.uk/>
- <sup>4</sup> Nomis Official Labour Market Statistics (Annual population survey - workplace analysis)  
<https://www.nomisweb.co.uk/>
- <sup>5</sup> PHW Covid-19 and Employment Changes in Wales  
<https://phw.nhs.wales/publications/publications1/covid-19-and-employment-changes-in-wales-what-we-know-about-current-and-future-impacts/>
- <sup>6</sup> Nomis Official Labour Market Statistics (Annual population survey) <https://www.nomisweb.co.uk/>
- <sup>7</sup> Gov.UK Self-Employment Income Support Scheme statistics: July 2021  
<https://www.gov.uk/government/statistics/self-employment-income-support-scheme-statistics-july-2021>
- <sup>8</sup> Nomis Official Labour Market Profile – Wales  
<https://www.nomisweb.co.uk/reports/lmp/lor/2013265930/report.aspx#tabempocc>
- <sup>9</sup> Nomis Official Labour Market Statistics Business Register and Employment Survey)  
<https://www.nomisweb.co.uk/>
- <sup>10</sup> Nomis Official Labour Market Statistics (Annual Survey of Hours and Earnings - resident analysis)  
<https://www.nomisweb.co.uk/>
- <sup>11</sup> StatsWales Average (median) gross weekly earnings by Welsh local areas and year  
<https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/People-and-Work/Earnings/medianweeklyearnings-by-welshlocalareas-year>
- <sup>12</sup> Nomis Official Labour Market Statistics (Annual population survey) <https://www.nomisweb.co.uk/>
- <sup>13</sup> StatsWales Workless households in Wales by age, variable, household status and year  
<https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/People-and-Work/Workless-Households/worklesshouseholdsinwales-by-age-variable-householdstatus-year>
- <sup>14</sup> Nomis Official Labour Market Statistics (Annual population survey) <https://www.nomisweb.co.uk/>
- <sup>15</sup> Nomis Official Labour Market Statistics (Annual population survey) <https://www.nomisweb.co.uk/>
- <sup>16</sup> Nomis Official Labour Market Statistics (Annual population survey) <https://www.nomisweb.co.uk/>
- <sup>17</sup> ONS Redundancies by Age, Industry and Region  
<https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/redundancies/datasets/redundanciesbyindustryagesexandreemploymentratesred02>
- <sup>18</sup> HMRC, Coronavirus Job Retention Scheme statistics: 6 May 2021  
<https://www.gov.uk/government/statistics/coronavirus-job-retention-scheme-statistics-6-may-2021/coronavirus-job-retention-scheme-statistics-6-may-2021>
- <sup>19</sup> Office for Budget Responsibility Coronavirus Analysis <https://obr.uk/coronavirus-analysis/>
- <sup>20</sup> HMRC, Coronavirus Job Retention Scheme statistics: February 2021- data tables, 25 February 2021  
[Coronavirus Job Retention Scheme statistics: February 2021 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/coronavirus-job-retention-scheme-statistics-february-2021)
- <sup>21</sup> Coronavirus Job Retention Scheme statistics Wales: 29 July 2021 <https://gov.wales/coronavirus-job-retention-scheme-statistics-29-july-2021>
- <sup>22</sup> Welsh Government Welsh Index of Multiple Deprivation 2019 Results Report  
<https://gov.wales/sites/default/files/statistics-and-research/2019-11/welsh-index-multiple-deprivation-2019-results-report-024.pdf>
- <sup>23</sup> StatsWales Welsh Index of Multiple Deprivation 2019  
<https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation/WIMD-2019>
- <sup>24</sup> Welsh Government Welsh Index of Multiple Deprivation 2019 Results Report  
<https://gov.wales/sites/default/files/statistics-and-research/2019-11/welsh-index-multiple-deprivation-2019-results-report-024.pdf>

- 
- <sup>25</sup> StatsWales Welsh Index of Multiple Deprivation 2019 <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation/WIMD-2019>
- <sup>26</sup> Welsh Government Welsh Index of Multiple Deprivation 2019 Results Report <https://gov.wales/sites/default/files/statistics-and-research/2019-11/welsh-index-multiple-deprivation-2019-results-report-024.pdf>
- <sup>27</sup> StatsWales Welsh Index of Multiple Deprivation 2019 <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation/WIMD-2019>
- <sup>28</sup> Welsh Government Relative Income Poverty: April 2019 to March 2020 <https://gov.wales/relative-income-poverty-april-2019-march-2020-html>
- <sup>29</sup> Hick & Lanau March 2017, In-Work Poverty in the UK: Problem, Policy Analysis and Platform for Action [https://www.cardiff.ac.uk/\\_data/assets/pdf\\_file/0009/758169/Hick-and-Lanau-In-work-poverty-in-the-UK.pdf](https://www.cardiff.ac.uk/_data/assets/pdf_file/0009/758169/Hick-and-Lanau-In-work-poverty-in-the-UK.pdf)
- <sup>30</sup> Nomis Official Labour Market Statistics (Annual population survey) <https://www.nomisweb.co.uk/>
- <sup>31</sup> Joseph Rowntree Foundation, Universal Credit – the impact of cutting the £20-a-week <https://www.jrf.org.uk/universal-credit-cut-impact-constituency>
- <sup>32</sup> Nomis Official Labour Market Statistics (Annual population survey) <https://www.nomisweb.co.uk/>
- <sup>33</sup> Nomis Official Labour Market Statistics (Annual population survey) <https://www.nomisweb.co.uk/>
- <sup>34</sup> Gov.Wales <https://gov.wales/young-people-not-education-employment-or-training-neet-2020>
- <sup>35</sup> Trussel Trust end of year stats <https://www.trusselltrust.org/news-and-blog/latest-stats/end-year-stats/#total>
- <sup>36</sup> Food Foundation [FF\\_Impact-of-Covid\\_FINAL.pdf](https://www.foodfoundation.org.uk/wp-content/uploads/2020/04/FF_Impact-of-Covid_FINAL.pdf) (foodfoundation.org.uk)
- <sup>37</sup> University of Sheffield UK Local Food Insecurity of Adults Jan 2021 <https://shefuni.maps.arcgis.com/apps/instant/interactivelegend/index.html?appid=8be0cd9e18904c258afd3c959d6fc4d7>
- <sup>38</sup> University of Sheffield UK Local Food Insecurity of Adults Jan 2021 <https://shefuni.maps.arcgis.com/apps/instant/interactivelegend/index.html?appid=8be0cd9e18904c258afd3c959d6fc4d7>
- <sup>39</sup> Coram Family and Childcare Survey 2021 [https://www.familyandchildcaretrust.org/sites/default/files/Resource%20Library/Childcare%20Survey%202021\\_Coram%20Family%20and%20Childcare.pdf](https://www.familyandchildcaretrust.org/sites/default/files/Resource%20Library/Childcare%20Survey%202021_Coram%20Family%20and%20Childcare.pdf)
- <sup>40</sup> <https://www.childcomwales.org.uk/our-work/policy-positions/childcare/>
- <sup>41</sup> Blaenau Gwent Childcare Sufficiency Assessment and Action Plan 2017
- <sup>42</sup> Caerphilly Childcare Sufficiency Assessment 2017
- <sup>43</sup> Monmouthshire Childcare Sufficiency Assessment Form 2017
- <sup>44</sup> Newport Childcare Sufficiency Assessment Annual Refresh 2020-21
- <sup>45</sup> Torfaen Childcare Sufficiency Assessment 2017
- <sup>46</sup> StatsWales Active Business Enterprises per 10,000 population <https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/Businesses/Business-Demography/activebusinessenterprisesperpopulation-by-area-year>
- <sup>47</sup> StatsWales Business births, deaths and active enterprises by area <https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/Businesses/Business-Demography/businessbirthsdeathsactiveenterprises-by-area-variable>
- <sup>48</sup> Welsh Government, Business Wales <https://businesswales.gov.wales/non-domestic-rates-retail-leisure-and-hospitality-rates-relief-wales-2021-22>
- <sup>49</sup> GTS (UK) Ltd STEAM data, November 2021 <https://www.globaltourismsolutions.co.uk/steam-model>
- <sup>50</sup> Cardiff Capital Region <https://www.cardiffcapitalregion.wales/>
- <sup>51</sup> Cardiff Capital Region City Deal <https://www.cardiffcapitalregion.wales/the-city-deal/>
- <sup>52</sup> Cardiff Capital Region, State of the Region <https://www.cardiffcapitalregion.wales/wp-content/uploads/2020/12/ccr-state-of-the-region-part-2-competitive-con-1-5-compressed.pdf>

- 
- <sup>53</sup> Cardiff Capital Region Investment Framework <https://www.cardiffcapitalregion.wales/wp-content/uploads/2019/06/ccr-investment-framework.pdf>
- <sup>54</sup> Cardiff Capital Region <https://www.cardiffcapitalregion.wales/news-events/latest-news/cardiff-capital-region-cabinet-approves-new-investment-proposals/>
- <sup>55</sup> Cardiff Capital Region Industrial and Economic Plan <https://cardiffcapitalregion.wales/wp-content/uploads/2019/02/ccr-industrial-and-economic-growth-plan-english.pdf>
- <sup>56</sup> Renewable and Low Carbon Energy Assessment Regional Summary. Carbon Trust, December 2020
- <sup>57</sup> Renewable and Low Carbon Energy Assessment Regional Summary. Carbon Trust, December 2020
- <sup>58</sup> StatsWales Commuting patterns by Welsh local authority <https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/People-and-Work/Employment/Commuting/commutingpatterns-by-welshlocalauthority-measure>
- <sup>59</sup> StatsWales Detailed commuting patterns in Wales by Welsh local authority <https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/People-and-Work/Employment/Commuting/detailedcommutingpatternsinswales-by-welshlocalauthority>
- <sup>60</sup> Department for Transport, Transport Statistics Great Britain 2019 [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/870647/tsgb-2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/870647/tsgb-2019.pdf)
- <sup>61</sup> ONS Usual Method of Transport to work, October – December 2019 <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/adhocs/11694usualmethodoftraveltoworkbyregiontraveltoworkareaoccupationandindustryukoctobertodecember2019>
- <sup>62</sup> ONS Homeworking hours, rewards and opportunities in the UK: 2011 – 2020 <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/articles/homeworkinghoursrewardsandopportunitiesintheuk2011to2020/2021-04-19>
- <sup>63</sup> Welsh Government Remote Working <https://gov.wales/remote-working>
- <sup>64</sup> Welsh Government, The Future of Work: the impact of innovative technology on the workforce <https://gov.wales/the-future-of-work-the-impact-of-innovative-technology-on-the-workforce-html>
- <sup>65</sup> National Survey for Wales <https://gov.wales/national-survey-wales-results-viewer>
- <sup>66</sup> Welsh Government Digital Strategy for Wales <https://gov.wales/digital-strategy-wales-html>
- <sup>67</sup> UK Climate Change Risk Assessment 2017: Evidence Report. Summary for Wales.
- <sup>68</sup> UK Climate Change Risk Assessment 2017: Evidence Report. Summary for Wales.
- <sup>69</sup> Employment by industry type, aged 16-64, 2019. Nomis Business Register & Employment Survey.
- <sup>70</sup> ONS Vacancies and Jobs in the UK: July 2021 <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/jobsandvacanciesintheuk/july2021>
- <sup>71</sup> Natural Resources Wales, Green Recovery: Supporting the Environmental Sector in Wales 2020 <https://naturalresources.wales/about-us/strategies-and-plans/green-recovery-supporting-the-environmental-sector-in-wales/?lang=en>
- <sup>72</sup> Welsh Government, Prosperity for All: Economic Action Plan <https://gov.wales/sites/default/files/publications/2019-02/prosperity-for-all-economic-action-plan.pdf>
- <sup>73</sup> Senedd Cymru Welsh Parliament Research, Recovering from the biggest economic challenge in living history (May 2021) <https://research.senedd.wales/research-articles/recovering-from-the-biggest-economic-challenge-in-living-memory/>
- <sup>74</sup> Welsh Government, The new relationship with the EU: What it means for Wales <https://gov.wales/the-new-relationship-with-the-eu-what-it-means-for-wales>
- <sup>75</sup> Welsh Government Press Release, 28 September 2021 <https://gov.wales/uk-government-leaving-communities-dark-and-denying-wales-vital-investment-handling-successor-eu>
- <sup>76</sup> UK Government, UK Community Renewal Fund: successful bids <https://www.gov.uk/government/publications/uk-community-renewal-fund-successful-bids>
- <sup>77</sup> Nation Cymru, Wales facing a return to ‘austerity’ unless lost EU funds are replaced (July 2021) <https://nation.cymru/news/wales-facing-a-return-to-austerity-unless-lost-eu-funds-are-replaced-economy-minister-warns/>
- <sup>78</sup> WLGA EU Transition Exposure Dashboards <https://www.wlga.wales/resources-eu-transition-exposure-dashboards>

# ENVIRONMENTAL WELL-BEING

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## Introduction

### Environmental well-being

'Environmental well-being' refers to the well-being of people and communities, and how environmental factors affect that well-being, both positively and negatively. This section assesses environmental well-being in Gwent and in doing so identifies how and where Gwent's natural habitats can be safeguarded and enhanced to provide us with a range of vital well-being benefits to people and communities. It will also explore the extent to which natural resources can help protect our communities from several current and longer-term environmental risks.

The Environmental well-being section does this by taking a closer look at the extent to which the sustainable management of natural resources is being achieved, by combining local, regional, and national evidence to better understand the performance of our natural environment against the following measures:

Section A: Stocks of natural resources are safeguarded and enhanced	Section B: Ecosystems are resilient to expected and unforeseen change	Section C: Wales has healthy places for people protected from environmental risks	Section D: A regenerative economy achieving sustainable levels of production and consumption
CLIMATE RISK			
Pollution		<ul style="list-style-type: none"><li>• Carbon sequestration</li><li>• Flood</li><li>• Fire</li><li>• Recreation, access and tourism</li><li>• Food and agriculture</li><li>• Timber</li><li>• Water supply</li></ul>	<ul style="list-style-type: none"><li>• Net zero</li><li>• Zero waste</li><li>• One Planet Wales</li></ul>
Invasive non-native species (INNS)			
Unsustainable practices			
Habitat degradation			
<ul style="list-style-type: none"><li>• Biodiversity and species</li><li>• Land use and soils</li><li>• Air quality</li></ul>	<ul style="list-style-type: none"><li>• Woodland</li><li>• Semi-natural grasslands</li><li>• Mountains, moorland and heathland (MMH)</li><li>• Freshwater</li><li>• Coastal margins and marine</li></ul>		

*Fig. 11 Four measures of environmental well-being*

These measures work together and are cyclical; we cannot work towards healthy places for people without resilient ecosystems, and cannot make our ecosystems resilient without safeguarding stocks of natural resources. The regenerative economy safeguards and restores those stocks and is the route to transformational change.

In 2020, Natural Resources Wales (NRW) published the second [State of Natural Resources Report \(SoNaRR\)](#). SoNaRR2020 builds on a number of Welsh, UK and global assessments of the status and trends of natural resources. It looks at the risks those trends pose to our ecosystems and to the long-term social, cultural and economic well-being of Wales<sup>i</sup>. The measures used in this section to assess environmental well-being are informed by the aims of SoNaRR.

## Key messages from the assessment of environmental well-being

- The evidence presented in this section indicates that we fall short of achieving the four measures which contribute towards the sustainable management of natural resources in Gwent. This section demonstrates that we are using stocks of our natural resources at a rate which is unsustainable and that our ecosystems are under increasing pressure and threat from the impacts of climate change, land use change, invasive non-native species (INNS), pollution and over-use. This jeopardises the ability of our natural environment to provide a number of vital well-being benefits now and in the future
- Climate risk is an increasing concern which is predicated to have a significant impact on the habitats, people and places of Gwent. This section assesses the risk to the environment from future climate predictions, but more work will need to be done to make sure we take an integrated look at climate risk across cultural, economic and social well-being
- The failure of current practices to achieve a model of sustainable natural resource management is putting the well-being of future generations at risk in Gwent
- Brexit is a key risk which has the capacity to have a significant future impact on land management in Gwent and while future trade deals and policy creation is a national issue, more can be done to reduce the impact of future changes at the local level
- More work needs to be done to address the drivers of unsustainable management which exist outside of the environmental well-being sphere. As a result of this analysis, it is recommended that a closer and more integrated look at key challenges is taken, where transformation and systemic change would have significant well-being benefits 'in the round' (i.e. as pertaining to all four pillars of well-being, not just environmental well-being). Transformation in the food, energy and transport sectors has the greatest potential to improve well-being in Gwent.

## An overview of the natural environment in Gwent

Gwent holds a wealth of both natural and cultural heritage, from the historic castles along the English border to the east, to the cradle of the industrial revolution, the [Blaenavon World Heritage Site \(WHS\)](#), in the west. Gwent is home to 591,100 people<sup>ii</sup>. As well as boasting several sites of national and international significance, Gwent is made up of a number of [distinctive landscape areas](#), all of which contribute to our iconic natural environment.

The distinctive Gwent Levels form an extensive, low-lying, coastal reclaimed landscape along the Severn Estuary. This is an area of international historical and archaeological importance; a reclaimed agricultural landscape where parcels of fertile grazing and arable land are framed by a network of drainage ditches known as reens. These distinctive habitats pattern the landscape and provide a rich, biodiverse habitat for plants, mammals and invertebrates. The landscape is protected by a sea wall from the Severn Estuary, with its mud flats and salt marshes, and is bounded by the River Wye.

Further east is the picturesque landscape of the [Wye Valley Area of Outstanding Natural Beauty \(AONB\)](#). The landscape is rural and tranquil in character, except along the major road network of the A40, A48 and M4 corridors. It contains the largest and longest river gorge in Wales, with dramatic limestone cliffs above Chepstow and spectacular scenery of the gorge and meandering River Wye. The landscape reflects a rich archaeological, cultural and industrial heritage and many of its iconic destinations such as [Tintern Abbey](#) are popular with visitors to the area. This predominantly wooded and riverine environment is renowned as a refuge of rare species and forms one of the largest remaining areas of ancient semi-natural broadleaved woodland in the country. [Wentwood Forest](#)

which may appear to be largely coniferous is part of the largest block of ancient woodland in Wales. Further up the valley, smaller hamlets and villages lead us to the historic market town of Monmouth which is set within an agriculturally crafted landscape. Here, and on the plateau, you find pastures enclosed by hedgerows with some arable areas.

Adjacent to the Wye Valley is the tranquil and sheltered landscape of Central Monmouthshire with its gentle rolling hills and intervening valleys providing notable views towards the uplands. The River Usk flows south from the historic market town of Abergavenny and the Monnow and Trothy flow east into the River Wye. Monmouthshire's undulating lowlands are pasture-rich with hedgerows and arable on the fertile flood plain. Isolated small parcels of woodland with broadleaved and mixed plantations are present on hills and slopes. Biodiverse riparian and freshwater habitats and the open water of [Llandegfedd Reservoir](#) feature. Modern intrusion is largely confined to the A40 and A449 corridors; medieval stone churches and parkland are notable with numerous castles that reflect a contested past.

The city of Newport is Gwent's most heavily urbanised area, with its historic core it is the only city in the region. The M4, main roads and railways are prominent in the landscape. The tidal River Usk flows through the city with its iconic transporter bridge and industrial port. Urban green space is located at [Gaer Hillfort](#), Ridgeway and [Tredegar Park](#) with some sections of the Rivers Ebbw, Lwyd, Usk lowland river corridors providing tranquil and biodiverse sections. The Roman town of Caerleon lies to the east of the city, and to its north are the nearby towns of Cwmbran and Pontypool which boast industrial heritage.

The west of Gwent is made up of the eastern section of the South Wales Valleys landscape. The extensive wild and wind-swept plateau with intervening deep valleys characterises this landscape which is well known for its extensive industrial coal and ironworking heritage, notably preserved at [Blaenavon World Heritage Site \(WHS\)](#). The landscape has upland moorland with heather, grass, bracken and stone walls, much of which is common land. Moorland, bog, fridd and rhos pasture are notable. The busy, noisy valleys contrast with the comparatively remote and tranquil uplands. Roads and railways follow valleys and passes with dramatic views of uplands and crags. Extensive conifer blocks are present with broadleaved woods on steep hillsides and hilltops. The Prehistoric Bronze Age and Roman archaeology of the uplands found at [Gelligaer Common](#) is notable, as well as the biodiverse beechwoods of [Clydach Gorge](#), [Caerphilly](#) and [Ruperra Castles](#) and the [Monmouthshire and Brecon Canal](#).

The north of Gwent also includes a small part of the Brecon Beacons which is big on scenic quality and part of the [Brecon Beacons National Park \(BBNP\)](#). It includes the Vale of Ewyas and surrounding upland in the Black Mountains and the distinctive peaks of the Skirrid and Sugar Loaf framing the Usk Valley at Abergavenny. Exposed upland moorland with extensive views this is a landscape noted for tranquillity, dark skies and a lack of modern development. Conifer and broad-leaved woodland are present. Pastures are often enclosed by thick hedgerows with narrow lanes. Scattered small settlements are located in the valleys with prehistoric archaeology and Medieval sites including [Llanthony Priory](#) and historic parkland.

## Section A: Stocks of natural capital are safeguarded and enhanced

*“We are likely to lose over half the species of life on Earth over the next eight decades. The last time we had an extinction event of this magnitude was 65 million years ago.”*

Jeremy Rifkin Economist / Environmentalist

### Biodiversity and species

Biodiversity is a critical stock of natural resources that is declining, in Wales and globally, at an unprecedented rate. Around 1 million animal and plant species are now threatened with extinction, many within the next few decades (IPBES, 2019)<sup>iii</sup>. [The State of Natural Resources Report \(SoNaRR2020\)](#) identifies both winners and losers for different aspects of biodiversity in Wales. The overall trend, however, mirrors the global picture and is one of decline.

The [State of Nature Report](#) (National Biodiversity Network, 2019)<sup>iv</sup> describes the UK as “among the most nature-depleted countries in the world.” The summary for Wales highlights that since 1970, there is less wildlife in fewer places. 73 species of the 3,902 assessed have been lost, numbers of butterflies have fallen by 52% since 1976 and Wales is in the worst 25% of countries for biodiversity loss (of 218 countries assessed globally).

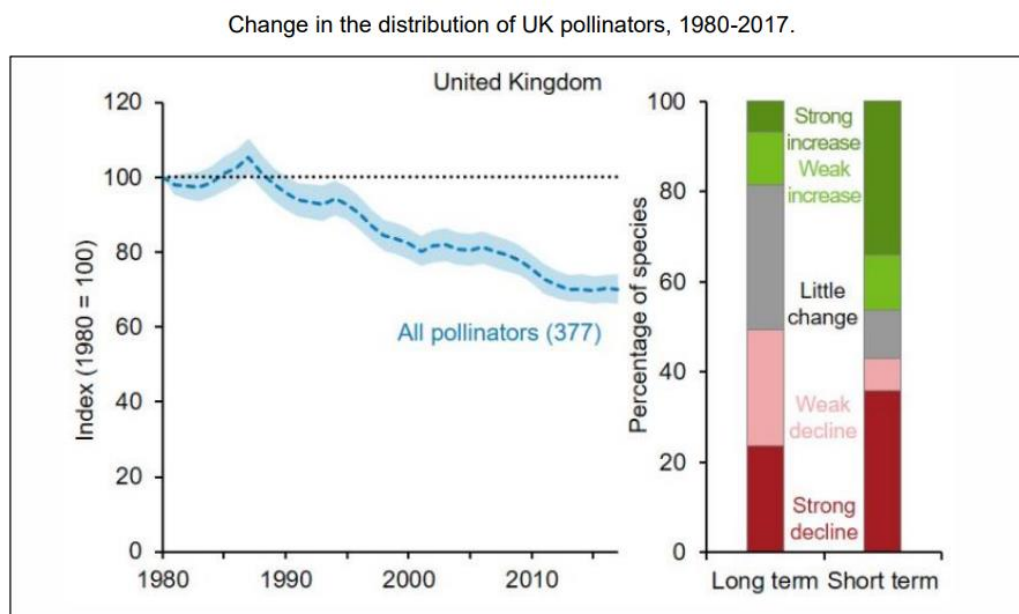


Fig. A1 Change in the distribution of UK pollinators, 1980-2017

In 2017, the UK Government indicator for pollinators declined by 30% compared to its value in 1980, representing long term decline (Fig. A1)<sup>v</sup>.

A quarter of Gwent is protected for biodiversity reasons, with thirteen [Special Areas of Conservation \(SACs\)](#). One of these, the Severn Estuary, is also a [Special Protection Area \(SPA\)](#) and [Ramsar site](#).

There are also five [National Nature Reserves \(NNR\)](#), 94 Sites of [Special Scientific Interest \(SSSIs\)](#), 25 [Local Nature Reserves \(LNRs\)](#) and over 1600 [Sites of Importance for Nature Conservation \(SINCs\)](#)<sup>vi</sup>.

Gwent's resource of protected sites represents some of our most important and cherished areas for biodiversity, habitats and species. Natural Resources Wales (NRW) undertook a [Protected Sites Baseline Assessment](#) in 2020, which assessed the quality of the protected sites evidence base to help understand (where possible) the relative 'health' of key species and habitats across freshwater and terrestrial features on protected sites in Wales. The condition of species and habitat at our best sites can provide some indication as to the health of biodiversity across the region, given that they provide some of the best condition examples of biodiversity.

NRW currently has sufficient evidence to determine the condition of around 45% of the features on these sites in Gwent (compared to a national figure of 49%). Of those features, an estimated 29% are 'favourable' and around 71% 'unfavourable'. This information suggests that our habitats and species are under increasing pressure across the region.

The [Gwent State of Nature Report \(GSoN\)](#) was published by the Resilient Greater Gwent (RGG) partnership in 2021. The report interrogates recording data collated by the South East Wales Biodiversity Records Centre (SEWBReC), utilising almost 120,000 records to provide information for over 500 species and create 100 stories of wildlife in Gwent. Each story shows what information we have for that species or species group and what is happening to them over time.

Strong	Moderate	No Significant	Moderate	Strong
Decline (11)	Decline (10)	Change (21)	Increase (6)	Increase (8)

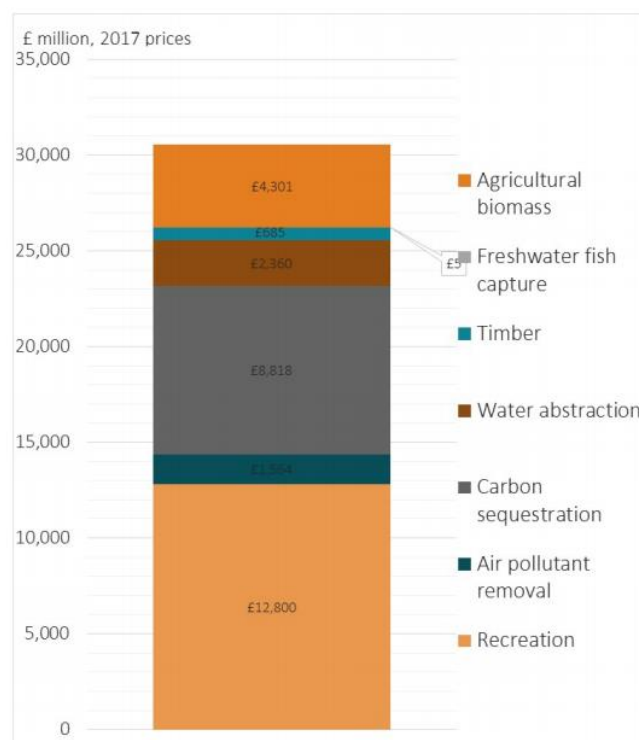
*Fig. A2 Long-term trends (1995-2018) for 56 species within Gwent, based on the British Trust for Ornithology (BTO)/Joint Nature Conservation Committee (JNCC)/RSPB Breeding Bird Survey (number of species in brackets)*

Combined indicators were produced for upland and lowland farmland birds and woodland birds. Species used to produce the 108 indicators are shown in Fig. A2<sup>vii</sup>. The lowland and upland farmland bird indicators show declines of 45% and 30%, respectively, over the Breeding Bird Survey (BBS) period, largely in accordance with UK as well as Wales patterns for farmland and upland birds. Although it fell in the last year, the Gwent woodland indicator is broadly stable.

Reliable regional population trends were also available for two mammals (Lesser Horseshoe Bat and Otter), both of which were assessed as having a well-established Gwent population.

### What are the well-being strengths?

Biodiversity is essential to all ecosystems; complex interactions generate services and benefits to human health and well-being. Biodiversity is fundamental in providing economic, social, environmental and cultural well-being. Our economies are embedded within nature, not external to it and investing in ecosystems as assets gives an annual rate of return far greater than most conventional economic assets<sup>viii</sup>.

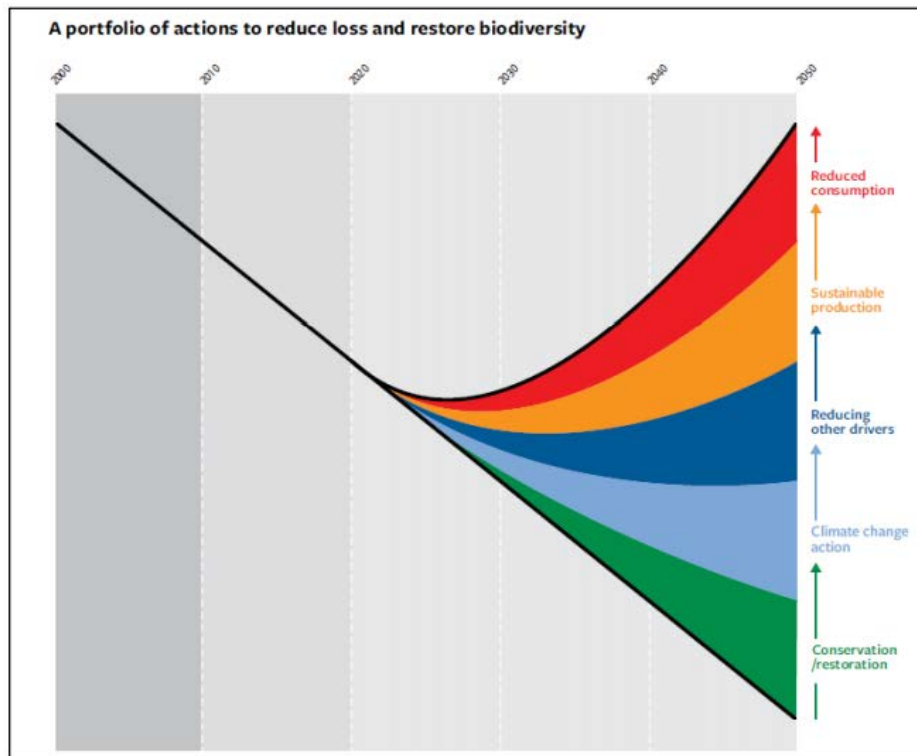


*Fig. A3 Partial Wales natural capital asset value estimates*

The value of the stock of Welsh natural capital (stocks of natural resources) in woodland, farmland, and freshwater was estimated to be approximately £30.5 billion in 2014 (Fig. A3<sup>ix</sup>). This is a partial value and the true value is expected to be significantly higher than this figure, as only seven of the benefits received from natural capital in Wales are currently measured.

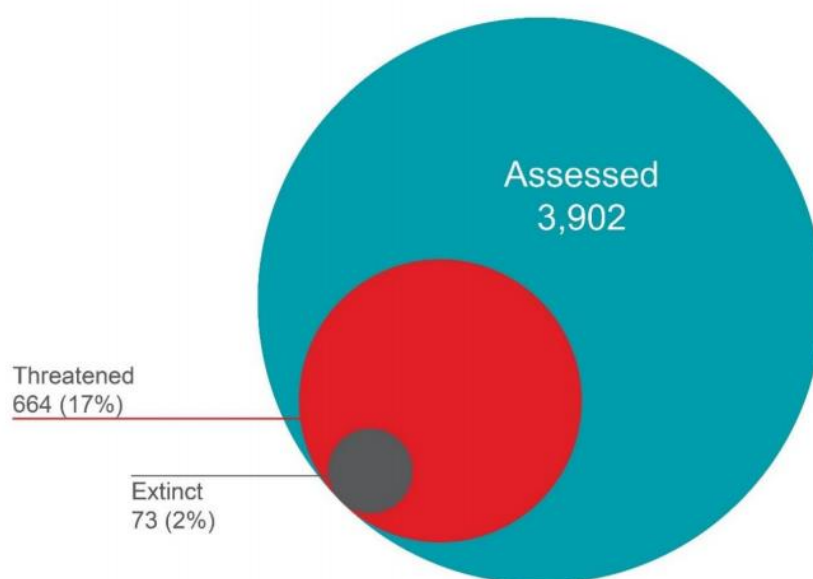
### What are the issues impacting well-being?

In order to continue to provide benefits, species and habitats must be healthy and resistant to pressures and threats.



*Fig. A4 Global Biodiversity Outlook: Trends in biodiversity*

Global biodiversity outlook data indicates that loss overall is continuing, despite substantial ongoing efforts for biodiversity conservation and sustainable use. While current conservation and management actions are having positive impacts, their effects are overwhelmed by the growing pressures on biodiversity, which in turn are related to increased levels of consumption of food, energy and materials and to the development of infrastructure. Consequently, the world is not on track to achieve most of the current globally agreed targets for biodiversity (Fig. A4<sup>x</sup>).

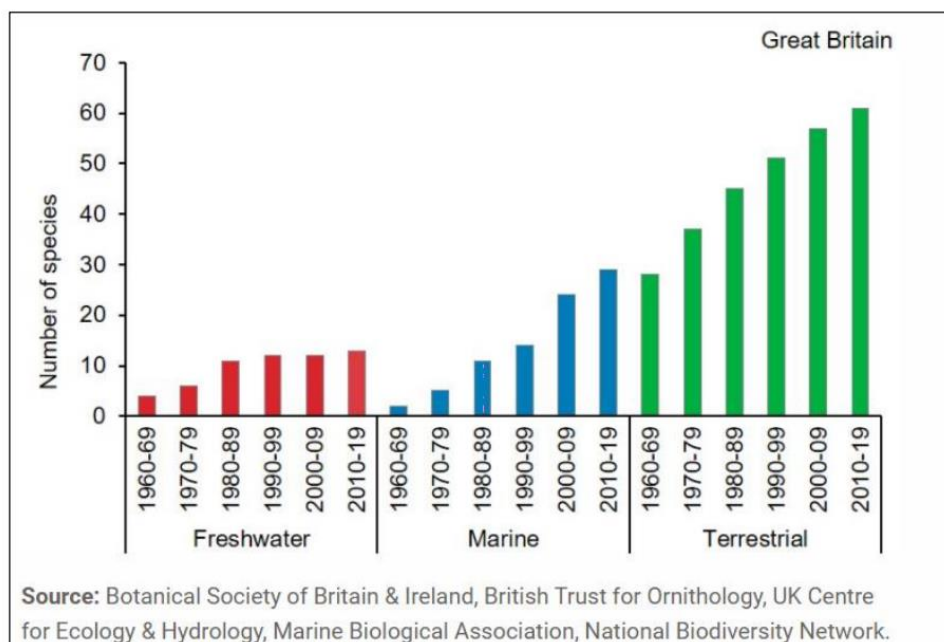


*Fig. A5 Species extinction risk assessment (Wales)*

Wales continues to face biodiversity loss, with 1 in 6 species that have been assessed in Wales at risk of extinction. Of the 3,902 species assessed since rigorous scientific monitoring began in the 1970s in Wales, 73 species have been lost already (Hayhow et al., 2019) (Fig. A5<sup>xi</sup>).

The most significant drivers of biodiversity decline include land use change, direct exploitation, pollution, climate change and invasive non-native species (INNS) (IPBES, 2019)<sup>xii</sup>.

#### Invasive Non-Native Species (INNS)



*Fig. A6 Number of invasive non-native species (INNS) established in or along 10% or more of Great Britain's land area or coastline, 1960 to 2019*

Over the period 1960 to 2018, INNS have become more prevalent, increasing the pressure on native biodiversity. The rate at which new INNS are establishing in the UK has increased dramatically in the last 50 years and this trend is set to continue (Fig. A6<sup>xiii</sup>). Freshwater and marine ecosystems have the highest number of different INNS (already present and yet to arrive in Wales), followed by woodland and semi-natural grassland ecosystems.

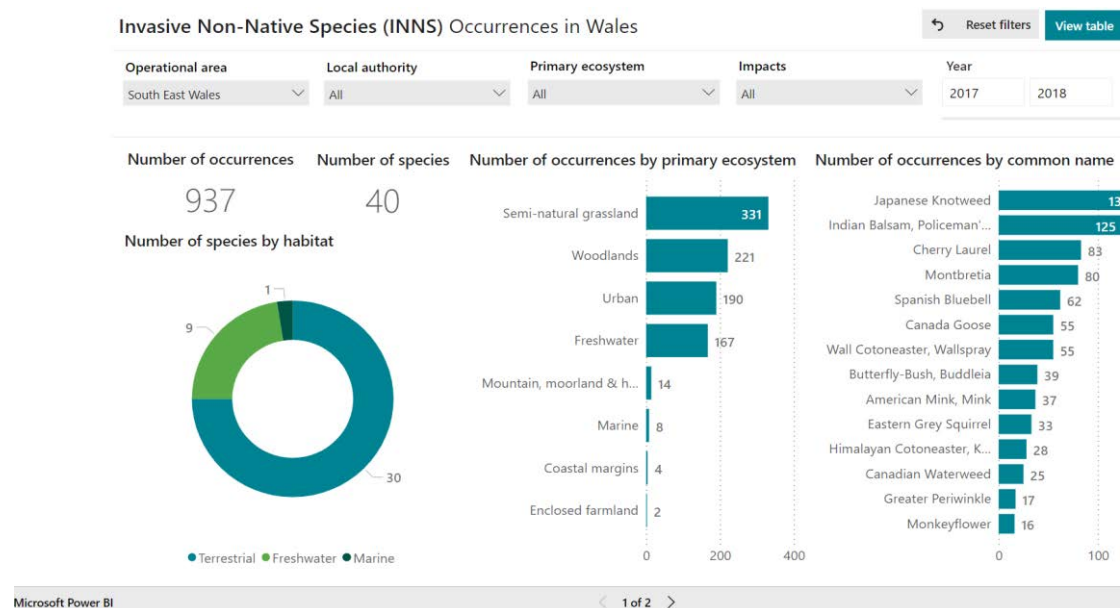


Fig. A7 Invasive non-native species (INNS) Occurrences in Gwent (South East Wales)

The picture for Gwent in (2017-18) is similar to that of the national picture although the data indicates that semi natural grassland ecosystems recorded the highest number of INNS occurrences, followed by woodlands and urban (Fig. A7<sup>xiv</sup>).

### What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- The RGG project is currently undertaking a review of 700 Gwent SINCS. This data would be helpful in contributing to the overall picture of ecosystem resilience once available.
- While there is a range of policies and measures in place aimed at facilitating adaptation and reducing the impacts of climate change on terrestrial habitats such as the [Natural Resource Management Framework](#), [National Forest Programme](#) and the [National Peatland Restoration Programme](#), there is a lack of evidence of the effectiveness of these measures to date.
- A range of indicators show ongoing declines in biodiversity, which leave species and habitats more vulnerable to climate change impacts. More empirical evidence is needed.
- There is a need for more co-ordinated socio-economic evidence gathering and information about the benefits that nature and biodiverse spaces provide. This also applies more broadly about information to increase awareness about the need for transformational change to deliver biodiversity recovery across all sectors<sup>xv</sup>.
- The policy framework in Wales is in place with appropriate conservation objectives, but there is a need for more coherent delivery of widespread landscape-scale adaptation that not only builds ecologically resilient networks, but also ensures wider environmental benefits<sup>xvi</sup>.

### What are people telling us?

The South East Area Statement sets out a sustainable vision for the management of Gwent's natural resources. This vision has been developed collaboratively and is underpinned by what specialists and wider stakeholders identified they want to see in Gwent.

With regards to biodiversity and species, stakeholders identified the following<sup>xvii</sup>:

- “Abundant wildlife and biodiversity.”
- “Community gardens and corridors for wildlife.”
- “Good habitats in the best possible condition contributing to resilience of the wider area.”
- “Nature is intrinsically valued.”
- “Wildlife and species saved from extinction.”

## Future trends and challenges

### Climate change

Expected climatic changes including changing rainfall leading to periods of water scarcity or flooding at different times, extreme heat and wildfire, could affect the rate and extent of terrestrial species losses or gains across the UK.

The Intergovernmental Panel on Climate Change (IPCC) report (2018) indicates that global warming in excess of 1.5°C above pre-industrial levels will undermine life-support systems for humanity. It is predicted that if the world warms by 2°C, one in twenty of all species will be threatened with extinction<sup>xviii</sup>.

The recently published [Third Climate Change Risk Assessment Technical Report: Summary for Wales](#) (Netherwood, 2021)<sup>xix</sup> has identified a number of specific future climate risks which will impact terrestrial biodiversity. The report finds that the magnitude of risks from climate change to nature, now and in the future, is high due to the number of species adversely affected and likely to be affected. Studies on changing bioclimatic suitability for different species groups show impacts from mean or extreme changes in climate, combined with other drivers acting separately or in combination with climate, such as land use and habitat loss.

The report assessed the following risks to be at the highest level of urgency where **more action is needed**<sup>xx</sup> include:

**Risk N1. Terrestrial species and habitats: Changing climate conditions.** The magnitude of current and future risks from climate change, both now and in the future is considered to be high due to the number of species adversely affected and likely to be affected.

**Risk N2. Terrestrial species and habitats: Pests, pathogens and invasive species.** Despite strong international and national policy frameworks for managing the risks to terrestrial species and habitats from native pests and pathogens and establishment of INNS, these risks are expected to continue increasing.

**Risk N4. Soils: Changing climatic conditions, including seasonal aridity and wetness.** Future climate projections, including UKCP18, provide strong evidence that climate risk factors will increase due to heavier rainfall events (erosion and compaction risks) and increased soil moisture deficits in summer (loss of biota and organic matter, etc). The magnitude of this risk will increase from medium to high in Wales in future.

The assessment also highlighted the following risk pertinent to woodlands which will require **further investigation** including:

**Opportunity N3. Terrestrial species and habitats: New species colonisations.** Climate change, especially increasing temperatures, can provide the opportunity for increases in populations as well as leading to species moving or expanding their ranges northwards or to higher altitudes.

## Land use and soils

### Soils

Much of the diversity of landscapes and habitats across Gwent is due to the underlying geology and soils. Most of Monmouthshire is underlain by the Old Red Sandstone rocks, with the older Usk Inlier in the centre. Parts of the Old Red Sandstone series, known as the Brownstones formation, form the Black Mountains, Sugarloaf, and Trellech Ridge.

In the south of the region, a band of limestone extends from the east, and is then overlain by younger sandstone rocks, which border the Severn Estuary. The differing colours of the rocks give many place names, such as Goldcliff and Black Rock.

To the west of the region, the younger South Wales Coal Measures dominate, surrounded by a band of limestone outcrop. Together, these provided the coal, iron and lime that fuelled the industrial revolution, a legacy that shapes the landscape seen today<sup>xxi</sup>.

### Landscape types and land use

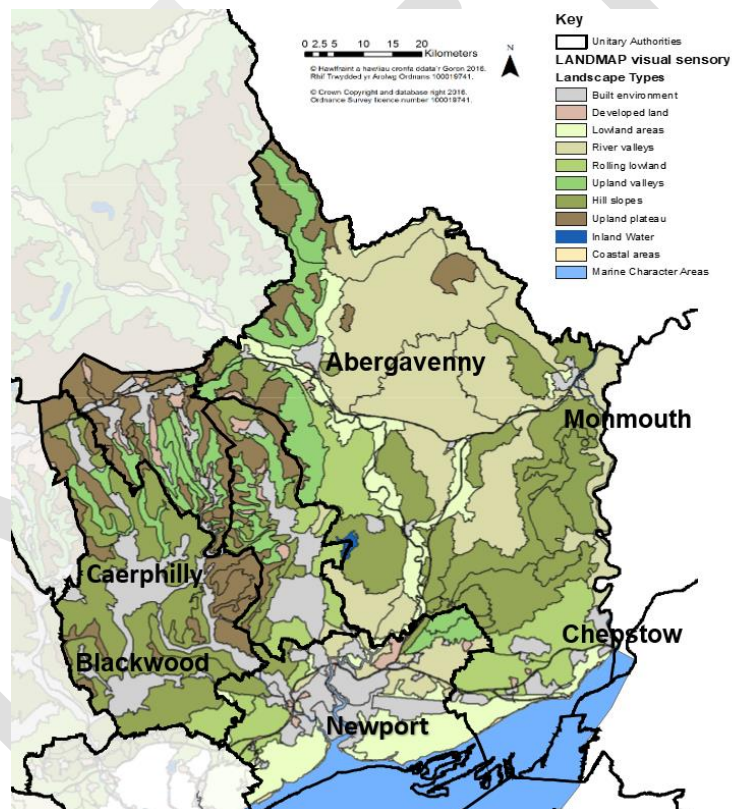


Fig. A8: LANDMAP visual and sensory statistics 2017

Fig. A8<sup>xxii</sup> shows the landscape types which make up Gwent.



Fig. A9: Level 1 & 2 Classification (South East Wales Local Planning Authority (LPA) Group)

The largest landscape component within Gwent is upland (706km<sup>2</sup> or 43%) including 25% of hills, lower plateau and scarp slopes. The majority of the remaining land is lowland (672km<sup>2</sup> or 41%), with just over half of this amount being lowland valleys. Water takes up just 8.53km<sup>2</sup> (0.53%) within (Fig. A9<sup>xxiii</sup>).

Agriculture currently accounts for the largest land use area in Gwent (~65%) (Welsh Government, 2018<sup>xxiv</sup>). In Gwent, there were an estimated 2084 active farms in 2018, covering 105,199ha<sup>xxv</sup>, giving an average farm size of 50ha. This is similar to the Welsh average of 45ha (Welsh Government 2019<sup>xxvi</sup>). Grassland accounts for 78% of this, and arable and horticulture 13%. There are also 6,654ha of woodland within farms, accounting for 6%. The majority of farmland is in Monmouthshire, which has the most high-quality agricultural land. Farmed land also makes up the majority of the Gwent Levels<sup>xxvii</sup>.

#### Urban

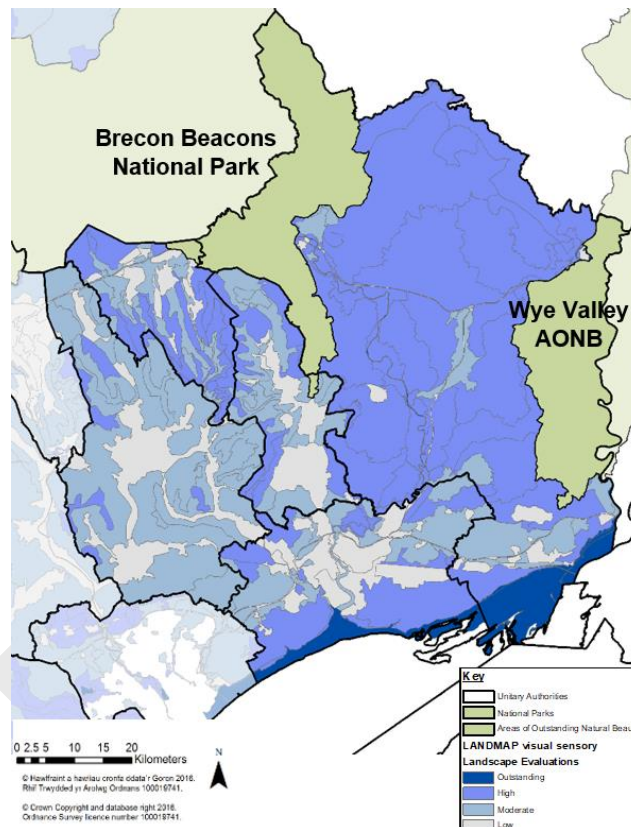
[LANDMAP](#)<sup>xxviii</sup> areas classified as development take up 216km<sup>2</sup> (13%) of the region, significantly more than the 5.14% national average (Fig. A9).

#### What are the well-being strengths?

##### Soils

Fully functioning soils provide rich biodiversity, sequester and maintain carbon, slow the flow of water, help to regulate the climate and air quality, and produce a sustainable supply of food, fibre and timber. The way land and soils are used can deliver several functions or services at the same time and place, providing multiple benefits<sup>xxix</sup>.

## Land use



*Fig A10: LANDMAP visual sensory and landscape evaluations for Gwent*

As well as producing food, the agriculture sector is positively contributing to the delivery of highly valued landscapes. 10% of Gwent (153km<sup>2</sup>) is evaluated as a nationally outstanding visual and sensory landscape, associated with both uplands and lowlands. 49% of the region (790km<sup>2</sup>) is evaluated as high, regionally important landscapes (Fig. A10<sup>xxx</sup>).

Gwent contains two protected landscapes. Part of the [Brecon Beacons National Park \(BBNP\)](#), totalling 153km<sup>2</sup> falls within Monmouthshire, Torfaen and Blaenau Gwent, and extends north and west into Powys and beyond. The [Wye Valley Area of Outstanding Natural Beauty \(AONB\)](#) has 117km<sup>2</sup> within Monmouthshire, running along the English border and extending into Gloucestershire and Herefordshire<sup>xxxi</sup>. Collectively, these valued landscapes provide multiple aesthetic, mental and physical well-being benefits for rural communities and visitors.

## Urban

By definition, urban areas are where most people live, so they are the source of most human created impacts on other ecosystems. At the same time, this concentration of people presents opportunities for innovation that helps to reduce impacts on the wider environment (World Wildlife Foundation (WWF), 2019)<sup>xxxii</sup>. Managed as part of a green infrastructure (GI) network, green spaces can deliver many benefits in the same place at the same time. GI refers to all the natural features which make life in our towns and cities possible and can provide wildlife habitats, regulate temperature, absorb flood water, reduce public exposure to air pollution, promote mental health, encourage healthy exercise and attract people to use active travel routes instead of their cars<sup>xxxiii</sup>.

Nature can deliver multiple well-being benefits for people and place, getting a clear picture on the effectiveness of the use of nature and GI in the urban environment is a difficult thing to quantify.

However, there are indicators which can give an impression of the overall use of GI across Gwent. [Keep Wales Tidy](#) issues [Green Flag Awards](#) for sites which meet minimum management standards and will be suitable to meet most peoples' needs for access to green space. There are 48 Green Flag sites in Gwent (Caerphilly 19; Monmouthshire 12; Torfaen 7; Blaenau Gwent 5; Newport 5 (the Wales average by local authority area is 10).

[Social Farms & Gardens](#) has recently mapped the current provision of allotments.

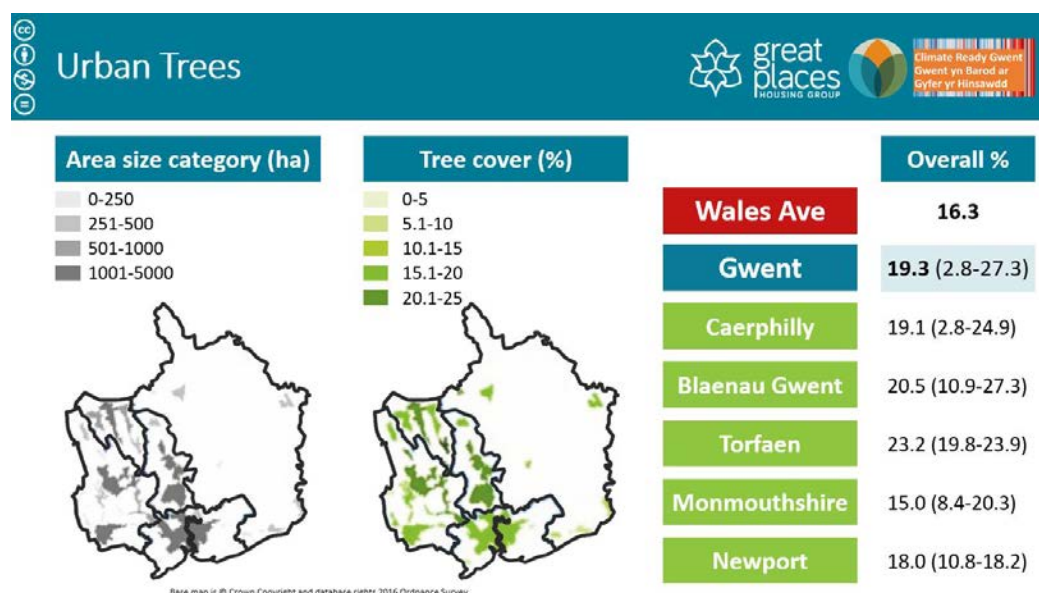


Fig. A11 Slide produced for Climate Ready Gwent Carbon Literacy training by Manchester Metropolitan, Great Places Housing Group and Cynnal Cymru

Urban tree canopy cover in many disadvantaged areas is less than the 20% suggested by the Welsh Government and the Future Generations Commissioner for Wales (FGC, 2020)<sup>xxxiv</sup>. While Gwent has rates of urban tree coverage above the national average of 16% (Fig. A11<sup>xxxv</sup>), there is still room for improvement as all areas have towns below the national average<sup>xxxvi</sup>.

## What are the issues impacting well-being?

### Contaminated land

Land that was previously industrial (metalworks, coal or lead mines, gasworks, etc.) or used as landfill may be contaminated by metals, organic compound contaminants (such as polycyclic aromatic hydrocarbons (PAHs)), hydrocarbons or pesticides (ADAS, 2019<sup>xxxvii</sup>). In Wales, the most common contaminants are benzo(a)pyrene, lead and arsenic, all of which were identified at over 60% of contaminated land sites (NRW, 2016<sup>xxxviii</sup>). Land affected by contamination can pose a risk to both human health and the wider environment. It is an issue jointly regulated by Local Authorities and NRW, with responsibility for human health and controlled waters primarily falling to each respectively<sup>xxxix</sup>.

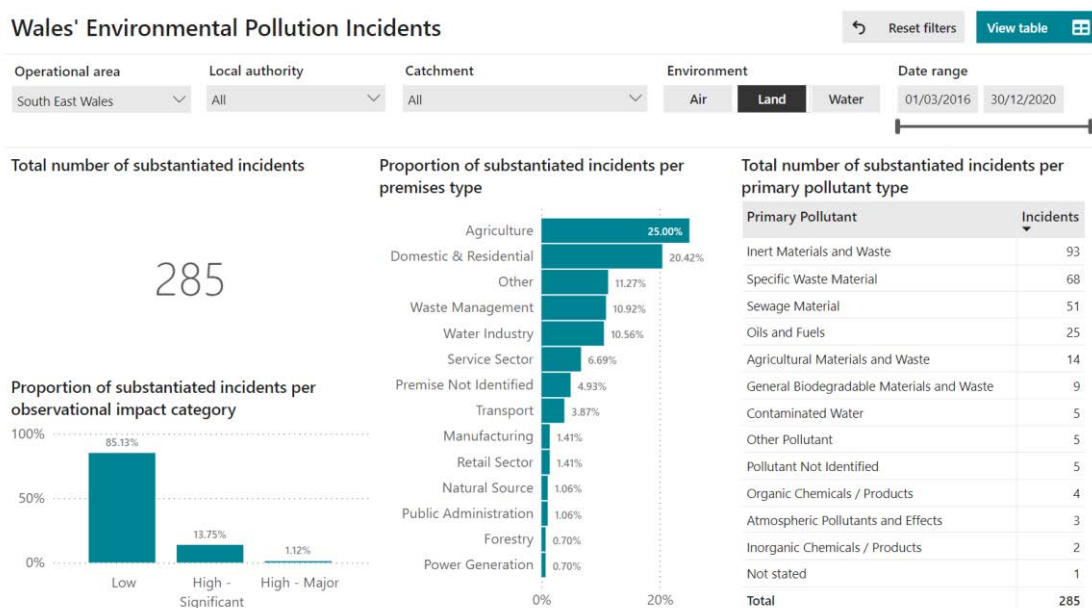


Fig. A12 Total number of substantiated pollution incidents to land recorded in Gwent (South East Wales) for the period 01/03/2016 to 30/12/2020

Fig. A12<sup>xl</sup> details the pollution incidents to land as substantiated by NRW for the period 2016-2020 across Gwent. Agriculture, domestic and residential and waste management services make up the greatest proportion of substantiated incidents with waste and sewage materials making up the primary pollutant type, with a total of 285 incidents listed.

### What are the gaps in understanding?

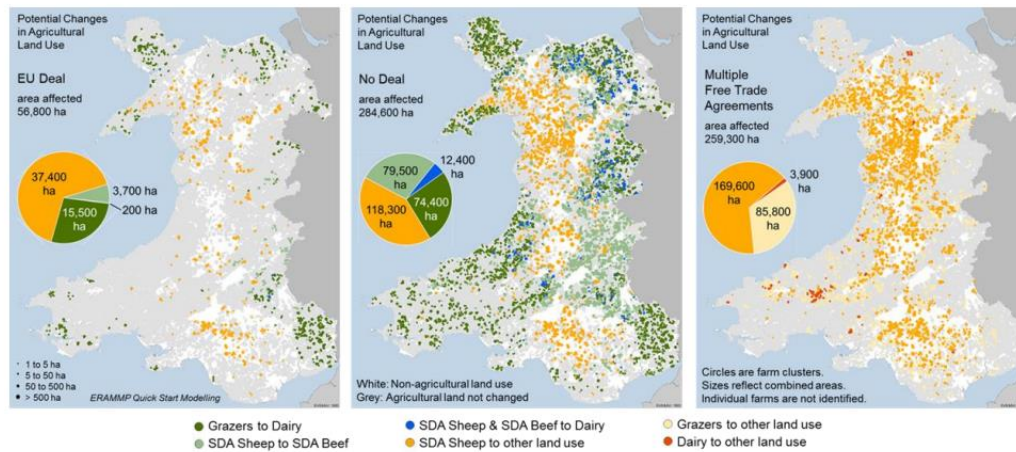
It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- Wales' ambitious policy frameworks do not yet provide a coherent and integrated approach to land use change priorities across national to community levels. A better land use change decision making framework could help to support place-based delivery for Public Service Boards and Area Statements<sup>xli</sup>.
- Rates of soil loss by erosion and rates of soil formation have not been directly measured to assess if rates of soil loss exceed soil formation rates in Gwent.
- National monitoring to observe trends and to assess the potential impact of soil pollutants have not been updated and are not currently included in national monitoring.
- Urban and coastal margins ecosystems are not currently represented in national soils monitoring.
- Where soil data and evidence is collected, it is not easily shared or combined.
- Biological data is not collected at scales which reveal what is happening in urban areas. For example, it may be shown as presence or absence in 1km squares which cut across urban boundaries.
- Species are not surveyed systematically in urban areas, so it is hard to assess trends. In other words, if there is a record of a species in an urban area it may only show that someone who can identify that species lives there.
- Data series which show long term trends, for example urban tree canopy, cover and green space distribution, may be interrupted unless long term funding is put in place.

- Data on some important topics is patchy and has not been collected systematically, for example green space quality.

## Future trends and challenges

### Brexit



*Fig. A13 Potential agricultural land use change for the three Brexit scenarios*

The most immediate pressure on the current pattern of land use provisioning services such as (crops, fish, timber and genetic material) is the uncertainty in future policies relating to funding and market access following Brexit<sup>xlii</sup>. Overall, 73% of Welsh food and drink exports value are to the European Union (EU) (Welsh Government, 2019<sup>xliii</sup>), highlighting the importance of this market to the overall food production system.<sup>xliv</sup> Key findings from an estimated assessment of the potential impact under different trading scenarios (assuming basic payments continue at current rates) are demonstrated in Fig. A13<sup>xlv</sup>.

### Population, cultural and behavioural changes

The world's population continues to grow (United Nations, 2019<sup>xlvi</sup>). Similarly, the population of Wales is projected to increase by 2.7% to 3.22 million by 2028 (ONS, 2019<sup>xlvii</sup>). As such, there may be an increase in the demand for food<sup>xlviii</sup> as well as increased housing demand and need in the future. The demand for construction of new developments could strain the stock and condition of existing GI in the urban and rural environments, thereby limiting their ability to provide much needed well-being benefits to people and place.

### Climate change

Responding to climate change is likely to lead to trade-offs, particularly between competing land uses. For instance, setting aside land for biodiversity protection, ecosystem restoration or bioenergy could take space away from agriculture. Tree planting on agricultural land may involve excluding grazing in the short to medium term as mature trees take decades to develop. There are limited areas of high value agricultural land in Gwent (Monmouthshire and Newport) and strong pressure for development on flood plains due to topography. Such challenges mean that competition for land will be an increasing issue in the future.

Bioenergy crops will be necessary to achieve a low carbon economy, but this could lead to significant trade-offs (UK Climate Change Committee, 2019; 2020<sup>xlix</sup>). Some bioenergy crops can have negative effects on biodiversity, food security, water security and local livelihoods (IPBES, 2019<sup>l</sup>). Trade-offs

could be minimised by making better use of existing agricultural and forestry waste for energy to reduce the need for planted energy crops.

### Decision making

Making soil management and land use change decisions which balance all ecosystem services<sup>li</sup> is not a straightforward equation, indeed they are classic conflicts of interest. Prioritising the provisioning service demand of our natural environments (e.g. food, fibre, infrastructure) can pose a potential risk to cultural and regulating service provision such as an increased risk to soils from intensive land management, a decrease in pollinators, increased risk of pests, reduced access to green space, fragmentation of human connection to place and history and a depreciation of employment skills whereby employment becomes too specialised and/or low skilled for local supply.

### Air quality

Clean air is a critical natural resource and is essential in protecting not only human health, but also Wales's natural and built environment. Although air pollution from industry and transport has declined in recent decades, nitrogen-containing air pollutants continue to cause significant environmental harm where previous emissions of sulphur caused widespread acidification of water resources and damaged trees and forest soils<sup>lii</sup>.

Air quality monitoring in Wales is primarily undertaken by Local Authorities and, through several national networks, managed by the Welsh Government.

### Ammonia

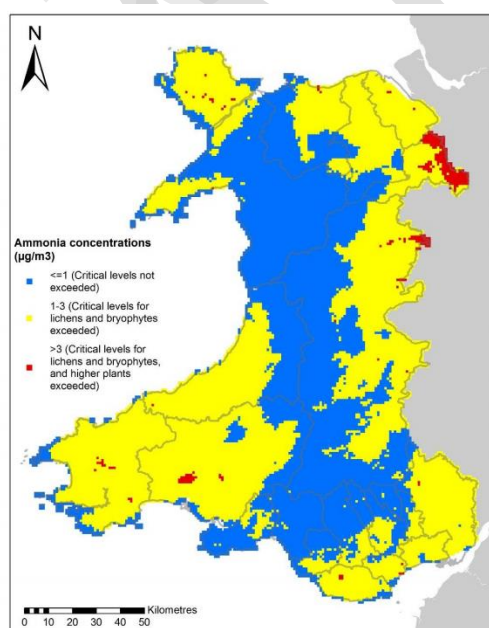


Fig. A14 Ammonia concentrations in Wales

All air pollutants have declined in Wales in recent decades except for ammonia and ozone. Ammonia and nitrogen pollution from agriculture is harming 56% of Wales's land area and is having an adverse effect on the most sensitive habitats for plants and wildlife (Guthrie et al., 2018<sup>liii</sup>). More than half of Wales now experiences ammonia concentrations that are too high for lichen- and bryophyte-rich ecosystems to function properly; these include ancient woodland, bog, heathland and acid grassland (Monmouthshire, Newport, Torfaen South) (Rowe et al., 2020) (Fig. A14<sup>liv</sup>).

## Nitrogen dioxide (NO<sub>2</sub>)



Fig. A15 Air quality, average micrograms of NO<sub>2</sub> at residential dwelling locations per m<sup>3</sup>

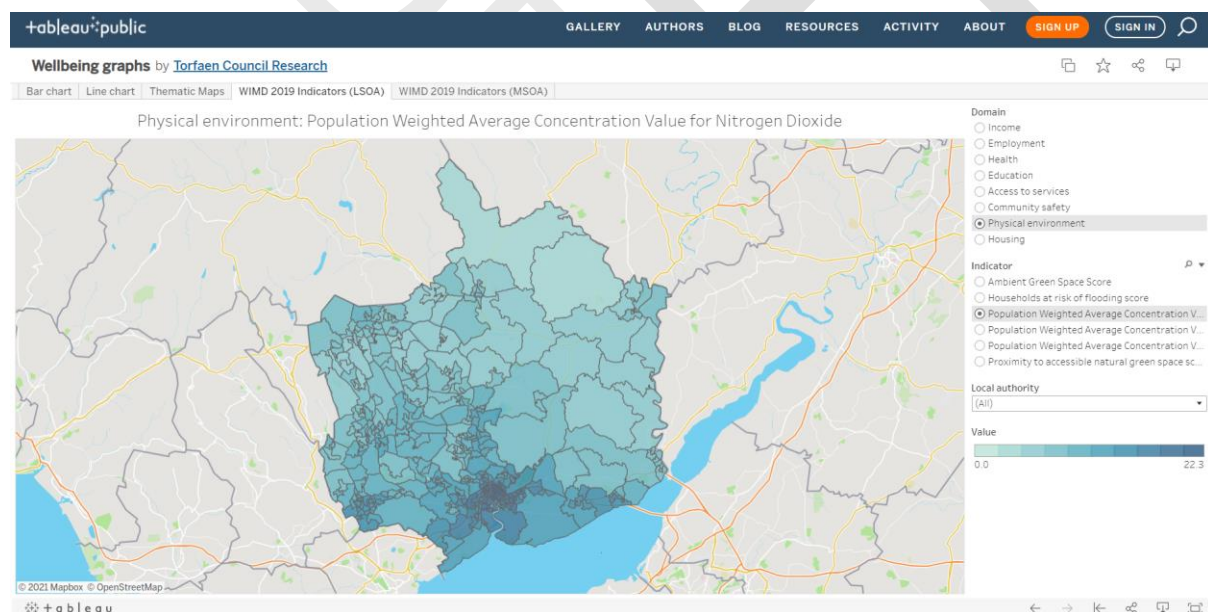


Fig. A16 Population weighted average concentration value for NO<sub>2</sub>

Fig. A15<sup>lv</sup> and Fig. A16<sup>lv</sup> demonstrate the average micrograms of nitrogen dioxide (NO<sub>2</sub>) at residential dwelling locations per m<sup>3</sup>. Newport was the only LA area in Gwent to exceed the Welsh average of 9µg/m<sup>3</sup> and although decreasing in the period between 2014 and 2018 has consistently recorded higher than average NO<sub>2</sub> readings. The annual limit value for NO<sub>2</sub> (UK 40 µg/m<sup>3</sup>) has been exceeded in Caerphilly, at Hafod-yr-ynys, and at five other locations on the motorway and trunk road network in Wales (2017). The hourly limit value for NO<sub>2</sub> has been achieved in all locations throughout Wales and Gwent, with the exception of Hafod-yr-ynys (2017). All exceedances are primarily due to traffic<sup>lvii</sup>.

## Particulate matter (PM)



Fig. A17 Average micrograms of PM2.5 at residential dwelling locations per m<sup>3</sup>

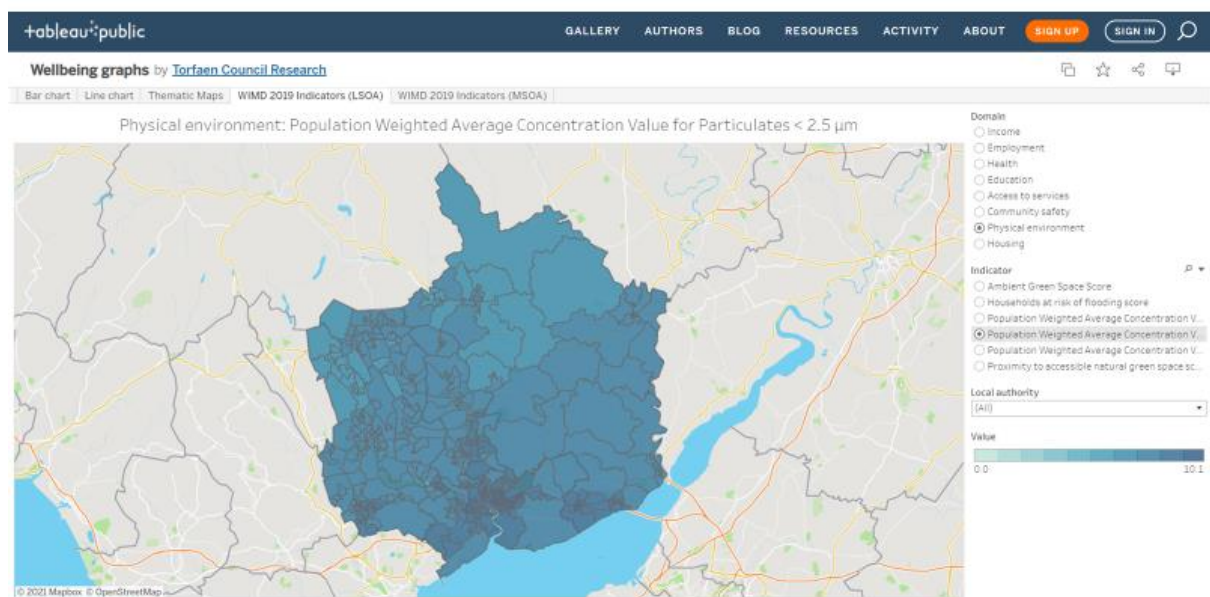


Fig. A18 Population weighted average concentration value for particulates less than 2.5

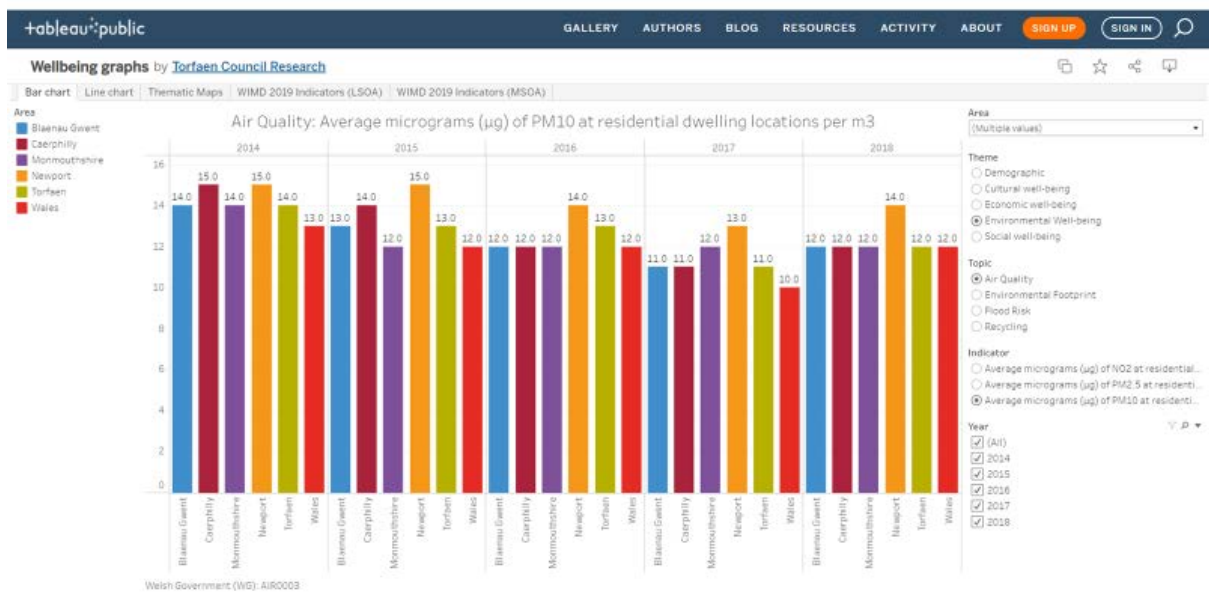


Fig. A19 Average micrograms of PM10 at residential dwelling locations per m<sup>3</sup>

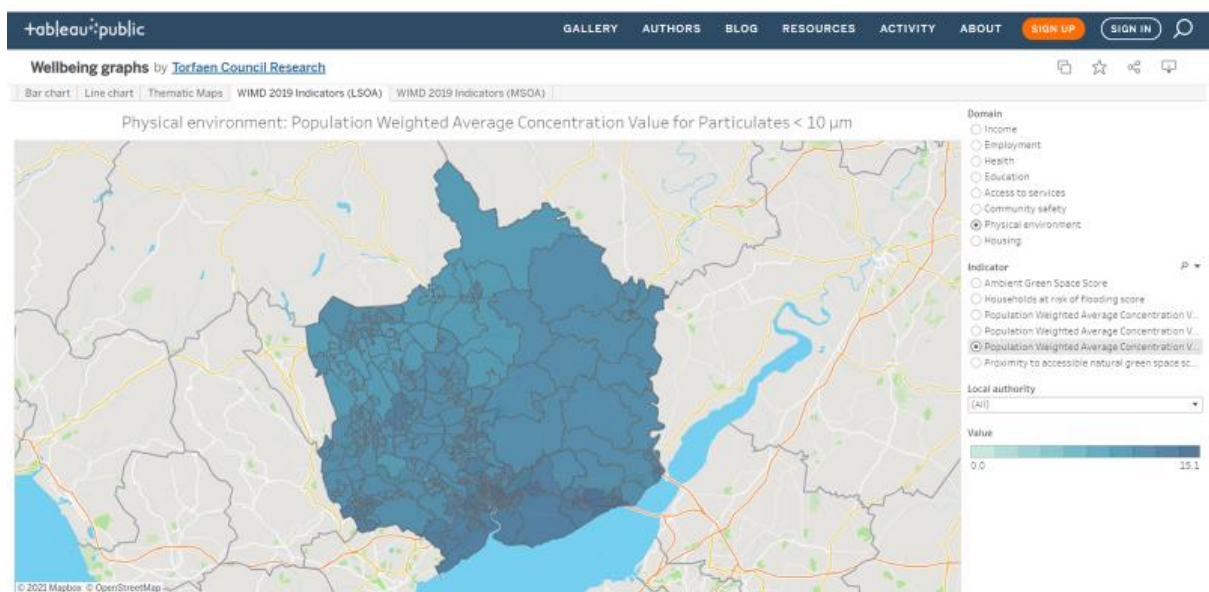


Fig. A20 Population weighted average concentration value for particulates less than 2.5

Particulate matter (PM) (soot) is the term for a mixture of solid particles and liquid droplets found in the air. PM can be emitted directly from a source, known as primary PM, whereas secondary PM can form in the atmosphere due to chemical reactions between pollutant gases. Overall concentrations of PM2.5 (10 µg/m<sup>3</sup>) across Gwent are below World Health Organization (WHO) guidelines (Fig. A17<sup>lviii</sup>), although there are hotspots in industrial and densely populated urban areas when the data is viewed at ward level (Fig. A18<sup>lix</sup>). PM10 data is shown in Fig. A19<sup>lx</sup> with Fig. A20<sup>lxi</sup> giving a more localised view of impact at ward level. Non-exhaust road transport emissions, domestic and industrial emissions contribute to the local peaks in urban areas. Domestic wood and coal burning also make a significant contribution.

## What are the well-being strengths?

Measures to combat air pollution, for example GI, can help transform urban and rural spaces by improving enjoyment and promoting positive behavioural changes. In addition, the cultural services imparted by ecosystems often depend on nitrogen-sensitive biodiversity, for example, in flower-rich meadows or lichen-draped woodlands.

The Welsh Government is committed to building healthier communities and better environments. Clean air has a central role in creating the right conditions for better health, well-being and greater physical activity in Wales. In September 2017, the Welsh Government published its national strategy, [Prosperity for All](#), which sets out a cross-government commitment to reducing emissions and delivering vital improvements in air quality through planning, infrastructure, regulation, and health communication measures.

The existing vegetation in Wales takes up a significant amount of air pollutants. Restoring land cover and changing land use practice to maximise the regulating provision of the ecosystems can further reduce air pollutants. Studies have shown that this approach could be more beneficial than traditional abatement technologies and can be especially effective in combination<sup>lxii</sup>.

## What are the issues impacting well-being?

Poor air quality in the UK is estimated to cause 40,000 early deaths annually (Air Quality Expert Group, 2020<sup>lxiii</sup>), with 2,000 deaths in Wales alone, which amounts to 6% of total deaths (Public Health Wales, 2016<sup>lxiv</sup>). This was demonstrated during the COVID-19 pandemic where lockdown restrictions affected energy use, emissions and some air pollutants across the UK. Initial assessments suggest a reduction in nitrogen oxide (NOx), including NO<sub>2</sub> emissions in urban areas during lockdowns, as a result of lower traffic volumes (Clean Air Advisory Panel, 2020<sup>lxv</sup>). This and the associated reduction in traffic noise is likely to have had a positive impact on well-being<sup>lxvi</sup>.

A growing body of evidence indicates that the impact of air pollution goes beyond physical health and can impact on human well-being due to people's personal connections to the richness of their natural environment<sup>lxvii</sup>.

## Nitrogen dioxide (NO<sub>2</sub>)

In Wales, 88% (2018), of sensitive habitats exceed their critical load for atmospheric nitrogen, down from 98% (2009). Almost 60% of habitat or species 'features' on European protected sites are adversely affected by nitrogen deposition (Rowe et al., 2020<sup>lxviii</sup>).

NOx contribute significantly to nitrogen deposition in all ecosystems. NO<sub>2</sub> also reacts with other pollutants in the presence of sunlight to form ozone which can further impact the environment through damage to vegetation, including crops.

NOx also has direct impacts on human health, causing respiratory and cardiovascular effects. Encouraging the use of the cleanest modes of transport for freight and passengers, active travel and the creation of urban green space, are likely to be key in reducing emissions in the future<sup>lxix</sup>.

Short term, highly concentrated, exposure to NO<sub>2</sub> is a respiratory irritant that can lead to cough, production of mucus and shortness of breath. Concentrations of NO<sub>2</sub> in the natural environment can cause reduced lung development and respiratory infections in early childhood<sup>lxx</sup>.

### Particulate matter (PM)

The size of particulate matter (PM) (soot) and the length of exposure are key determinants of the potential of adverse health conditions and will determine where, physiologically, the impact will be. Small particles less than 2.5µm in diameter pose the greatest problems because they can get deep into the lungs and bloodstream leading to respiratory problems. When exposure to PM reduces lung function, it also reduces the ability of people to access nature and benefit from it; as a result, this also reduces their quality of life<sup>lxxi</sup>.

There is extensive evidence to show that long term exposure to PM increases mortality and morbidity from cardiovascular and respiratory diseases. PM has also been classified as carcinogenic to humans and causing lung cancer<sup>lxxii</sup>.

### What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- Expansion of the air quality monitoring network in Wales, in both the urban and rural environment would help strengthen our evidence and reliance on computer modelling, to better understand the scale and impact of key pollutants such as ammonia on the environment. Better data sharing as a result of new legislation, especially within the agricultural sector, will also allow us to target our interventions and policy to ensure pollution can be minimised.
- Some issues, such as air pollution, are only monitored at sampling sites which may be insufficient in number and distributed too unevenly to reveal what is happening across the whole of the urban area.

### Future trends and challenges

#### Climate change

The drive towards a low carbon economy comes hand in hand with the drive to improve air quality. The reduction in the use of fossil fuels has a subsequent effect on fewer products of combustion, such as NOx and sulphur oxides (SOx). The opportunity to develop a hydrogen-based economy will also help achieve this.

The recently published Third Climate Change Risk Assessment Technical Report: Summary for Wales (Netherwood, 2021)<sup>lxxiii</sup> has identified the risk to health from poor air quality in the future. The report assessed the following risks to be at the highest level of urgency where **more action is needed**:

**Risk H7. Health and well-being: Changes to indoor and outdoor air quality.** Climate change is expected to affect outdoor air quality in both urban and rural areas by directly and indirectly modifying ground level ozone concentrations. There may be an increase in pollution episodes associated with weather patterns, even if the general trend indicates that air quality is improving.

## Section B: Ecosystems are resilient to expected and unforeseen change

*“Human activity is now so dominant it’s disrupting the forces of nature and the vital habitats that life needs to survive on Earth. This is the most important story of our time.”*

Sir David Attenborough

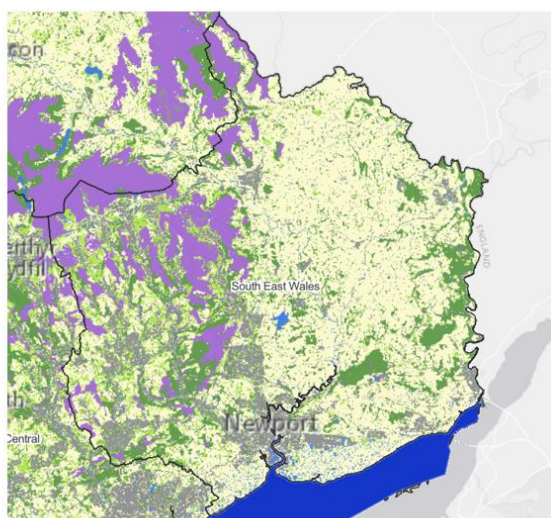
*“Everything around us is collapsing, this is the planet that we’re handing over to future generations and the worst part, I’ll tell you the worst part to me is that they are going to turn around and be like why did you not do something when you had the chance?”*

Dr. Asha de Vos Marine biologist / Conservationist

To realise the benefits that nature can provide, our natural areas must be healthy and resistant to threats and disturbance. The capacity of natural resources to provide this function (ecosystem resilience) is dependent on the relationship between four main attributes;

- **Diversity:** the range of variation, from genes to species and from habitats to landscapes, which supports the complexity of ecosystem functions and the delivery of ecosystem services;
- **Extent/scale:** habitat area that supports species diversity and ecosystem function;
- **Condition:** how a system is managed, inputs applied, resources extracted and impacts from management of surrounding land; and
- **Connectivity:** the movement that occurs within and between ecosystems, increasing the effective habitat range of species and the source pool for seed and genetic dispersal.

The components work together to form a fifth attribute; adaptability, which refers to the dynamic nature of ecosystems and their ability to adapt to change. Ecosystem resilience can be considered a measure of health.



### What the map shows

The ONS broad ecosystem classes.



Fig. B1 ONS broad ecosystem classes in Gwent

The evidence provided interprets the data and understanding we have into a coherent evidence base for Gwent (under a framework of broad habitats) and in doing so provides a place-based interpretation of the health of the broad habitats which make up the Gwent landscape (Fig. B1).

## Woodland

Practical habitat unit	Diversity	Extent	Condition	Connectivity
<b>Native woodland</b>	<b>Medium-High</b> Overall, some of Wales's most diverse habitats. More than half of native stands are favourable for tree and shrub species diversity (64%) and structural diversity (55%).	<b>Medium</b> 51% of native stands (76,000 ha) are in woodlands greater than 20ha and score favourably for size.	<b>Medium</b> 91% of native stands are in intermediate ecological condition and 9% of native woodlands are in favourable ecological condition.	<b>Medium</b> Connectivity with other habitats is good but native woodland is a much fragmented resource. The majority have a favourable proportion of semi-natural habitat nearby (100 km <sup>2</sup> ) but 25% are less than 5 ha in size.
<b>Non-Native woodland</b>	<b>Low to medium</b> Despite extensive improvements, 45% of stands remain even-aged and forests are dominated by a few species (approx. 60% of non-native trees are Sitka spruce (Forest Research, 2019a).	<b>High</b> 89% (138,000 ha) (89%) of non-native stands score favourably for size as they are part of large forests.	<b>Medium</b> 98% of non-native stands are in intermediate ecological condition. A lack of veteran trees and deadwood is a key factor.	<b>High</b> Good by virtue of large size of non-native blocks across Wales. Internal ecological connectivity within forest blocks is good due to networks of rides, roadside verges, riparian zones and permanent canopy cover.

Fig. B2 Ecosystem resilience assessment for woodlands in Wales (SoNaRR2020)

The State of Natural Resources Report 2020 (SoNaRR2020) assessed the overall ecosystem resilience of the Welsh woodland resource as 'medium'. However, this masks significant variation in the assessment of individual attributes of ecosystem resilience (Fig. B2)<sup>lxxiv</sup>.

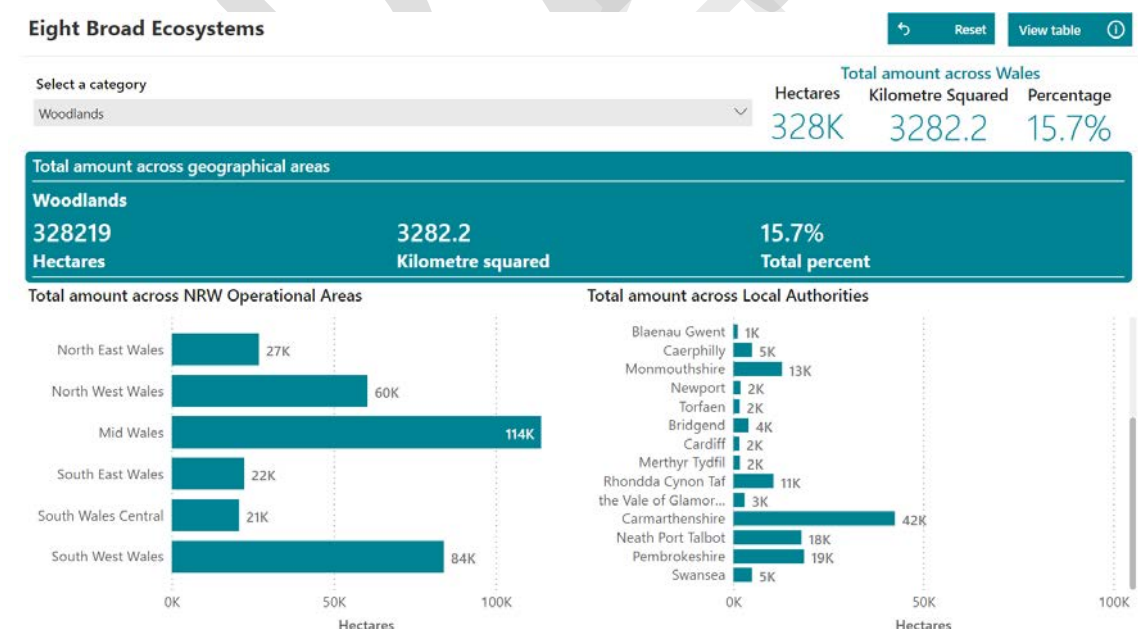


Fig. B3 Welsh woodland resource

Woodlands in Gwent contribute to approximately 15% of the entire Welsh resource, around 22,000ha in extent (Fig. B3<sup>lxxv</sup> for Gwent read South East). The county of Monmouthshire contains

the lion's share of that contribution with the Wye Valley landscape area making up a significant proportion of that.

Gwent covers a wide range of ecological conditions and consequently, native woodlands are also very diverse, with species composition and structure reflecting soil type, climate and hydrology, as well as management history and natural variations in species ranges. In common with native woodlands across Wales, condition assessments frequently show native woodlands in Gwent to be 'unfavourable', although management is often in place to improve the situation. [Habitat Network Maps](#)<sup>lxxvi</sup> show that native woodland connectivity is good in many areas of Gwent, with extensive networks flowing north-south down valleys in the west, down the Wye Valley and westwards from Chepstow to Wentwood.<sup>lxxvii</sup>

### What are the well-being strengths?

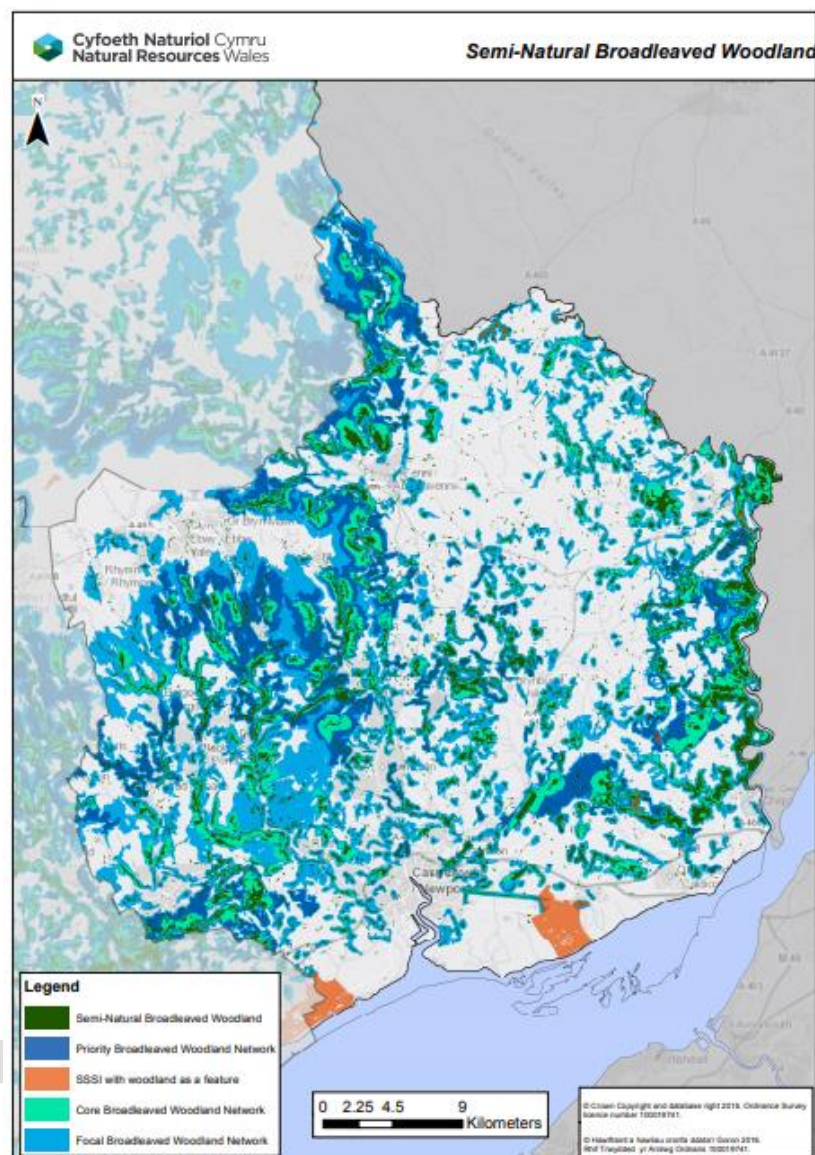
Woodlands deliver a range of ecosystem services which are important for well-being. Depending on woodland type, management and location, ecosystem services may include biodiversity, fibre provision, climate regulation and hazard regulation (for example, flood risk or air pollution mitigation), as well as opportunities for recreation, education and learning.<sup>lxxviii</sup>

Important woodlands designated as [Special Areas of Conservation \(SACs\)](#) are found along the Wye Valley, at Cwm Clydach, Coed y Cerrig and the Sugarloaf. Outstanding ecological features of the Gwent's native woodlands are<sup>lxxix</sup>:

- The extensive, high quality and highly diverse woodlands of the lower Wye Valley, one of the most significant areas for native woodland in the UK
- The highest quality remnants of floodplain woodland in Wales (probably!) along the River Usk and its tributaries
- The greatest extent of native beech woodland in Wales, at the edge of its UK and European range at Silent Valley in the Eastern Valleys
- The most south-eastern examples of SAC quality upland oak woods in the UK
- The highest representation of lowland woodlands in Wales, often occurring on rich, lowland soils.

The woodland habitats of Gwent support many species including (amongst others) Dormouse, several bat species, Beech and Oak fungi, Hawfinch, Pied Flycatcher, Marsh Tit, Willow Tit, Wood White, saproxylic invertebrates and the Spreading Bellflower.<sup>lxxx</sup>

Opportunities to improve ecosystem resilience through the creation of nature networks



*Fig. B4 Priority, core and focal broadleaf woodland habitat network map*

Opportunities for improving the ecosystem resilience of our woodland habitat are shown in Fig. B4<sup>lxxxi</sup>.

Landscape Profile	Spatial Opportunity to increase resilience of Woodland habitat
<b>Eastern Valleys</b>	<ul style="list-style-type: none"> <li>• Silent Valley: There are huge opportunities for improved habitat connectivity both east to west across the Valleys and indeed north into the Brecon Beacons and the southern urban areas e.g. Carn y Cefn and Cefn yr Arail hill ranges</li> <li>• Caerphilly woodlands to Cardiff Beech Woods SAC: Maintenance of these woodland connections and improvements of condition of the woodlands themselves, along with conversion of plantation to semi-natural broadleaf woodland in this area would increase Ecosystem Resilience.</li> <li>• Lowlands: Hedgerows</li> </ul>
<b>Wye Valley and Wentwood</b>	<ul style="list-style-type: none"> <li>• Wentwood to Chepstow Park Wood (crossing the B4235) and Trellech to Hendre (crossing the A40): Improve woodland linkages.</li> <li>• Woodland</li> <li>• Ensure woodlands habitats and features of the designated sites series are in favourable condition.</li> <li>• Enhance public and privately owned ASNW</li> <li>• Enhance existing hedgerows and veteran trees</li> <li>• planting of fruit trees or other trees with blossom (e.g. blackthorn, hawthorn, elder) could be incorporated as part of wider tree planting initiatives (see below). The importance of traditional orchards should also be highlighted to smallholders and community groups etc. who may be more likely to create orchards or plant the odd tree</li> <li>• Promote natural regeneration of floodplain woodlands (within flood zones 2 &amp; 3 of the Castrogri and Mounon Brooks) and riparian woodlands (along the) to improve woodland connectivity between Wentwood &amp; Chepstow Park Wood. Also between the Trellech Plateau and the Hendre. This farmed landscape would also benefit from widened hedgerows and more trees planted within fields.</li> </ul>
<b>Central Monmouthshire</b>	<ul style="list-style-type: none"> <li>• Developing networks to link the fragmented but high quality of patches of floodplain woodland along the Usk and its tributaries would be extremely valuable. E.g Great Trilley Woods.</li> <li>• enhance links between the River Usk, River Gavenny, A465, A4143 and railway corridors with the semi-natural habitats around Llanfoist, including Grove Farm grassland SIN and the Monmouthshire and Brecon Canal, as well as the ancient woodlands of the Bloreng.</li> <li>• strengthen and enhance links between the River Gavenny railway corridor and the woodland habitats and watercourses surrounding St Teilo's vicarage</li> <li>• enhance connectivity between sections of the Afon Cibi in central Abergavenny with the trees and watercourse of Bailey Park</li> <li>• Safeguard and enhance Hedgerows and veteran trees</li> </ul>
<b>Gwent Levels</b>	<ul style="list-style-type: none"> <li>• Cardiff East "habitat ring" (Gwent Levels, South Central Area) – intervention on the western Gwent Levels south of the suburb of Rumney to 'close' a circle woodland and grassland habitat around urban East Cardiff and link the Gwent Levels through Cardiff and into the Valleys habitat network.</li> <li>• Llanwern – significant block of woodland where improvement, enlargement and connection to other woodlands may be possible. NRW's Natural Flood Management – SE Wales Potential Sites analysis identifies floodplain and riparian planting locations on the Monks Ditch that could mitigate flooding of Llanwern Village. Habitat connectivity mapping suggests this might also be a strategic location for improving resilience by enlarging and connecting woodland habitat (see maps).</li> <li>• Caldicot Castle Country Park and Nedern Wetlands SSSI – opportunities to improve habitat networks and connectivity west to Caerwent and east to Farthing Hill.</li> <li>• Wyelands Estate –area of parkland that supports veteran trees of possible national or international importance to saproxylic invertebrates. Evidence gaps, a lack of awareness and long-term management need addressing (see Wentwood and Wye Valley Landscape profile for further detail on importance of and management for saproxylic invertebrates). Management to enhance and expand habitats at this location could also built connectivity to the Wye Valley Woodlands and other Gwent Levels habitat types.</li> <li>• Higher ground around Castleton and Coedkernow near the M4</li> <li>• A48 east of Duffryn</li> </ul>

*Fig. B5 Specific opportunities for improving ecosystem resilience across Gwent*

Fig. B5 identifies specific opportunities for improving the health of our Gwent woodland resource in Gwent as a matter of priority. These opportunities were identified by Environment stakeholders during production of the South East Area Statement (2020)<sup>lxxxii</sup>.

In the less well-wooded areas in the south and centre of Gwent, there may be relatively little opportunity for developing large-scale networks. Instead, it may be more appropriate to have an emphasis on extending and buffering individual woodlands to make them as large and resilient as possible, together with other actions such as promoting stepping stones (e.g. individual trees) and improving corridors (hedges and water courses).

### What are the issues impacting well-being?

Some of Gwent's best woodland sites have been designated as sites of local, national and international importance and should provide some of the healthiest examples of woodland habitat in the region. The condition of our best woodland sites can provide some indication as to the health of the wider Gwent based woodland resource.

There are 32 [Special Scientific Interest \(SSSIs\)](#) where woodlands are a qualifying feature in Gwent. Of these, it has been possible to make an assessment and determine the condition of 50% during Natural Resources Wales (NRW)'s [Protected Sites Baseline Assessment](#) (2020). Of those assessed, 2

SSSIs are in a 'favourable' condition and 14 SSSIs are in an 'unfavourable' condition<sup>lxxxiii</sup>. This information suggests that our woodland habitats are under increasing pressure across the region.

Species are both a component and product of our ecosystems, so looking at what is happening to individual species can indicate what is happening within the wider environment.

Woodland Birds			
Species	Conservation Status	Trend Gwent	Data availability
Brambling	Amber (was Green) (Wales ) Green (UK )	Fairly Common	Good
Hawfinch	Red (UK) Amber (Wales) UKBAP Priority Species, Wales Section 7 List	Decline	Poor
Pied Flycatcher	Red (UK & Wales), Wales Section 7 List	Decline	Poor
Spotted Flycatcher	Red (UK & Wales), UKBAP Priority Species, Wales Section 7 List	Significant decline	Poor
Willow Tit	Red (UK & Wales), UKBAP Priority Species, Wales Section 7 List	Significant decline at risk of extinction in Gwent	Poor
Willow Warbler	Amber (UK) Red (Wales)	Significant decline	Good
Marsh Tit	Red (UK & Wales), UKBAP Priority Species, Wales Section 7 List	Decline	Moderate
Cuckoo	Red (UK2 & Wales1 ) UK BAP Priority Species, Environment (Wales) Act Section 7 Species.	Decline	Good

*Fig. B6 Woodland bird species trends for Gwent (data extracted from Gwent State of Nature (GSoN) report 2021)*

Evidence from the [Gwent State of Nature \(GSoN\) Report 2021](#) assessed the status and regional trend of six woodland bird species and concluded that all six were suffering population trends of 'dramatic decline', 'significant decline' or 'decline' across the region (Fig. B6)<sup>lxxxiv</sup>.

## Threats

### Pests and diseases

[The State of Natural Resources Report \(SoNaRR2020\)](#) identifies that pests and diseases have had a deteriorating impact on both past trends and future prospects for the woodland resource with *Phytophthora Ramorum* causing the widespread death of Larch and Chalara Ash dieback taking hold.

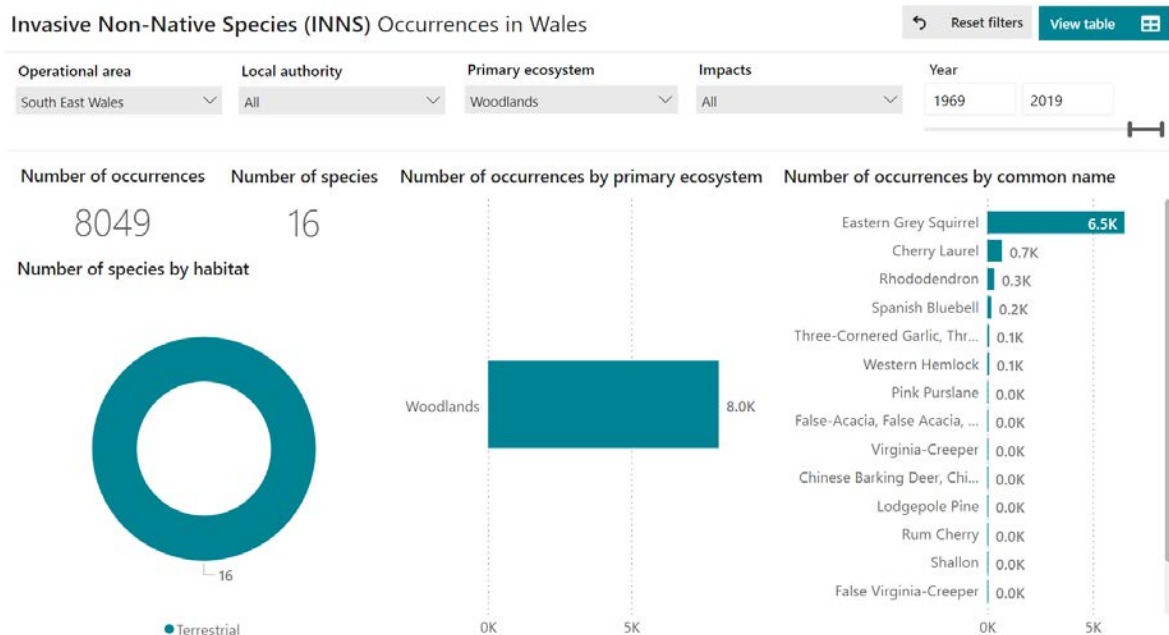


Fig. B7 Invasive non-native species (INNS) occurrences in Gwent by woodlands

NRW data indicates that the top three [Invasive Non-Native Species \(INNS\)](#) impacting Gwent's woodland resource are, Eastern Grey Squirrel, Cherry Laurel and Rhododendron (Fig. B7<sup>lxxxv</sup>).

Fallow Deer (Wye Valley Woodlands SAC, near Tredunnock) can change the structure of woodland, with consequent negative effects on other elements of woodland ecosystems. Fallow Deer, especially where they occur at high density, can cause economic damage to crops and to tree shoots by their grazing and browsing. Currently they are having some significant impacts in localised areas and control measures are needed to reduce their impact.

Himalayan Balsam is a pressure on woodland resource in the Wye Valley, as is the presence of Buddleia<sup>lxxxvi</sup>.

### Pollution

Air pollution has a deteriorating impact on the woodland ecosystem. The impact of nitrogen on woodlands are highlighted by designated sites monitoring (NRW, 2015; Joint Nature Conservation Committee (JNCC), 2019). Assessment of the proportion of ancient woodland sites exposed to critical levels of ammonia (NRW, 2020) found that 61% of ancient semi-natural woodland in Wales is modelled as experiencing ammonia concentrations above the 'critical level' for lichen and bryophyte-rich ecosystems<sup>lxxxvii</sup>.

### Habitat loss and degradation

Gwent is relatively densely populated for Wales, with woodland often closely associated with urban areas. While beneficial in terms of human well-being, this can also increase certain impacts on woodland condition, connectivity and extent.

Land use and land use management change is a significant driver affecting woodlands in Wales. It is relevant to the extent and condition of existing woodlands, as well as affecting opportunities for new woodland creation<sup>lxxxviii</sup>.

## What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- The ecosystem resilience of woodlands and the flow of ecosystems services and well-being benefits from them;
- The impact of pests and diseases on woodlands;
- The condition of woodlands;
- The extent of woodlands;
- The role of timber in supporting a regenerative economy;
- Ecosystem trade-offs and synergies relevant to woodland (and wider land use) and
- The economic contribution of the wider woodland sector.<sup>lxxxix</sup>
- The extent to which development is driving permanent woodland resource loss and impacting connectivity is unknown.
- A better understanding of climate risk factors impacting our woodland resource is required<sup>xc</sup>.

## What are people telling us?

The most recent Public Opinion of Forestry Survey (Forest Research, 2019)<sup>xcj</sup> reported that 97% of people named at least one benefit of woodlands in Wales, the most frequently cited one being that 'they provide places for wildlife to live'. In contrast, 47% of people named at least one disadvantage of woodlands in Wales, the most frequently cited one being that woodlands were 'used for fly-tipping'. The results also showed that 77% of adults surveyed in Wales had visited woodland for recreation in the last twelve months, the most popular activity being walking (89%). The most commonly stated reasons for not visiting woodlands were 'other personal mobility issues' or 'too busy/not enough time'. The Space for People report (Woodland Trust, 2017) states that people in Wales have better access to woodlands (2ha+ within 500m and 20ha+ within 4km) than the UK average.<sup>xcii</sup>

## Future trends and challenges

### Climate Change

The impact of future climatic change on woodlands is projected to be greater than those experienced to date. The recently published [Third Climate Change Risk Assessment Technical Report: Summary for Wales](#) (Netherwood, 2021)<sup>xciii</sup> has identified a number of specific future climate risks which are pertinent to the woodland resource. Those assessed to be in at the highest level of urgency where **more action is needed** include:

**Risk N1. Terrestrial species and habitats: Changing climate conditions.** Lowland landscapes (woodland and wetland) are likely to be affected by hotter, drier summers and upland woodlands by drought.

**Risk N2. Terrestrial species and habitats: Pests, pathogens and invasive species.** Pests, pathogens and invasive species continuing to increase.

**Risk N4. Soils: Changing climatic conditions, including seasonal aridity and wetness.**

**Risk/opportunity N5. Natural carbon stores, carbon sequestration and greenhouse gas (GHG) emissions.**

Limited actions to manage climate impact on woodland carbon stocks at the devolved level (including woodland carbon assessments).

**Risk/opportunity N6. Agricultural and forestry productivity.** Extreme events changing climatic conditions (including temperature change, water scarcity, wildfire, flooding, coastal erosion, wind). Tree suitability analysis has been conducted focusing on Sitka spruce and sessile oak in Wales which shows a declining suitable area for commercial production due to increased drought risk, although this does not preclude trees being grown for non-production purposes, including for ecosystem services such as flood mitigation, carbon storage, and supporting biodiversity (Bell et al., 2020).

The assessment also highlighted the following risk pertinent to woodlands which will require **further investigation** including:

**Opportunity N3. Terrestrial species and habitats: New species colonisations.** It is suggested that broadleaved tree species are likely to be more widespread in central and eastern Wales, which could present an opportunity for increased timber production, carbon sequestration and woodland habitat expansion for conservation. Opportunities have been identified for species and habitats with warmer mean temperatures lengthening the growing season and enabling trees to grow at higher elevations.

### Semi-natural grassland

Practical habitat unit	Diversity	Extent	Condition	Connectivity
Lowland semi-natural grassland.  Calcareous, neutral, acid, marshy, calaminarian	<b>Low</b>  Naturally very high diversity and important for a wide range of flora and fauna. Loss of diversity due to huge decline in the habitat extent in the last half of the 20 <sup>th</sup> century, as well as current poor condition and connectivity. Large number of grassland species under threat.	<b>Low</b>  >90% losses in the last half of the 20 <sup>th</sup> century. Losses continue. Main issues are agricultural intensification and undermanagement. Protected sites appear largely protected from loss, but 90% of grassland Priority Habitat not on protected sites.	<b>Low</b>  Condition generally poor on both protected and unprotected sites, due largely to undermanagement, combined with factors such as atmospheric deposition. Some evidence suggests trend in condition has stabilised.	<b>Low</b>  The least well connected of all main habitat groupings. Surveys in 1980s/90s revealed very high fragmentation which is highly likely to be still worsening due to continued losses in extent. Less mobile species severely affected. Several better-connected landscapes remain locally.
Upland semi-natural grassland.  Calcareous, acid, calaminarian	<b>Medium</b>  Diversity naturally lower than in lowlands, but with notable exceptions in calcareous and calaminarian grasslands. Fewer threatened flora and fauna than in lowlands.	<b>High</b>  Extent of calcareous and calaminarian grasslands constrained by bedrock and probably little changed in recent history. Upland acid grassland increased at the expense of heathland in the past.	<b>Medium</b>  Poor condition often caused by inappropriate grazing levels: overgrazing and, to a lesser extent, undergrazing. Atmospheric deposition the other main cause of poor condition. Recreation damage is locally significant.	<b>High</b>  Connectivity relatively good and probably little changed in recent decades.

*Fig. B8 Ecosystem resilience assessment for semi-natural grassland in Wales (SoNaRR2020)*

SoNaRR2020 assessed the overall ecosystem resilience of the Welsh lowland semi-natural grasslands as poor across all four attributes of ecosystem resilience. Upland semi-natural grassland however fared much better in the national assessment with calcareous, acid and calaminarian grasslands rated as medium and high across the attributes (Fig. B8)<sup>xciv</sup>.

## Eight Broad Ecosystems

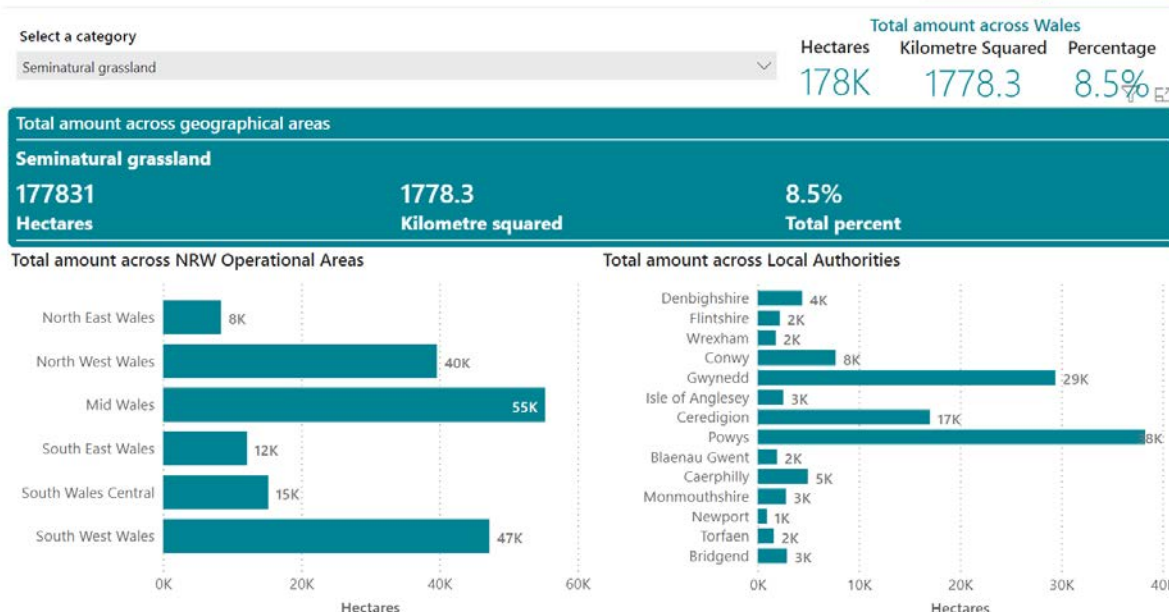


Fig. B9 Welsh semi-natural grassland resource

Semi-natural grasslands in Gwent contribute to approximately 8.5% of the entire Welsh resource (for Gwent read South East), around 12,000 ha in extent with Caerphilly local authority area contributing the majority of that (Fig. B9)<sup>xv</sup>.

While semi-natural grasslands account for a small proportion of the Gwent broad habitat types, the region is nevertheless considered a stronghold for the UK's few remaining species-rich grasslands, which have suffered drastic declines. Particularly extensive and diverse stands of unimproved neutral grassland can be found in the south east of Gwent, notable at Cwrt y Bela and Springdale Site of SSSI, which supports the second largest area of the habitat recorded in Wales. Substantial areas of the habitat can also be found at Plantation Farm and the Gethley SSSI, Dinham Meadows SSSI and the non-statutory site Woodcock Hill/Five Lanes. Sizable areas of unimproved neutral grassland can also be found in the north of Gwent, notably at The Fferm, Blaentrophy Meadows and Pentwyn Farm Grasslands SSIs. The most significant site for lowland marshy grassland in Gwent is Aberbargoed Grassland SAC and [National Nature Reserves \(NNR\)](#).

Grassland connectivity is very poor across most of Gwent, and grassland habitats are particularly fragmentary across the more agriculturally-modified lowland landscapes of Monmouthshire, although the county does have a network of high quality locally designated grassland sites, for example Cwrt y Bela and Springdale SSSI. Grassland connectivity is generally better further west, particularly in the upland fringes of the eastern coalfield valleys between Merthyr Tydfil and Pontypool, although grassland diversity here is not particularly high, lowland dry acid grassland being largely dominant<sup>xvii</sup>.

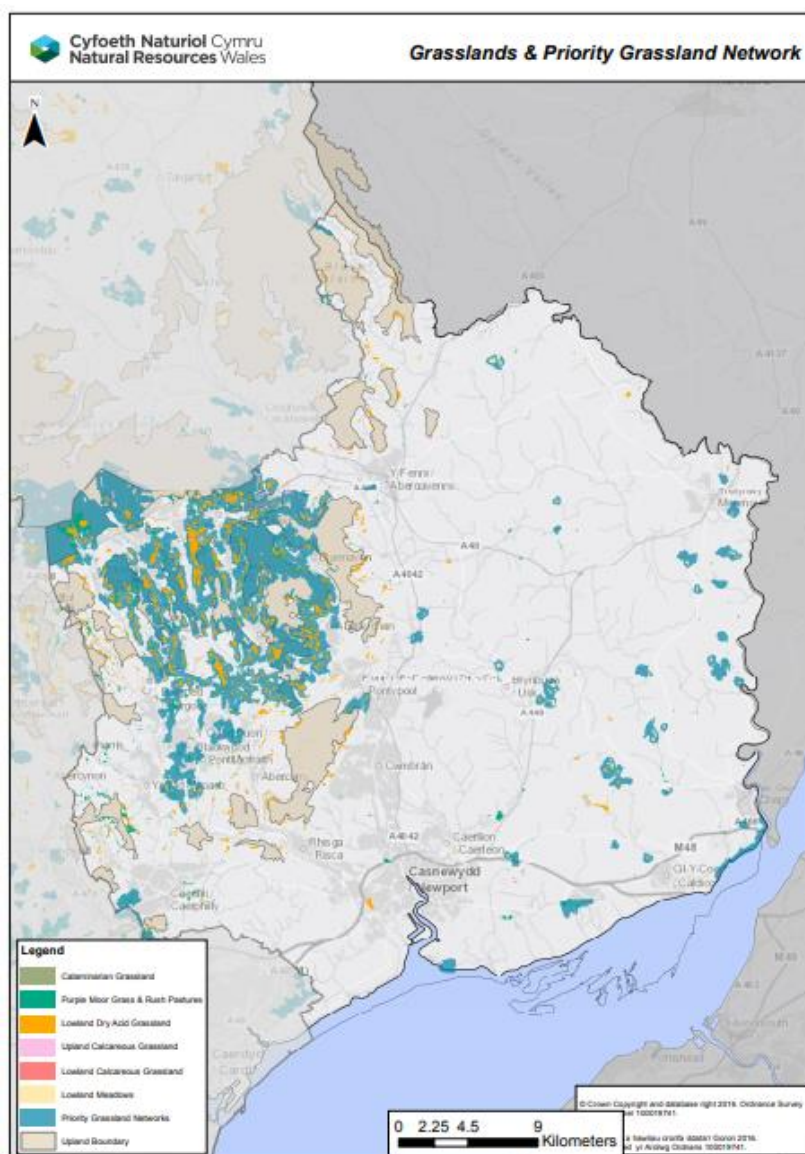
### What are the well-being strengths?

Most ecosystem services are higher in semi-natural grasslands than in agriculturally improved grassland, particularly those relating to biological diversity, crop pollination, carbon storage, pollution control, and cultural heritage. Compared with other semi-natural habitats, grasslands score particularly well for crop pollination and higher food production levels. More sustainable management of grassland in Wales would help advance Wales's well-being goals related to

resilience, health, culture and global responsibility,<sup>xcvii</sup> and contribute to targets in the [South East Wales Green Infrastructure Action Plan for Pollinators](#).

The semi-natural grasslands of Gwent support many species including the Marsh Fritillary Butterfly, Grassland Waxcaps, Greater Butterfly Orchid, Green Winged Orchid, Small Blue, Shril Carder Bee, Blunt-flowered Rush, Hornet Robberfly, Brown Banded Carder Bee and pollinators<sup>xcviii</sup>.

Opportunities to improve ecosystem resilience through the creation of nature networks



*Fig. B10 Priority grassland networks in Gwent*

Opportunities for improving the ecosystem resilience of our semi natural grassland habitat can be seen in Fig. B10.<sup>xcix</sup>

Landscape Profile	Spatial Opportunity to increase resilience of Semi Natural Grassland habitat
Eastern Valleys	<ul style="list-style-type: none"> <li>Aberbargoed Grasslands SAC/SSSI/NNR is one of the most important areas of semi-natural grassland in SE Area. This site acts as a feeder source from which species can re-colonise habitat in the wider landscape.</li> <li>Opportunities for improved connectivity exist due south (towards Maes-y-cwmmmer/Nant-y-twyn and Heol Ddu nr Wyllie) and to the north west (to Parc Cwm Darran, where there are historic records, and even over the Heads of the Valleys to link up with populations around Merthyr/Hirwaun). Better condition of the land within Penllwyn Grasslands SSSI (there is a current example of partnership working between the Fire Service and NRW to improve management of the grassland here and reduce fire risk) and Memorial Park Meadows SSSI is also important.</li> </ul>
Wye Valley and Wentwood	<ul style="list-style-type: none"> <li>A key area for grasslands of a calcareous nature (typically MG5b) falls roughly within the settlements of Crick, Magor, Llanvaches and Shirenewton. This area includes a handful of protected grassland sites including Dinham Meadows SSSI (and wider Caerwent Military Base) &amp; Brockwells Meadows SSSI, along with other significant grassland sites around Five Lanes, Woodcock Hill and Slade Wood. Other smaller parcels of calcareous grassland are present on shallow unimproved soils within this location and further north west following the route of the underlying limestone bedrock</li> <li>The potential for creation of additional calcareous grassland habitats at sites with an appropriate soil profile and underlying geology (e.g. Caerwent Quarry, Ifton Quarry, Livox Quarry) should be identified and approached with appropriate incentives to encourage promotion of this rare habitat.</li> <li>Lowland neutral grasslands make up the largest proportion of the unimproved grassland resource in the Wye-Wentwood area. There are two key strongholds that should be the focus of efforts to improve the condition, extent and resilience of the resource. These are:- <ul style="list-style-type: none"> <li>Cwrt-y-Bela a Springdale SSSI (Central Monmouthshire), Plantation Farm and the Gethley SSSI &amp; the wider Earlswood area</li> <li>Penallt through Trellech and on to Tintern, taking in Pentwyn Farm Grasslands SSSI, North Fen, Pen-y-fan Marsh, Cleddon Bog SSSI &amp; Barbadoes Hill Meadows SSSI – with potential to tie in with bog/fen/heathland connectivity.</li> </ul> </li> </ul>
Central Monmouthshire	<ul style="list-style-type: none"> <li>Enhance links between the River Usk, River Gavenny, A465, A4143 and railway corridors with the semi-natural habitats around Llanfoist, including Grove Farm grassland SINC and the Monmouthshire and Brecon Canal, as well as the ancient woodlands of the Blorengae.</li> </ul>
Gwent Levels	<ul style="list-style-type: none"> <li>Consideration should be given to connectivity of semi natural grassland areas by for example Identifying opportunities to extend and connect ecological habitats along embankments including the sea wall, reens and ditches, roads and driveways giving priority to corridors that link existing core habitats.</li> <li>Cardiff East "habitat ring" (Gwent Levels, South Central Area) – intervention on the western Gwent Levels south of the suburb of Rhumney to 'close' a circle woodland and grassland habitat around urban East Cardiff and link the Gwent Levels through Cardiff and into the Valleys habitat network.</li> </ul>

*Fig. B11 Specific opportunities for improving ecosystem resilience across Gwent*

Fig. B11<sup>c</sup> identifies specific opportunities for improving the health of our semi-natural grasslands across Gwent as a matter of priority. These opportunities were identified by Environment stakeholders during production of the South East Area Statement (2020)<sup>ci</sup>.

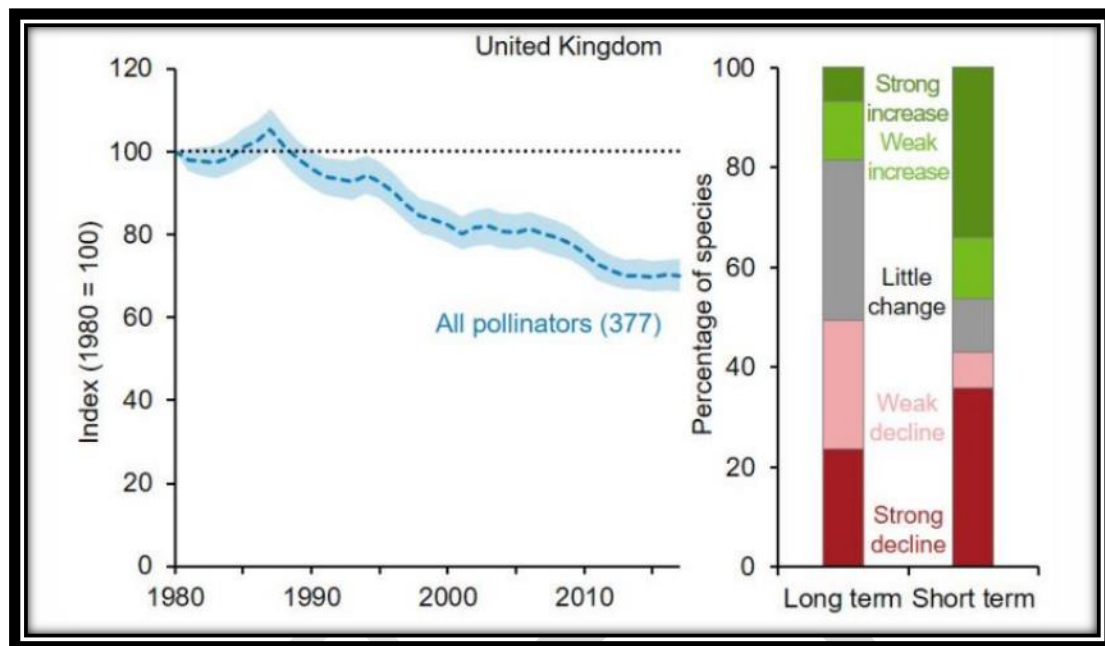
### What are the issues impacting well-being?

Losses of this habitat have been severe in the Welsh context and continued decline in the 21<sup>st</sup> century must be viewed in the context of more than a 90% loss of lowland grassland habitat in the later part of the 20<sup>th</sup> century. The outlook for this habitat does not look good according to data from the European Habitats Directive (Article 17) which details that all grassland habitats had negative or very negative prospects for condition<sup>cii</sup>.

Some of Gwent's best semi-natural grassland sites have been designated as sites of local, national and international importance and should provide some of the healthiest examples of grassland habitat in the region. The condition of our best grassland sites can provide some indication as to the health of the wider Gwent based grassland resource.

There are 27 SSSIs where semi-natural grasslands are a qualifying feature in Gwent. Of these, it has been possible to make an assessment and determine the condition of 41% during NRW's Baseline Assessment Project (2020). Of those assessed, one SSSI is in a 'favourable' condition and 10 SSSIs are in an 'unfavourable' condition. This information suggests that our semi-natural grassland habitats are under increasing pressure across the region<sup>ciii</sup>.

Species are both a component and product of our ecosystems, so looking at what is happening to individual species can indicate what is happening within the wider environment. There has been an overall decrease in the UK biodiversity pollinator indicator from 1987 onwards.



*Fig. B12 Change in the distribution of UK pollinators, 1980-2017 (Government Office for Science Trend Deck)*

In 2017, the indicator had declined by 30% compared to its value in 1980. Over the long term, 19% of pollinator species became more widespread (7% showed a 'strong increase') and 49% became less widespread (24% showed a 'strong decline'). By contrast, over the short term, a greater proportion of species were increasing (46%, with 34% exhibiting a 'strong increase') than decreasing (43%, with 36% exhibiting a 'strong decline') (Fig. B12<sup>civ</sup>).

## Threats

### Pollution

Intensive farming practice and the use of artificial fertiliser is still resulting in loss of lowland semi-natural grassland, decline in grassland diversity and condition, and fragmentation of habitat patches.<sup>cv</sup>

Atmospheric pollution, including the deposition of nitrogen oxides (NO<sub>x</sub>), from the burning of fossil fuels by traffic and industry, and local sources of ammonia (NH<sub>3</sub>) deposition, arising mainly from intensive poultry and dairy enterprises. These pollutants are known to cause decreased species-richness of grassland through the effects of eutrophication and soil acidification (Stevens et al., 2004; Van den Berg et al., 2011)<sup>cvi</sup>.

These threats are affected by a range of wider system pressures such as farm economics, changing land use priorities and consumer behaviour.

### Habitat loss and degradation

Lack of ecological connectivity of semi-natural grasslands leads to isolation of less mobile species, making them at much greater risk of extinction<sup>cvi</sup>. It is vital therefore to take direct action which improves the health of our grassland resource across all the attributes of ecosystem resilience, including connectivity.

SoNaRR2020 identified that pressures and threats relating to level of grazing were listed as 'high' for all grassland European Protected Habitats in Wales, from either under-grazing, including abandonment and succession to scrub/trees, or over-grazing, or both<sup>cvi</sup>.

## Unsustainable use

Some important grassland sites need statutory protection, and existing protected sites are in many cases not being appropriately managed, which leads to poor condition. Protected sites need to be part of ecological networks rather than being isolated<sup>cxix</sup>.

## Invasive Non-Native Species (INNS)

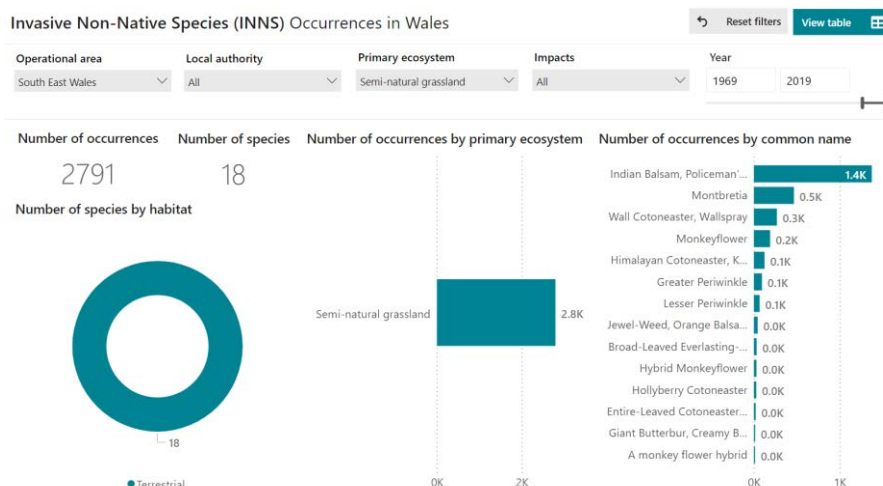


Fig. B13 Invasive non-native species (INNS) occurrences in Gwent by semi-natural grassland

Indian Balsam and various cotoneaster are significant INNS having an impact on semi-natural grasslands in Gwent (Fig. B13<sup>cx</sup>). The latter is likely to be the greatest threat to the condition of this habitat and is a significant issue on a number of calcareous grassland sites across Wales (Stroh et al., 2019)<sup>cxii</sup>.

## What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- More evidence is needed to fully evaluate the effects of atmospheric pollution on semi-natural grasslands, including general levels of atmospheric nitrogen and local sources of ammonia, for example to confirm which grassland species are most vulnerable to elevated nitrogen/ammonia levels<sup>cxii</sup>.
- The extent to which development is driving permanent semi-natural grassland resource loss and impacting connectivity is unknown.

## Future trends and challenges

### Climate Change

Higher temperatures, drier summers and extreme rainfall events caused by climate change are likely to lead to harmful changes to grassland hydrology and decrease the frequency and abundance of certain grassland species, as well as promoting damaging land use and land management changes.<sup>cxiii</sup>

As the climate changes, land use pressures are highly likely to intensify, with calls for increased woodland planting (Welsh Government, 2018<sup>cxiv</sup>) and growing of more biofuel crops (UKCCC, 2020<sup>cxv</sup>), along with a possible increase in the area covered by solar farms. Such needs should be viewed alongside the need for sustainable, low-carbon food production, as well as enhancing and restoring habitats and reversing the decline of biodiversity (UKCCC, 2020<sup>cxvi</sup>).

The recently published Third Climate Change Risk Assessment Technical Report: Summary for Wales (Netherwood, 2021)<sup>cxvii</sup> has identified a number of specific future climate risks which are pertinent to the Semi-Natural Grassland resource. Those assessed to be in at the highest level of urgency where **more action is needed** include:

**Risk/opportunity N6. Agricultural and forestry productivity.** Extreme events changing climatic conditions (including temperature change, water scarcity, wildfire, flooding, coastal erosion, wind). important knowledge gaps remain which necessitate continuing research on adaptation strategies (e.g., grassland and livestock systems).

**Risk H7. Health and well-being: Changes to indoor and outdoor air quality.** Changes in indoor and outdoor air quality: Wildfire risks may increase due to projected changes in temperature and rainfall (hot and dry weather). It is likely that the frequency of moorland, grassland and forest fires may increase with regional differences.

The assessment also highlighted the following risk pertinent to woodlands which will require **further investigation** including:

**Opportunity N3. Terrestrial species and habitats: New species colonisations.** Opportunities have been identified for species and habitats with warmer mean temperatures lengthening the growing season and enabling trees, grasses and shrubby plants to grow at higher elevations, resulting in a raising of the moorland line. While this change could lead to the expansion of grazing and an increase in grassland productivity, this could be at the expense of semi-natural habitats, such as upland heath.

## Mountains, moorland and heathland (MMH)

SoNaRR2020 assessed the overall ecosystem resilience of the Welsh mountain, moorland and heathland (MMH) resource as generally quite poor, with significant intervention needed across all four ecosystem resilience attributes<sup>cxviii</sup>.

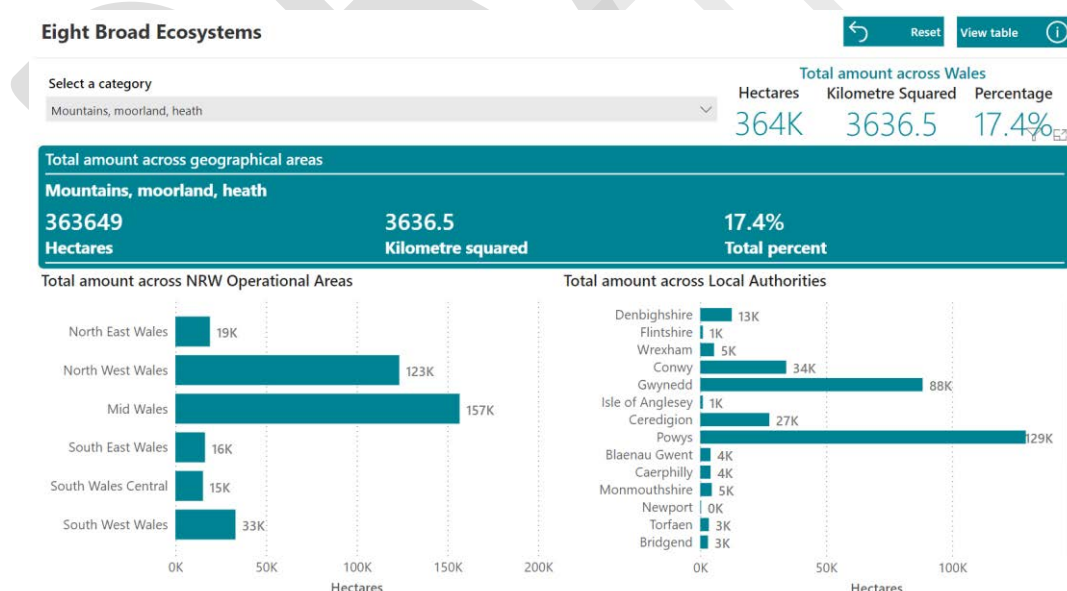


Fig. B14 Welsh mountain, moorland and heath (MMH) resource

MMH in Gwent contributes to approximately 16% of the entire Welsh resource, around 16,000ha in extent (Fig. B14<sup>cxix</sup> for Gwent read South East). The main upland blocks occur in the west of Gwent. It

comprises the south easterly part of the Black Mountains, the southern slopes of Mynydd Llangynidr/Llangatwg, the Blorengw/Gilwern Hill area and the south-easterly trending ridges of the hills lying between the settlements of Rhymney, Tredegar, Ebbw Vale, Blaina, Abertyleri and Blaenavon (the “Gwent Uplands”). The highest point is Chwarel y Fan in the Black Mountains at 679m. The Wye to Wentwood landscape also contains fragments of bog, fen, swamp and lowland heath. In Wales, the upland fringe is called fridd, and can be an important habitat. In Gwent, the uplands are a complex mosaic of heathland, acidic grassland, bracken, blanket bog and flushes, with areas of woodland and scrub<sup>CXX</sup>.

In Gwent, this habitat also includes substantial areas of post-industrial land such as coal spoil tips. These large areas of the Gwent uplands form distinctive features, hosting a unique wildlife community. Coal spoil forms a mosaic of bare ground with grass and heath, which is particularly important for invertebrates, lichens and bryophytes.

### What are the well-being strengths?

The MMH ecosystems provide food and fibre to the people of Gwent. The predominant land use is stock rearing, with sheep being the major component, and there is also some commercial forestry (Mynydd Maen).

The uplands are crucial in supplying clean drinking water, sequestering carbon and providing renewable energy. MMH landscapes also have huge cultural and heritage value ([Blaenavon World Heritage Site \(WHS\)](#)), are key areas for access and recreation (Twmbarlwm, Blorengw, Sugar Loaf) and play important roles in physical, mental and spiritual well-being.

The MMH habitats of Gwent also support many species including Ring Ouzel, Red Grouse, Hen Harrier, Brown Hare, Silurian Moth, Small Pearl-bordered Fritillary and Scarce Blue-tailed Damselfly.

### Opportunities to improve ecosystem resilience through the creation of nature networks

Habitat extent is not realistically expandable for habitats which are topographically contained, such as mountain heaths and willow scrub or inland rock outcrops and scree, and for these habitats, the suggested opportunities related more to improvement in condition.

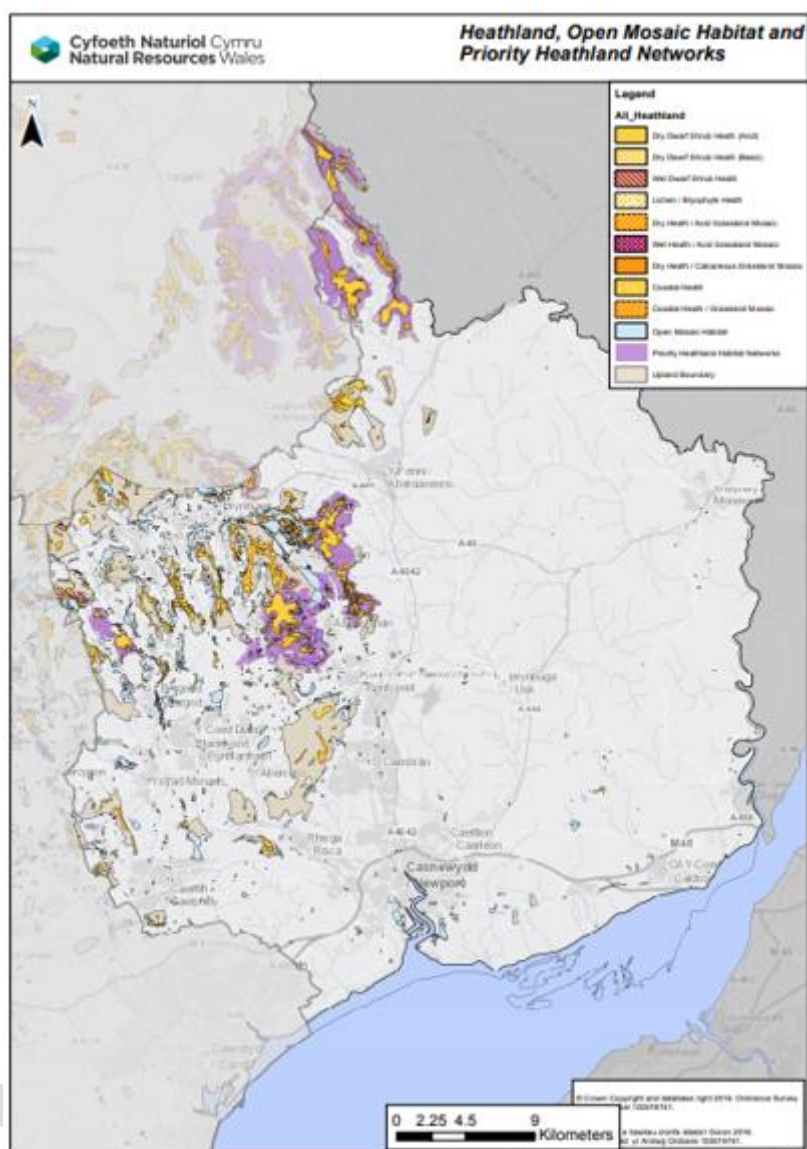


Fig. B15 Priority heathland networks in Gwent

Fig. B15<sup>cxxi</sup> shows opportunities for improving the health and ecosystem resilience of MMH habitat and take action to improve condition, by considering where areas of acid grassland would be better considered as potential areas of heath, scrub or even woodland.

Local technical specialists also identified the need for specific targeted action to improve the condition of Waun Afon Bog, a wetland site that occupies the northern end of the Afon Lwyd valley<sup>cxxii</sup>. It is the largest peatland in Gwent and is 'an area of upland-edge blanket' or 'intermediate bog that has developed on a watershed'. Appropriate management and better overall habitat condition would improve the biodiversity value and improve capacity for water storage to mitigate flooding and carbon sequestration.

Appreciation of the value of brownfield, post-industrial sites across Gwent is key. Colliery spoil and other post-industrial landscapes are important for their biological diversity and for the range of habitats they support, particularly open ground habitats and the range of specialist fauna and flora associated with them.

### What are the issues impacting well-being?

Gwent has a below average representation of upland protected sites compared to the other areas of Wales. There are no upland SACs, [Special Protection Areas \(SPA\)](#) or NNRs. SSSIs occur on the Black Mountains, Gilwern Hill, Bloreng, the eastern part of Mynydd Llangatwg and Cefn y Brithdir.

There are seven SSSIs where MMH habitats are a qualifying feature in Gwent. One of these has three separate qualifying features of these habitat types and another has two, bringing the total features across the two sites to ten. Of these, it has been possible to make an assessment and determine the condition of four features (40%) during NRW's Baseline Assessment Project (2020)<sup>cxixiii</sup>. Of those assessed, all four SSSI features are in an 'unfavourable' condition. This information suggests that our MM habitats are under increasing pressure across the region.

The condition of priority habitats in Gwent is subject to a number of drivers, several of which are complex and difficult to control. The main drivers are the intensity of grazing, under grazing, burning, degree of recreational disturbance and anti-social behaviour, deposition of atmospheric nitrogen and invasion of bracken. The vast majority of the upland areas in Gwent are common land with the main exception being part of the Black Mountains. This makes effective management more difficult to achieve.

Species are both a component and product of our ecosystems, so looking at what is happening to individual species can indicate what is happening within the wider environment.

Upland and Heathland Birds			
Species	Conservation Status	Trend Gwent	Data availability
Hen Harrier	Red (UK & Wales) Wales Section 7 Priority Species	Mixed, gentle increase in past recent downturn	Poor
Nightjar	Amber (UK& Wales) UKBAP, Wales Section 7 Priority Species	Generally quite stable	Poor/moderate
Red Grouse	Red (Wales), Amber (UK). UKBAP Priority Species, Wales Section 7 Priority Species	Decrease (bias in recording on shoot sites)	Moderate
Ring Ouzel	Red (UK1 & Wales2) UKBAP Priority Species, Wales Section 7 Priority Species	Decline of population to extinction	Poor

*Fig. B16 Upland and heathland bird species, trends for Gwent (data extracted from Gwent State of Nature (GSoN) report 2021)*

Evidence from the GSoN report 2021 assessed the status and regional trend of four upland and heathland bird species and concluded that all four were experiencing a trend of population decline with the ring ouzel extinct to region (Fig. B16)<sup>cxixiv</sup>.

The [SE Wales Resilient Uplands Natural Resource Management Plan](#) identifies numerous reasons for why habitat quality is poor in the uplands and provides useful toolkits and case studies.

### What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- The evidence needs for MMH are broad and often complex reflecting the diverse nature of these habitats, the gaps in our understanding of condition and pressures and the long-term outcomes of conservation measures.
- Effective management firstly requires a better understanding of the condition of existing MMH habitat, particularly in protected area land management units but also more widely, alongside the causes of poor habitat condition and the direction of change.
- To improve the function of MMH, we need to identify where there are opportunities, particularly for peatland and heathland ecosystem restoration. Many lowland heathlands are fragments of their previous extent and many former upland heaths are reduced to acid grassland. Target areas for restoration and reconnection should be identified<sup>cxv</sup>.

### Future trends and challenges

#### Climate Change

Direct impacts include summer drought on peatlands and heathlands. Habitats which are in poor condition as a result of other pressures, such as drained and degraded bogs, are also likely to be sensitive to drought. Climate change will become an increasing threat with wetter, warmer winters, more surface run-off and erosion. Climate change can also have indirect effects, such as uncontrolled damaging wildfires on moorland vegetation in dry periods. Habitats that are already under stress through sub-optimal management are more likely to suffer detrimental impacts from climate change (Welsh Government, 2020)<sup>cxvi</sup>. Wildfire risks may be increased due to projected changes in temperature and rainfall (hot and dry weather). It is likely that the frequency of moorland, grassland and forest fires may increase<sup>cxvii</sup>.

The recently published Third Climate Change Risk Assessment Technical Report: Summary for Wales (Netherwood, 2021)<sup>cxviii</sup> has identified a number of specific future climate risks which are pertinent to the Semi-Natural Grassland resource. Those assessed to be in at the highest level of urgency where **more action is needed** include:

**Risk N1. Terrestrial species and habitats: Changing climate conditions.** Changing climatic conditions and extreme weather events, including temperature change, water scarcity, wildfire, flooding, wind, and altered hydrology (including water scarcity, flooding and saline intrusion). While there are already a range of policies and measures in place aimed at facilitating adaptation and reducing the impacts of climate change on upland resource, there is lack of evidence of the effectiveness of these measures to date.

**Risk/opportunity N5. Natural carbon stores, carbon sequestration and greenhouse gas (GHG) emissions.**

## Freshwater

Practical habitat unit	Diversity	Extent	Condition	Connectivity
Rivers upland	Low The physical and biological diversity of rivers has been severely reduced in Wales over the 20 <sup>th</sup> Century.	Medium The extent of rivers has declined over the 20 <sup>th</sup> Century although less in upper reaches due to accessibility.	Medium Under WFD 44% of all rivers in Wales are at good ecological status. There are no Welsh rivers in High Ecological Status.	Medium Connectivity of upper reaches (longitudinal and lateral) has been less degraded than lower due to accessibility.
Rivers lowland	Low The physical and biological diversity of rivers has been severely reduced in Wales over the 20 <sup>th</sup> Century.	Low The extent of rivers has declined dramatically over the 20 <sup>th</sup> Century particularly in the lower reaches.	Low Article 17 reporting in 2018 assesses rivers (water courses of plain to montane levels) with <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation as Unfavourable – Inadequate and declining.	Low 42% of flood plains in England and Wales are no longer connected to the river system (Maltby <i>et al.</i> , 2011).

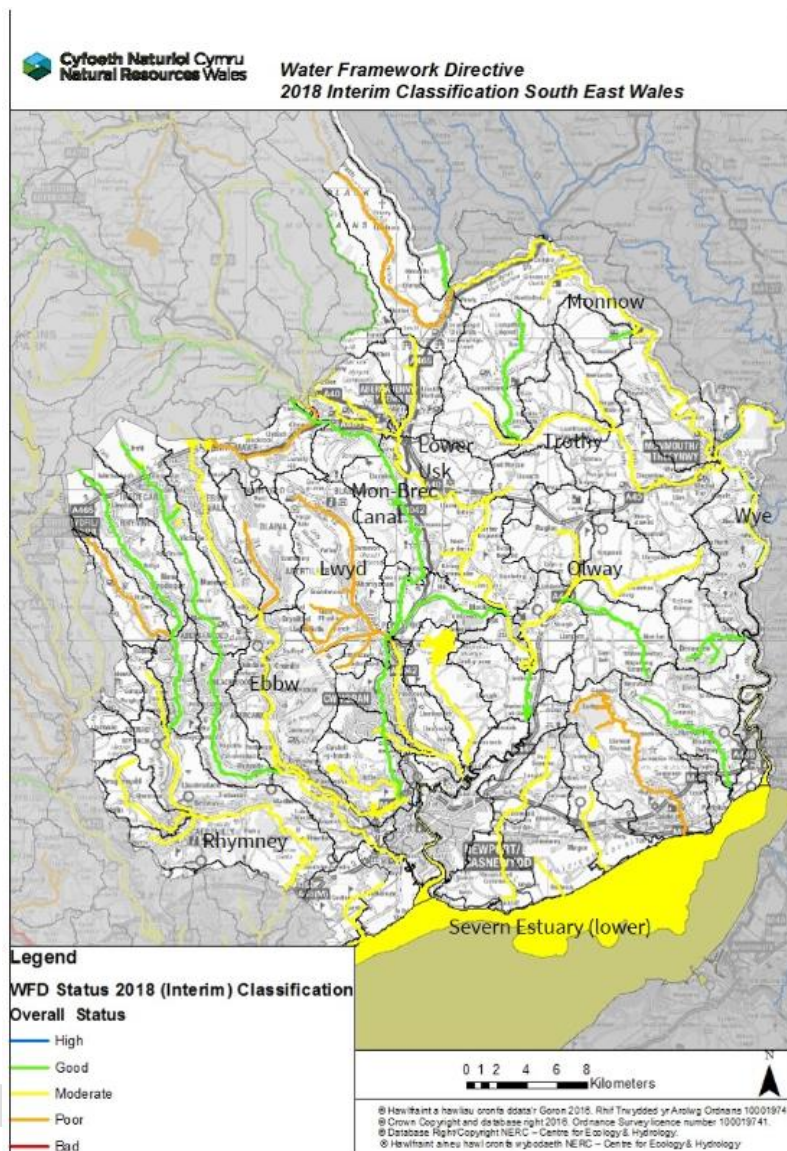
Fig. B17 Ecosystem resilience assessment for freshwater in Wales (SoNaRR2020)

SoNaRR2020 assessed the overall ecosystem resilience of the Welsh freshwater resource as low for rivers (Fig. B17<sup>cxix</sup>), with significant intervention needed across all four ecosystem resilience attributes<sup>cxix</sup>.

Practical habitat unit	Diversity	Extent	Condition	Connectivity
Lakes – low nutrient and upland	High The majority of this lake type in Wales has a good habitat structure and biodiversity that reflects the expected range of species.	High There has been no significant loss of extent of this habitat type in Wales.	Medium The main pressures affecting this lake type in Wales are acidification, invasive species, and nutrient enrichment (Hatton-Ellis 2012, 2018a, b).	High No significant loss of connectivity.
Lakes – lowland / higher nutrient	Low	Low	Low	High No significant loss of connectivity.
Marl Lakes	Medium	Low	Low	High No significant loss of connectivity.

Fig. B18 Ecosystem resilience assessment for lakes in Wales (SoNaRR2020)

Lakes fare slightly better for ecosystem resilience with a medium to high rating (Fig. B18<sup>cxix</sup>).



*Fig. B19 Water Framework Directive (WFD) 2018 interim classification Gwent*

NRW released interim data in 2018 showing that most of the rivers in Gwent are not achieving at least the desired 'good' status under the Water Framework Directive (WFD) (Fig. B19). This indicates that the ecosystem resilience of our Gwent freshwater habitats reflects low levels of ecosystem resilience in this habitat at an all-Wales scale.

Some of our best freshwater resources are located in the east of Gwent; the Rivers Wye and Usk are designated riverine SACs. In January 2021, NRW published an evidence on phosphate levels for all river SACs across Wales. The evidence was extracted data from the water quality database for a three-year period from January 2017 to December 2019, for all sample points within the 125 water bodies in the nine SAC rivers. The evidence shows that overall, phosphorus breaches are widespread within Gwent's SAC rivers. The River Usk was assessed to have an 88% failure rate and the River Wye a 60% failure rate for phosphorus.

### What are the well-being strengths?

Rivers, lakes, flood plains and ponds, as well as connected groundwaters, are fundamentally important for human survival. They provide drinking water and contribute to well-being through the

opportunities they provide for recreation and the appreciation of landscape. Participating in water-related recreation such as kayaking, wild water swimming and angling can make a significant contribution to the physical and mental health of the population. In order for us to benefit from the services provided by freshwater ecosystems, we need to balance the needs of the environment, society and the economy.

The Rivers Wye and Usk in the east of Gwent have well established and nationally significant rod fisheries for Salmon, Brown Trout, Grayling and coarse fish such as Barbel. The River Wye is also highly valued for recreation and navigation. The Welsh angling industry is worth around £200million per annum and it is thought that this could be increased<sup>cxviii</sup>. The River Usk floodplain retains several important geomorphological features and associated wetland habitats e.g. Llanvihangel Gobion, south of Abergavenny. The River Usk flows through the city of Newport, where it merges with the strong tidal waters of the Severn Estuary. This is a unique section of the river where the large tidal range leaves much of the riverbed exposed as mud banks at low tide. These mud banks may look bare and unattractive, but they contain a wealth of life beneath the surface and birds such as redshank and oystercatcher can often be seen feeding. At intervals along the banks, small areas of saltmarsh and fringes of common reed can be seen along with native shrubs and trees higher up.

The Gwent Levels either side of Newport are designated SSSI due to their unique reed and ditch network. These interconnected waterways are an example of one of the most extensive areas of reclaimed wet pasture in the UK (which also includes the Somerset Levels, Romney Marsh and the Pevensy Levels) and is the largest area of its kind in Wales.

Gwent's lakes, rivers, ponds, and flood plain habitats support rich biodiversity including some of the rarest and most iconic wildlife in Wales such as Otter, Water Vole, Common Toad, Great Crested Newt, migratory fish, European Eel, Dipper, Snipe, Cetti's Warbler, Bittern, Reed Warbler, Waterfowl, all odonata, and invertebrates of the Gwent Levels<sup>cxviii</sup>.

### What are the issues impacting well-being?

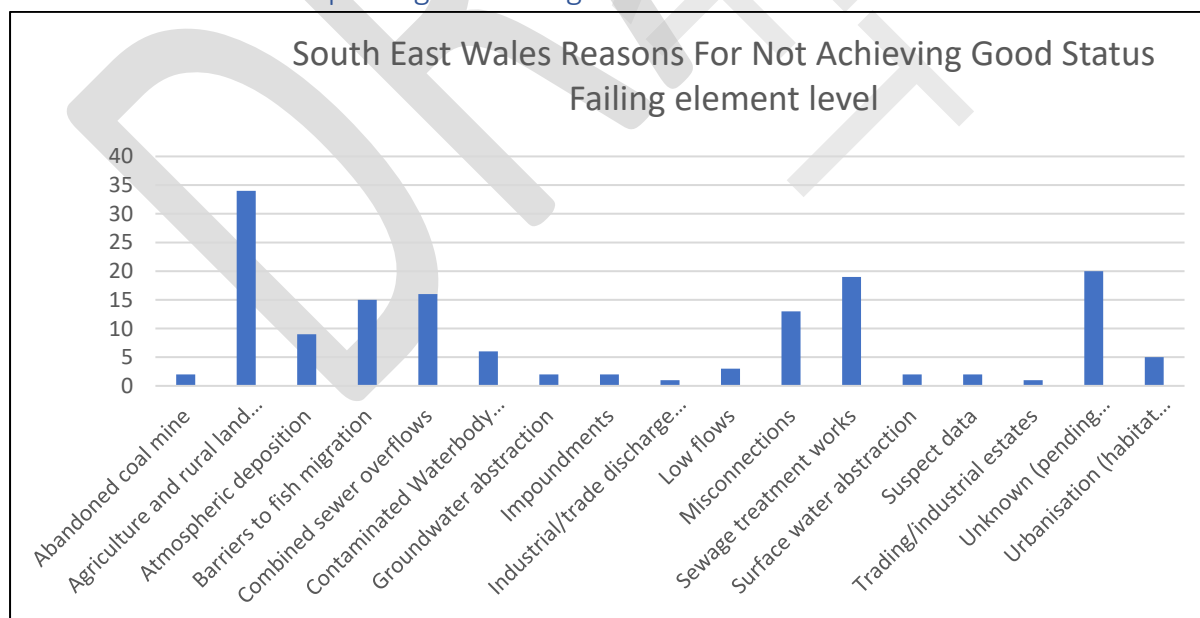


Fig. B20 Reasons for not achieving "good" Water Framework Directive (WFD) status in Gwent Rivers

Fig. B20 shows the failing elements according to WFD classifications. It gives an indication of the impact and significance that a particular water management issue is having on the elements which

make up WFD classification. These water management issues will be impacting the condition of our freshwater habitats to a greater or lesser extent as indicated by the data.

There are 10 SSSIs where Freshwater habitats are qualifying features in Gwent, including the six Gwent Levels SSSIs and the Rivers Wye and Usk. Some of these SSSIs have more than one Freshwater qualifying feature. Of the total 16 features, it has been possible to make an assessment and determine the condition of 12 (75%) during NRW's Baseline Assessment Project (2020)<sup>cxxxiv</sup>. Of those assessed, all 12 qualifying features are in an 'unfavourable' condition. This information suggests that our freshwater habitats are under increasing pressure across the region.

Species are both a component and product of our ecosystems, so looking at what is happening to individual species can indicate what is happening within the wider environment.

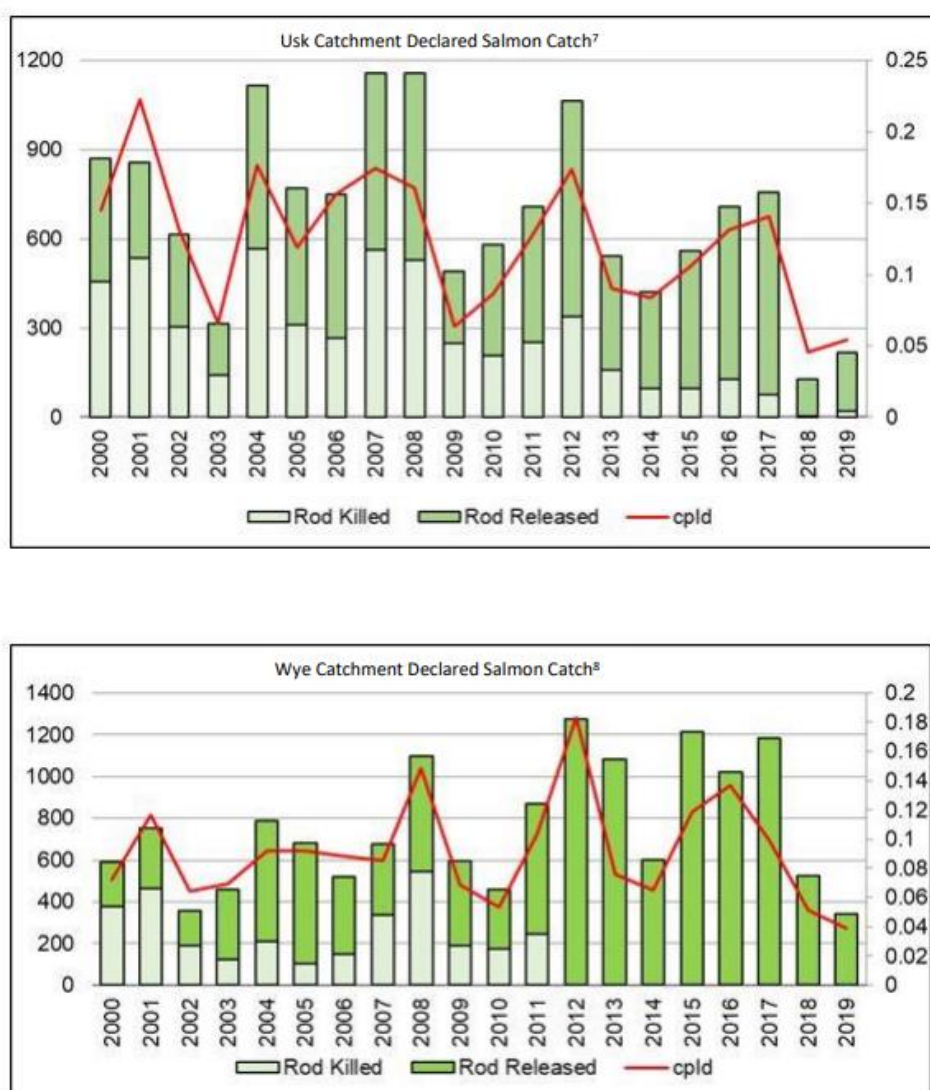
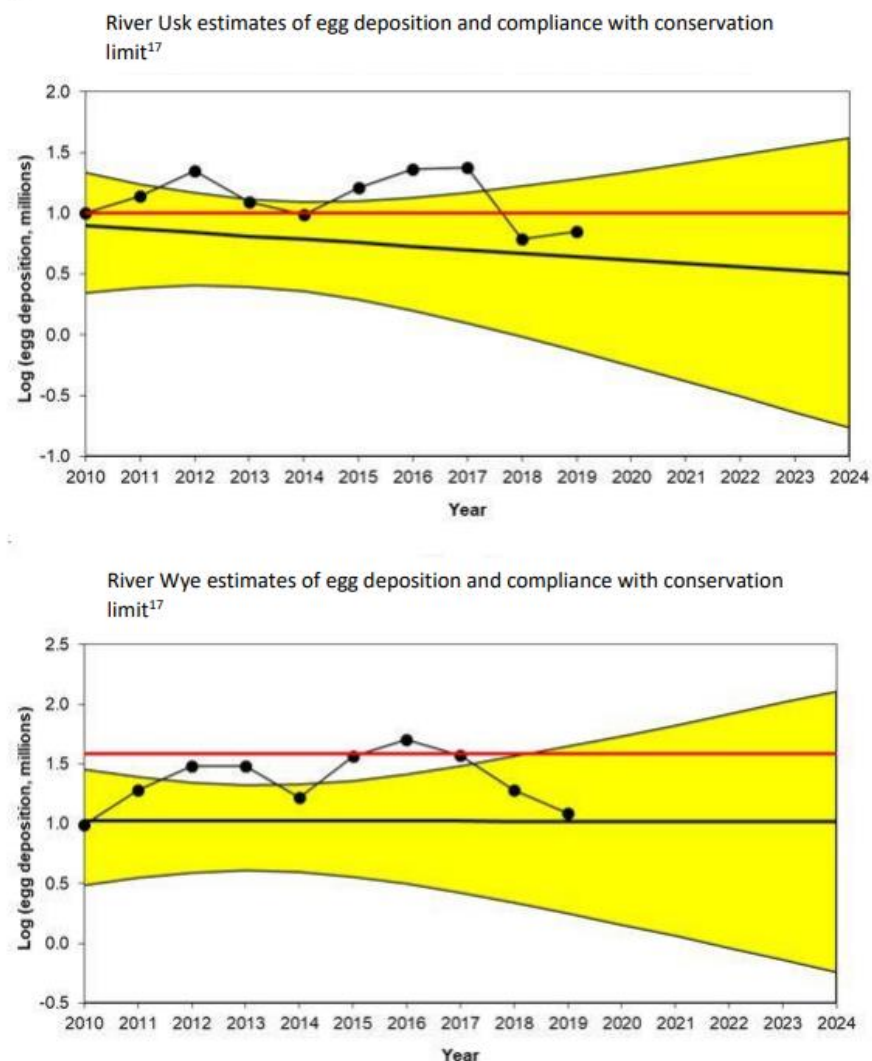


Fig. B21 Wye and Usk catchment salmon catch

Evidence from the GSoN 2021 assessed the status of Salmon numbers in our designated rivers by interrogating declared catches and the Catch Per Licence Day (CPLD) available for the Rivers Usk and Wye catchments (Fig. B21<sup>cxxxv</sup>). Both show a large variation between years and a population crash in

2018. A by-law to release all rod-caught Salmon was introduced on the River Wye in 2012. This now applies to all rivers in Wales.



*Fig. B22 Egg deposition (black line) and conservation limit (red line) River Usk and Wye*

Estimates of egg deposition show the conservation limit, which aims to protect an optimum level of stock (i.e. the number of eggs needed each year in order to conserve salmon stocks for the future). Egg deposition estimates for both rivers are currently below their conservation limits (Fig. B22<sup>xxxvi</sup>).

## Pollution

### Wales' Environmental Pollution Incidents

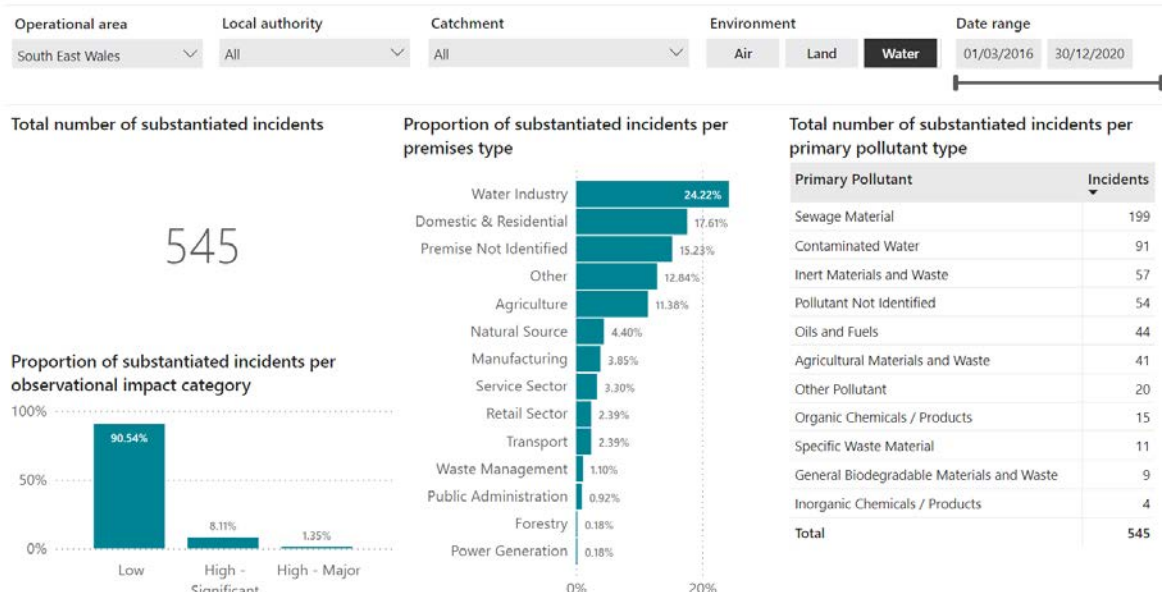


Fig. B23 Wales pollution incidents by water for Gwent

Data indicates that agricultural and rural inputs, sewage treatment works, and sewage related assets combined contribute most significantly towards the reasons for the failure of Gwent's river habitats to achieve the desired 'good' status (Fig. B23<sup>cxxxvii</sup>).

The urban areas of Gwent suffer from pressure on water quality from sewage, combined sewer overflows, misconnections and industrial sites and estates, impacting on the wider ecology. New developments can also increase these pressures. Chemical products of combustion (e.g. from transport and industry emissions) are also present. Their diffuse nature makes them difficult to address.

In the rural areas there is pressure from diffuse rural pollution; sediment and nutrients, phosphate and nitrate. For example, in central Monmouthshire, phosphate is the most common reason for not achieving 'good' ecological status, with 14 water bodies (>60 %) currently at 'moderate' status including the Trothy, Gavenny and Usk. Even in 'good' status water bodies, phosphate remains a pressure, risking deterioration to below 'good'.

The extensive phosphate failures of the Rivers Usk and Wye SACs are significant for Wales. These patterns likely reflect a combination of more intensive land use and higher population density, resulting in higher loading from sewage treatment works and private treatment plants. The River Usk is (by some distance) the worst performing SAC river in Wales with respect to its phosphorus targets, and is the only river where there are extensive failures in the headwaters. In part this is likely to be a consequence of overgrazing, as the dominant Old Red Sandstone geology of the river creates relatively nutrient-rich soils that are prone to runoff and bank erosion during wet weather<sup>cxxxviii</sup>.

Groundwater quality has the potential to impact on surface water through coal mine water discharges. Pontlloftyn and Hengoed mine waters that discharge to the Rhymney catchment are ranked numbers 10<sup>th</sup> and 20<sup>th</sup> in the [Coal Authority](#) assessment on mine water impact, while Cwm Sychan, Trosnant and Nant Froed Oer discharging to the River Lywd catchment are ranked 12<sup>th</sup>, 49<sup>th</sup> and 56<sup>th</sup> respectively.

## Habitat loss and degradation

The urban areas of Gwent suffer from physically modified and degraded habitat. In the valleys rivers, physical modifications are present such as reservoirs for water supply and man-made weirs due to industrialisation and urbanisation. These can present barriers to fish migration that prevent fish from migrating upstream to their spawning grounds.

## Invasive Non-Native Species (INNS)

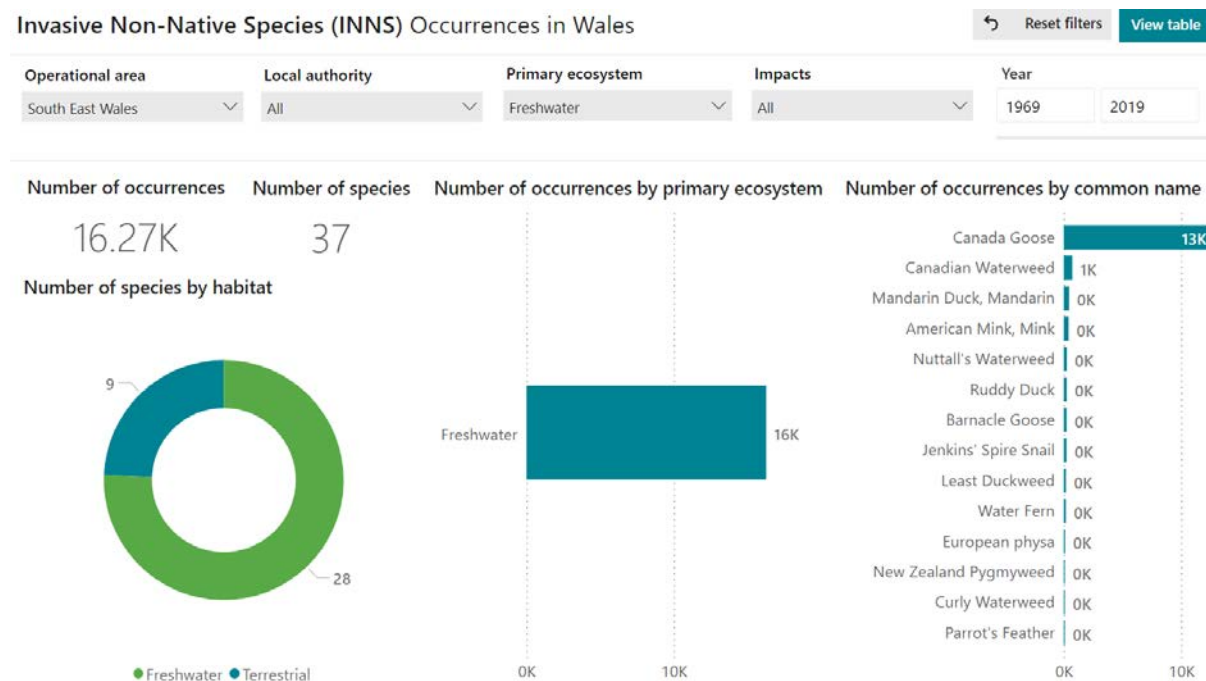


Fig. B24 Invasive non-native species (INNS) occurrences in Gwent by freshwater

INNS can impact freshwater ecosystems by reducing biodiversity and abundance, disrupting trophic levels, acting as a vector for diseases and parasites, reducing amenity value, causing water quality issues and blocking waterways and structures, leading to reduced access and localised flooding<sup>cxix</sup>.

Fig. B24<sup>cxl</sup> shows numbers of recorded INNS which have an impact on freshwater resource in Gwent. Floating Pennywort is present in the River Usk catchment and has historically been on the Gwent Levels; Parrot's Feather is found in isolated ponds near Caerphilly and Newport; Curly Waterweed is found in Ystrad Mynach and around Newport; Water Fern is present in Monmouthshire, on the Monmouthshire and Brecon Canal in Torfaen, Cwmbran and Newport; and New Zealand Pigmy Weed can be found in Wentwood Forest. These species have the potential to affect biodiversity, recreational activities and drainage and increase flood risk. Feasibility of eradicating/controlling the spread of these species at each site where they are present needs further investigation.

Signal Crayfish are present on the Afon Gavenny, Afon Llwyd, Dowlais Brook near Cwmbran, Pen y Fan Pond and the Afon Ebbw. This INNS is a significant issue in Gwent because of the impact it has on White Clawed Crayfish. Signal Crayfish are responsible for driving native White Clawed Crayfish towards extinction through the spread of Cray Fish plague and by outcompeting them. Signal Crayfish burrowing can cause riverbanks to erode and can take refuges from salmonid fish and prey on fish eggs, which could reduce the value of commercial fisheries.

## What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- Effective management of freshwater ecosystems relies on good quality evidence of existing and emerging pressures and their interactions, as well as biodiversity responses to these pressures. Long term, high quality data and expert analysis are vital in order to understand the processes that are taking place.
- Robust evidence is essential to inform prioritisation of actions. Evidence requirements for freshwater are broad due to the diverse nature of this ecosystem, with the main themes relating to assessment of condition and understanding the impacts of climate change, physical modification and pollution. For example, we need to understand and quantify expected changes in river flows, water temperatures and sea level. This will help identify which freshwater habitats and species are most vulnerable to climate changes impacts (low flows, extreme flood events, raised temperatures) and the location of these habitats and species in Wales.
- Better understanding is required of pollution source apportionment, the impacts of silt pollution in rivers and of new and emerging chemical pollutants and their interactions. The extent of the physical modification of rivers and floodplains across Wales is not quantified as there is currently no system in place to effectively monitor river habitat structure and geomorphology.
- A lack of information on the extent and condition of river gravels is of particular concern. In addition, the lack of reliable tools to measure the impact of physical modifications is a significant evidence gap<sup>cxli</sup>.
- Further investigation of the widespread failures in the River Usk river is required<sup>cxlii</sup>.

## Future trends and challenges

### Climate Change

Climate change is affecting all Welsh freshwater habitats and is a serious threat to freshwaters globally (Reid et al. 2018). Climate change exacerbates flood and drought risk. Climate induced changes such as rainfall patterns, storminess, maximum temperature, and the number of frost days are having a significant and complex impact on freshwater ecosystems. The magnitude of current and future risks is judged to be medium by the 2050s (under +2°C at 2100 scenario). This increases to high magnitude for the 2080s (+4°C at 2100 scenario).

Longer and more frequent low flow events along with more sudden and severe storm events cause great stress to freshwater habitats and species. Increased temperatures can kill freshwater animals and plants directly or indirectly due to a reduction in dissolved oxygen (Crozier & Hutchings 2014). Additionally, warmer conditions combine with other pressures such as nutrient pollution to exacerbate impacts such as earlier, longer, or more acute algal blooms, deoxygenation of deeper lakes, and increased toxicity of other pollutants (Crozier & Hutchings 2014).

Climate change also intensifies other pressures. For example, storms increase soil erosion and other pollutants in surface run-off in rural and urban areas, as well as overwhelming sewage treatment facilities and remobilising legacy pollutants especially metals and persistent organic pollutants (POPs) in river systems and from moorland peats.

Finally, climate change alters patterns of human pressures, for example by changing land use and increasing demand for drinking water and hydropower<sup>cxliii</sup>.

CCRA3<sup>cxliv</sup> identified the following risks that are specific to the freshwater environment and **more action is needed**:

**Risk N11. Freshwater species and habitats: Changing climatic conditions and extreme events.** Risks from reduced water availability and higher water temperatures will increase the degradation of freshwater habitats and compromise the viability of some freshwater species.

**Risk N12. Freshwater species and habitats: Pests, pathogens and invasive species.** Future risks for freshwater species will increase through changed thermal regimes with impact on the distribution and spread of various diseases and INNS.

CCRA3 identified the following risks that are specific to the freshwater environment where **current action should be sustained**

**Opportunity N13. Freshwater species and habitats: New species colonisations.** Many of the adaptation actions that are taken to combat the risk to freshwater species (N11) will facilitate opportunities, therefore sustain current action is recommended. Opportunities for freshwater species may not only enhance biodiversity but they may also contribute to ecosystem services, especially cultural ones such as recreational angling and enjoyment of wildlife, with possible associated business opportunities.

## Coastal margins and marine

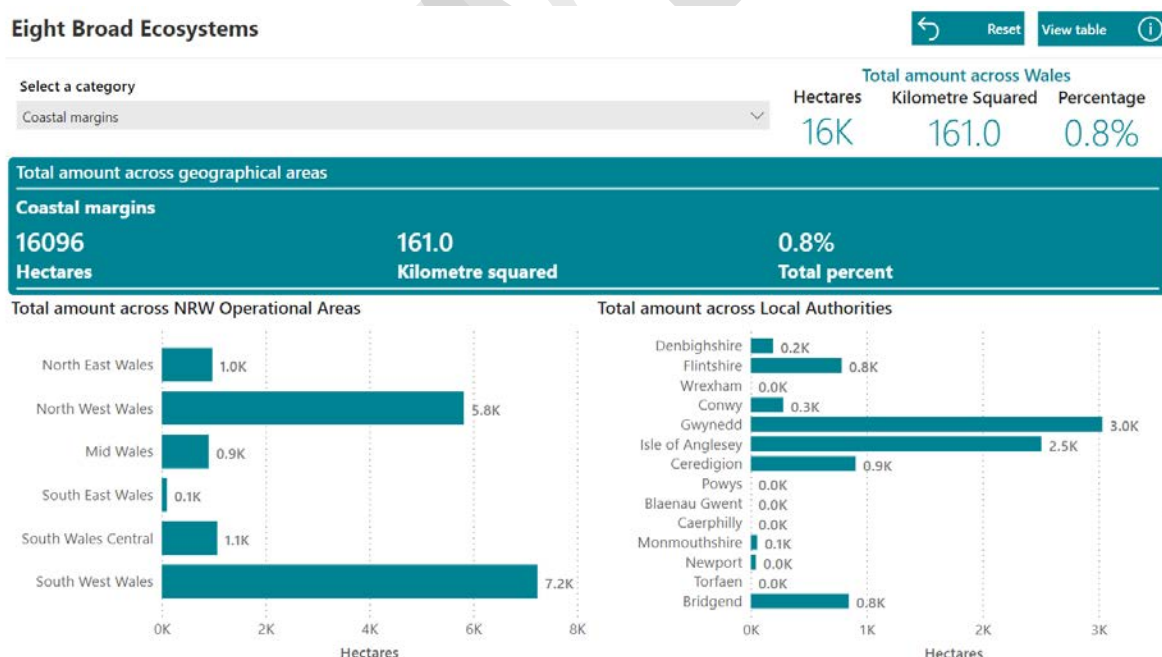


Fig. B23: Welsh coastal margin resource

The total length of Gwent's coastline is 39.2km (0.8% of Wales' total) (Fig. B23<sup>cxlv</sup> for Gwent read South East). The coastline comprises the foreshore of the Severn Estuary and its tributaries including the Rivers Rhymney, Usk and Wye, with the extensive low-lying Gwent Levels behind sea defences. Whilst Gwent's rivers all meet the coast here, the coastal area sits within Monmouthshire and Newport. Gwent has an unusual coastline; the transition from terrestrial to marine is very abrupt in places, due to the fact that much of the Gwent Levels were claimed from the sea and are now protected by a sea wall.

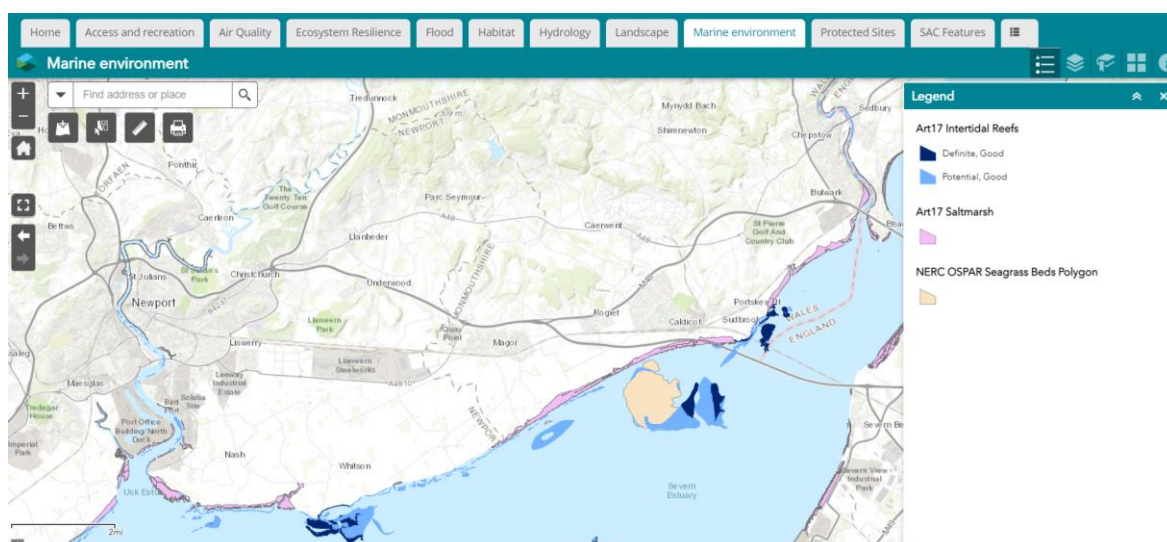


Fig. B24 Extent of intertidal reef, saltmarsh and seagrass habitat in Gwent

Gwent is bounded by the Severn Estuary, an SPA, SAC and [Ramsar site](#) which is designated with key features: estuary, subtidal sandbanks, intertidal mudflats and sandflats, Atlantic salt meadow, reefs, river lamprey, sea lamprey and twaite shad, internationally important populations of migratory bird species, internationally important populations of wintering bird species and assemblages of nationally important populations of waterfowl (Fig. B24)<sup>cxlvi</sup>.

**Table 1:** Summary of indicative condition assessments for Severn Estuary SAC.

Designated Features	Indicative condition assessment	Confidence in assessment
• Estuaries	Unfavourable	Medium
• Mudflats and sandflats not covered by seawater at low tide	Unfavourable	Medium
• Atlantic salt meadows ( <i>Glaucopuccinellietalia maritima</i> )	Unfavourable	Medium
• Sandbanks which are slightly covered by seawater all the time	Favourable	Low
• Reefs	Unknown	Not Applicable
• Sea lamprey ( <i>Petromyzon marinus</i> )	Unfavourable	High
• River lamprey ( <i>Lampetra fluviatilis</i> )	Unfavourable	High
• Twaite shad ( <i>Alosa fallax</i> )	Unfavourable	High

Fig. B25 Summary of indicative condition assessments for Severn Estuary Special Area of Conservation (SAC)

The inshore marine area extends out into the Severn Estuary and is classified as failing to achieve its required status under the WFD and SAC condition targets (Fig. B25<sup>cxlvii</sup>).

### What are the well-being strengths?

Ecosystem services provided at the coast make significant contributions to well-being, such as contributing to natural flood protection. The Welsh coastline has strong cultural associations and is celebrated for its iconic scenery, proving a draw for recreation and tourism, with positive effects for

both the economy and personal well-being<sup>cxlviii</sup>. A healthy marine environment also has the potential to store and capture carbon.

The Severn Estuary supports major industry and port installations. Use of natural resources includes salmon fishing (e.g. using putchers and lave nets), an eel and elver fishery and aggregate extraction. Recreational activities include boating, wildfowling, angling and bait digging, and use of the [Wales Coast Path](#).

The Severn Estuary is one of the largest coastal plain estuaries in the UK. Its classic funnel shape, unique in the UK, is a factor causing the Severn Estuary to have one of the highest tidal ranges in the world. It comprises extensive intertidal mudflats and sandflats, rocky platforms and islands. Saltmarshes fringe the coast. The subtidal seabed is rock and gravel, with subtidal sandbanks. The Severn Estuary supports a number of notable saltmarsh and corresponding species. An 80m width of saltmarsh has been estimated to reduce the height of seawall defence required from 12m to 3m, resulting in capital cost savings of £2,600-£4,600 per metre of seawall (ASC, 2016<sup>cxlix</sup>). Protecting, maintaining and restoring these natural features and habitats is fundamental to the people, communities, economy, and environment of Wales (Ibrahim, 2020<sup>cl</sup>).

The Gwent marine area is home to a significant proportion of the Welsh seagrass resource (WFD intertidal seagrass surveys (NRW)). Biogenic reefs formed by the tube-dwelling worm *Sabellaria alveolata* are predominantly intertidal habitats in the UK, but the Severn Estuary is one of the few places these reefs occur in the subtidal as well as intertidal areas. The Severn Estuary is one of the most important estuaries in the UK for three rare species of migratory fish: River Lamprey, Sea Lamprey and Twaite Shad which are designated features of the SAC. The tidal regime and intertidal areas give the area a unique coastal landscape character. There is a rich history of cultural heritage and archaeological discoveries. The Severn Estuary also supports unique traditions of fishing and agriculture, some of which are still used today, such as lave net fishing at Black Rock in Monmouthshire.

The Severn Estuary has the second highest tidal range in the world at over 12m and is one of only six estuaries in the UK to accommodate over 100,000 waders at peak times. Gwent's coastal and marine habitats support internationally important populations of Bewick's Swan Curlew, Dunlin, Redshank, Gadwall, and European white-fronted goose. It is also a key migratory route for salmon, sea trout, river and sea lamprey, and twaite and allis shad<sup>cli</sup>.

Opportunities to build ecosystem resilience of intertidal habitats must be explored further; options such as the use of polders to increase saltmarsh extent need investigation and stocks of seagrass should be safeguarded and enhanced where possible.

### What are the issues impacting well-being?

In 2018, NRW published an indicative assessment<sup>clii</sup> of the [Severn Estuary SAC](#). All but one of the designated features for which an assessment could be made were assessed to be in an 'unfavourable' condition with relevant activities likely to be impacting on condition including coastal squeeze, water quality issues and barriers to migration.

The current [Shoreline Management Plan](#) uses UK Climate Projections 2009 (UKCP09) data to ensure climate resilience. This management plan is currently being reviewed to consider whether any updates are required, for example to account for the new UKCP18 information. The Welsh Government is reviewing its climate change guidance to align with revised UKCP18 data<sup>cliii</sup> and has most recently published its [Guidance for Flood and Coastal Erosion Risk Management Authorities](#) in Wales, advising that additional sensitivity testing for a High Emissions Climate Projections (H++)

scenario is not normally required for sea level rise unless the consequences of flooding or erosion could be extreme.

### Habitat loss

Climate change and the presence of the sea wall are predicted to lead to continued loss of the saltmarsh and mudflat habitat.

### Pollution

Air and water pollution impact the condition of the coastal margin ecosystem. Contaminants originate from sources such as industry, transport, agriculture and litter derived plastics. Trends in critical load and critical level exceedances in the UK (Rowe et al., 2020<sup>cliv</sup>) for air pollution includes assessments for critical loads for saltmarsh. Pollution from shipping and industry is a pressure and a risk; small scale spills and the use of antifoulants contribute to overall pollution<sup>clv</sup>.

### Unsustainable practices

Many coastal vegetation communities are dependent on appropriate grazing levels grazing to maintain condition<sup>clvi</sup> and there is an identified need to work closely with landowners to achieve the desired level of saltmarsh grazing.

Historical unsustainable fishing practices over the longer term, in the absence of effective management and other drivers such as pollution and disease are likely to impact upon fish and shellfish populations in Wales<sup>clvii</sup>.

### Invasive Non-Native Species (INNS)

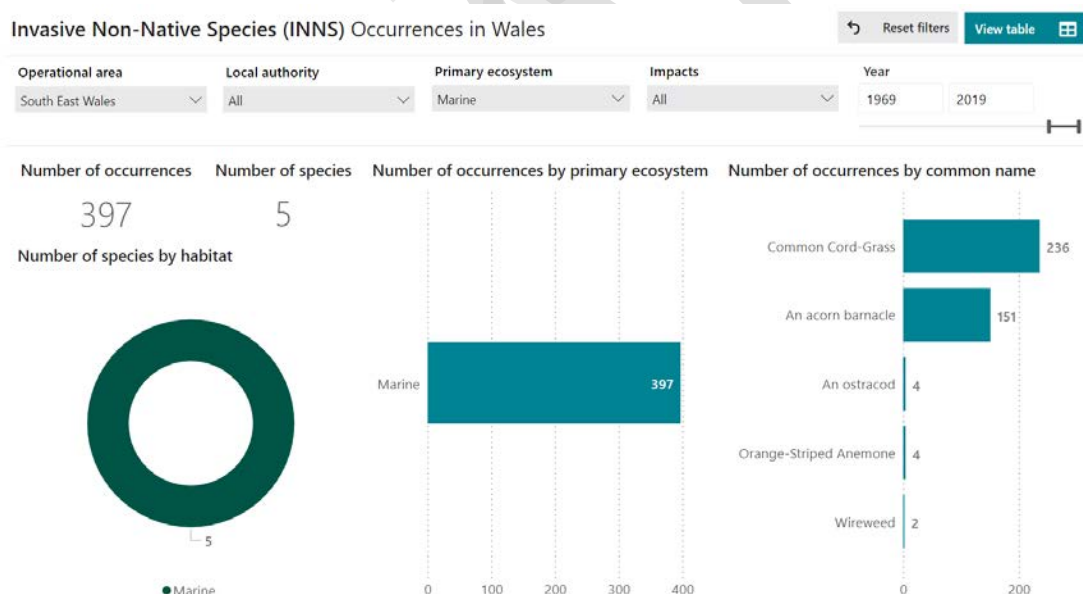


Fig. B26 Invasive non-native species by marine in Gwent

Fig. B26<sup>clviii</sup> shows the number of occurrences of common cord grass and the acorn barnacle which have been recorded on marine habitats in Gwent. These INNS can impact marine ecosystems by affecting biodiversity, altering trophic levels, exacerbating water quality issues such as red tides, smothering, predating or outcompeting native fauna and aquaculture species, affecting commercial fisheries, as well as biofouling marine structures, boats, and blocking intakes/pipes<sup>clix</sup>.

## What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- Basic extent, condition, connectivity and biodiversity data is out of date and incomplete in some areas, providing difficulties with evaluating stocks of natural resources or detecting trends.
- There is a need to predict future trends to enable preparation and planned response to changing pressures at the coast, for example the impacts of sea level rise.
- The contribution coastal margins make to well-being and the regenerative economy through the regulating, provisioning and cultural ecosystems services such as natural coastal defence, leisure and tourism and fisheries within a Welsh context has not yet been fully evaluated<sup>clx</sup>.
- The distribution and abundance of microplastics and micro-litter in the marine environment are poorly understood but have been subject to increasing focus and research (Environmental Audit Committee, 2016; Lindeque et al, 2020)<sup>clxi</sup>.

## What are people telling us?

The [Living Levels Landscape Partnership \(LLLP\)](#) has been delivering a programme of work to promote and reconnect people to the heritage, wildlife and wild beauty of the historic landscape of the Gwent Levels. Funded by the [National Lottery Heritage Fund](#) and running from 2018-2021, this project has captured a number of [valuable stories](#) from Gwent coastal communities.

## Future trends and challenges

### Climate Change

Mean sea level has already risen around the UK by about 16cm from the start of the 20th Century and climate projections across the four nations predict a future sea level rise of between 0.27 and 1.12 metres by the end of the century, depending on global temperature rise<sup>clxii</sup>. SoNaRR2020 assessed the impact of climate change on the coastal habitat to be mainly associated with loss in extent of habitats due to sea level rise, increases in storminess, and increased erosion. However, changes in temperature and rainfall will also lead to impacts<sup>clxiii</sup>.

The coastal environment is expected to undergo significant change in the next ten to 20 years and beyond as a result of sea-level rise and increased erosion driven by climate change. Coastal margin habitats are reliant on coastal physical processes. Constraints to physical processes, such as the sea defences present for the entirety of the Gwent coastline, are affecting habitat extent, condition and overall ecosystem resilience, by impeding their ability to move inland in response to sea level rise<sup>clxiv</sup>.

CCRA3<sup>clxv</sup> identified the following risks that are specific to the freshwater environment and **more action is needed**:

**Risk N14. Marine species, habitats and fisheries: Changing climatic conditions, including ocean acidification and higher water temperatures.** The magnitude of risk to coastal species and habitats from changing climate conditions is projected to increase from 'medium' at present to 'high' in the future. This risk is especially influenced by the rate and magnitude of sea level rise, which more recent projections (including UKCP18) suggest may be higher than assumed for the UK Climate Risk Assessment 2017 (CCRA2).

**Risk N16. Marine species and habitats: Pests, pathogens and invasive species.**

**Risk/opportunity N17. Coastal species and habitats: Coastal flooding, erosion and climate factors.**

Climate change is an overwhelming concern for the future. In Gwent, coastal habitats cannot migrate inland due to the presence of a sea defence, and sea-level rise and increased erosion is likely to lead to 'coastal squeeze'. For Gwent, this impact is extreme.

Designated Natura 2000 site	2005 – 2025	2025 – 2055	2055 – 2105	2005 – 2105
<b>Severn Estuary SAC (Welsh section only)</b>	226	463	1,223	1,912
<b>Burry Inlet / Carmarthen Bay SAC</b>	59	163	411	636
<b>Pembrokeshire Marine SAC</b>	2	4	5	11
<b>Pen Llŷn a'r Sarnau SAC</b>	40	150	111	300
<b>Glannau Môn Cors Heli SAC</b>	1	4	11	16
<b>Menai Strait and Conwy Bay SAC</b>	3	12	1	16
<b>Dee Estuary SAC</b>	0	140	454	594
<b>Total</b>	<b>331</b>	<b>936</b>	<b>2,216</b>	<b>3,485</b>

*Fig. B27 Predicted loss of intertidal habitats which includes saltmarsh from Natura 2000 sites in Wales (hectares)*

Coastal squeeze on the Severn Estuary is predicted to be the highest in Wales (Fig. B27). Impact on Gwent's saltmarsh will be extensive<sup>clxvi</sup>. The [National Habitat Creation Programme](#) will manage the delivery of habitat creation to offset losses.

The loss of saltmarsh habitat will also impact Gwent's ability to reach net zero by 2050. Carbon sequestration and storage helps to regulate the increased CO<sub>2</sub> contributing to climate change. Coastal margin habitats hold significant stocks of carbon relative to their extent. Saltmarsh in particular is very efficient at carbon sequestration (Chmura et al., 2003<sup>clxvii</sup>); a recent study has shown that Welsh saltmarshes hold up to 50 tonnes of carbon per hectare in the top 10cm of soil (Ford et al., 2019<sup>clxviii</sup>) and sequestration rates have been estimated as 6,397 tonnes per year (Armstrong et al., 2020)<sup>clxix</sup>.

**Risk H4. Viability of coastal communities: Sea level rise.** Adaptation strategies need to be designed to be more flexible and robust against the wider range of climate change projections and especially for higher rates and magnitudes of sea level rise<sup>clxx</sup>. The increased realisation that it is unrealistic (i.e. prohibitively expensive) to promote a 'hold the line' policy for all of the coastline, raises questions of how to: (i) plan our future shoreline on the open coast and along estuaries, and (ii) deliver practical portfolios of adaptation options that are technically feasible, balance costs and benefits, can attract appropriate finance, and are socially acceptable. Shoreline Management Plans and other coastal plans need to be refined to recognise the uncertainties in planning for climate change risk by developing multiple adaptation pathways, with the preferred option<sup>clxxi</sup>.

The assessment also highlighted the following risk pertinent to the coastal margins and marine environments which will require **further investigation** including:

**Opportunity N15. Marine species, habitats and fisheries: Changing climatic conditions.** Detailed evidence for individual species in terms of expected rates of change in occurrence and abundance remains limited.

DRAFT

## Section C: Wales has healthy places for people, protected from environmental risks

*“I think calling it climate change is rather limiting. I would rather call it the everything change.”*

*Margaret Atwood*

### Carbon sequestration

#### What are the well-being strengths?

##### Nature based solutions

The ability of our natural resources to capture and store carbon (the process of sequestration) is well documented. The UK Government target and UK Climate Change Committee (UKCCC) recommendation for a Welsh net zero emissions target for 2050 necessitates our natural habitats playing a key role in their attainment (UKCCC, 2020)<sup>clxxii</sup>.

Safeguarding and enhancing existing and future stocks of woodland, hedgerows, peatlands, healthy soils, semi natural grasslands and coastal/marine ecosystems and the development of bioenergy crops, which can all store carbon and deliver across all of the seven Well-being Goals<sup>clxxiii</sup>, is essential.

##### Spatial opportunities for carbon sequestration in Gwent

##### Mountains moorland and heathland (MMH)

Restoring peatlands and other soils is key to maintaining carbon storage and reducing greenhouse gas (GHG) emissions. Avoiding damage and erosion is important for retaining existing carbon stores in soils and vegetation. Peatland soils comprise the single largest terrestrial store of carbon in Wales with an estimated 66 mt. (megatons) across the Welsh peatland resource (Williamson et al., 2019)<sup>clxxiv</sup>. While Welsh peatlands store large quantities of carbon, the majority emit carbon due to poor condition (Evans et al., 2015).<sup>clxxv</sup>

In Gwent, spatial opportunities for the restoration of peat exist within the [South East Wales Resilient Uplands](#) area within the upland landscape across Torfaen, Caerphilly and Blaenau Gwent. Research from the South East Resilient Uplands project has recently identified that Mynydd Maen and Waun Afon Bog alone store upwards of 105,000tC (tonnes of carbon)<sup>clxxvi</sup>. To store this much carbon in trees, you would need to plant millions of tree seedlings and wait for ten years<sup>clxxvii</sup>.

##### Woodland

The Welsh Government plans to increase the tree cover in both urban and non-urban areas, including expanding both productive conifer forests and biodiverse broadleaved woodland. The target is to increase woodland cover by at least 2000ha per year from 2020 to 2030 (Welsh Government, 2019<sup>clxxviii</sup>). All woodland restoration efforts must ensure that replanting uses species that are appropriate for the current and future climate. Restoring forests is less effective if delayed; therefore it is important for ecological restoration to be prompt (UKCCC, 2020<sup>clxxix</sup>). It will be critical to ensure that new woodland is planted in the right place so that expanded woodlands are consistent with solutions to the nature emergency as well as capturing carbon.

Hedgerow management to enhance carbon storage through restoration and planting has been identified as another valuable action (UKCCC, 2020<sup>clxxx</sup>). The 61,670km of hedgerows in Wales reported by Maskell et al. (2019<sup>clxxxi</sup>) has been estimated to sequester an additional 3.1mt of carbon

dioxide equivalents ( $\text{CO}_2\text{e}^{\text{clxxxii}}$ ) above the baseline carbon stocks for field margins (Axe, 2020<sup>clxxxiii</sup>). Improving all hedges to favourable condition and increasing their width and height provides the potential to sequester a further 3.0mt.  $\text{CO}_2\text{e}^{\text{clxxxiv}}$ .

Opportunities to safeguard and enhance the woodland resource can also contribute to wider priority woodland networks for the region; these include specific landscape scale opportunities across the Wye Valley and Wentwood landscape, Central Monmouthshire (especially hedgerows) and the Eastern Valleys<sup>clxxxv</sup>.

#### Coastal / Marine

Enhancing blue carbon through protecting and restoring marine and coastal ecosystems is another contributor to meeting mitigation goals. Blue carbon is the term for carbon stored in marine and coastal ecosystems (salt marshes, seagrass beds and seaweed habitats (Senedd Research, 2019)<sup>clxxxvi</sup>).

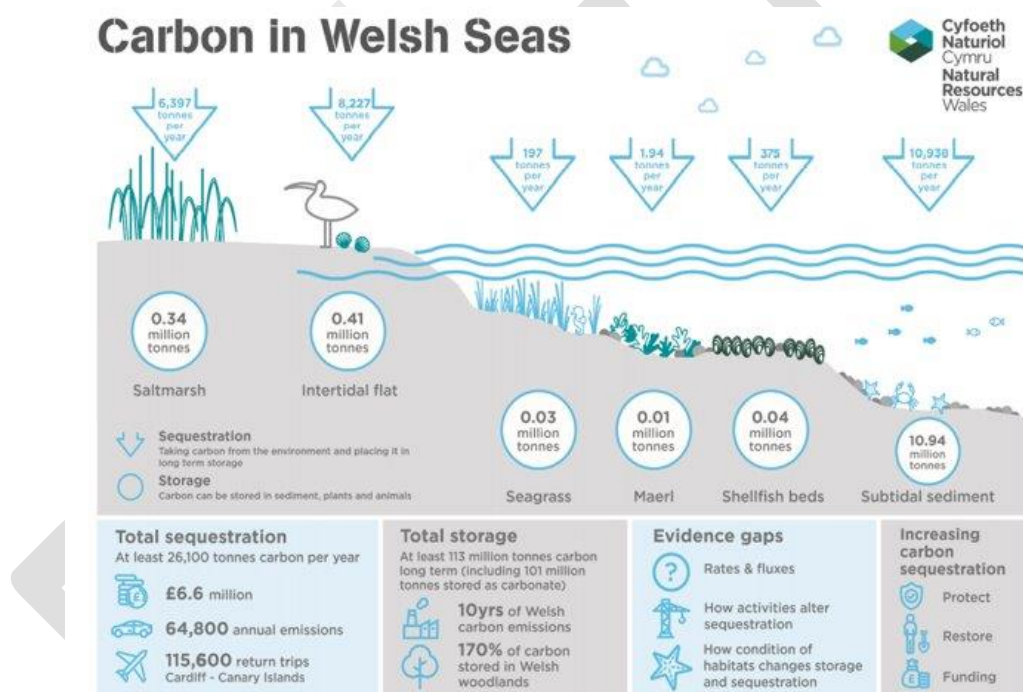
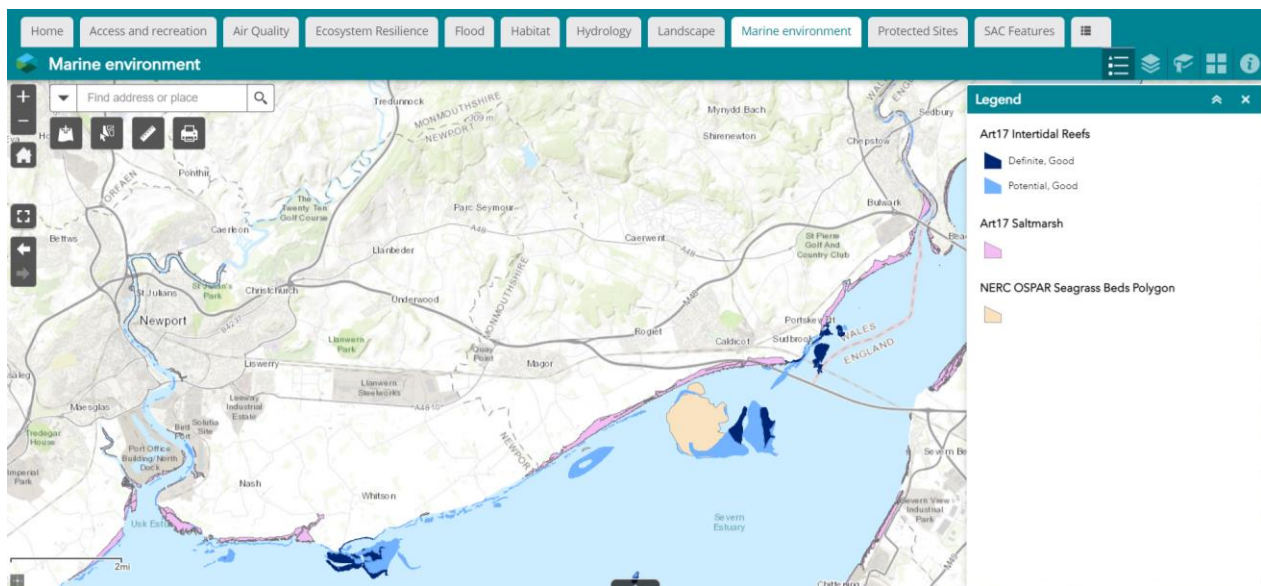


Fig. C1 Summary of carbon sequestration and storage potential in Welsh seas

It has been estimated that Welsh marine habitats sequester at least 26,100tC each year (Fig. C1<sup>clxxxvii</sup>). This amount could be increased by protecting and restoring habitats such as saltmarsh and seagrass as well as greater protection of the seabed (Armstrong et al., 2020)<sup>clxxxviii</sup>.



*Fig. C2 Extent of intertidal reef, saltmarsh and seagrass habitat in Gwent*

Gwent supports a significant proportion of the Welsh seagrass resource (based on Water Framework Directive (WFD) intertidal seagrass surveys (Natural Resources Wales (NRW)<sup>clxxxix</sup>). Similarly, the Severn Estuary supports 1400ha of saltmarsh (Fig. C2<sup>cxc</sup>). These coastal habitats represent a significant opportunity for carbon sequestration in Gwent.

#### Urban

Retaining mature trees in the urban environment and planting additional trees of the right kind in the right places would enhance biodiversity, reduce pollution, regulate temperature, store carbon and manage stormwater (O'Sullivan et al., 2017<sup>cxcj</sup>).

There is scope to proactively decrease the impact of the built environment by using more sustainable building materials, such as timber, instead of steel and cement. The use of timber in buildings would also contribute to short to medium term carbon storage (UKCCC, 2019<sup>cxcii</sup>).

Key opportunities for low carbon electricity in urban areas include solar photovoltaics (PV), energy storage, electrification of transport and electrification of heating.

#### What are the issues impacting well-being?

##### Competing land use pressures

There are specific landscape scale spatial opportunities in Gwent for improving the health of our natural resources through the creation of 'natural networks'. Realising opportunities to sequester carbon and decrease GHG emissions and incorporate biodiversity is fundamental. Conflicts between 'action for climate' and 'action for biodiversity' must be anticipated and avoided<sup>cxciii</sup>. Priority habitats and priority species are under threat in Gwent and realising our zero carbon ambitions will likely lead to trade-offs, particularly between competing land uses. Making soil management and land use change decisions which balance all ecosystem services is not a straightforward equation; indeed, they are classic conflicts of interest<sup>cxciv</sup>.

It is important that opportunities to exploit and accelerate renewable energy in Gwent do not do so at the expense of our priority habitats and species. Our decarbonisation challenge and climate emergency runs in parallel with a nature emergency and these challenges must be addressed together.

## What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- Improved data on changes in carbon stocks, especially in soils, through enhanced monitoring across diverse land use, management and climate combinations
- Improved assessment and integration of blue carbon into initiatives for coasts and marine environments, for managed coastal realignment restoration of intertidal areas and seagrass beds
- Targeted actions to restore degraded carbon stores, particularly peatlands
- A strategic approach to land use planning, integrating agriculture and forestry, based on linking net GHG gains with other multiple benefits
- Research is needed to account for climate change risks to carbon stores in the UK GHG inventory projections (including appraisal of emission factors, investigation of integrated adaptation and mitigation benefits from nitrogen use, efficiency in agriculture and developing a systematic programme of soil carbon monitoring).<sup>CXCV</sup>

## Future trends and challenges

The recently published [CCRA3 Technical Report for Wales](#)<sup>CXCVI</sup> identified the following climate risks that are specific to carbon sequestration where **more action is needed**:

**Risk/opportunity N5. Natural carbon stores, carbon sequestration and greenhouse gas (GHG) emissions.** Spatial variations in the intrinsic properties of different carbon stores and land use decisions are major factors in influencing stores, sequestration and emissions.

CCRA3 identified the following risks that are specific to carbon sequestration that require **further investigation**:

**Opportunity N3. Terrestrial species and habitats: New species colonisations.**

The report also focuses on the role peatlands, soils, forestry, saltmarsh and blue carbon play in contributing to our decarbonisation targets and provides the following observations on factors which will influence the risk or opportunity for our natural habitats to play their part:

- The magnitude of risk increases from medium at present to high in future, but currently there is only limited inclusion of adaptation planning within carbon and GHG emissions assessments
- Only limited actions to manage this risk or to maximise the opportunity, considering the effects of climate change, have been developed at a UK or at devolved level. For example, the effects of climate risk factors on agricultural GHG emissions (especially N<sub>2</sub>O) and woodland carbon stocks
- Marine carbon stocks are not included in the GHG Emissions Inventory (or current net zero planning), resulting in general under recognition of their importance for contributing to reduced atmospheric GHG emissions
- The need for more action is especially urgent given the commitment to reach net zero GHG emissions in the coming decades, and opportunities associated with better alignment of climate change adaptation and mitigation strategies.

## Hazard regulation

Variable	Observed change in Wales
Average annual temperature	Increase in 0.9°C from mid-1970s to mid-2010s
Annual mean rainfall	Increase in 2.0% from mid-1970s to mid-2010s
Sunshine	Increase in 6.1% from mid-1970s to mid-2010s
Weather extremes	UK-wide increase in extreme heat events  Little evidence yet on changes in extreme rainfall
Sea level rise	UK-wide increase of ~1.4mm per year since 1901 (16cm to date)

*Fig. C3 Table detailing how our climate has already changed in Wales*

	2050s RCP2.6 (50th percentile)	2050s RCP6.0 (50th percentile)	2080s RCP2.6 (50th percentile)	2080s RCP6.0 (50th percentile)
<b>Annual Temperature</b>	+1.2°C	+1.1°C	+1.3°C	+2.3°C
<b>Summer Rainfall</b>	-15%	-15%	-18%	-26%
<b>Winter Rainfall</b>	+6%	+5%	+7%	+13%
<b>Sea level rise (Cardiff)</b>	22cm	28cm*	43cm	76cm*

*Fig. C4 Table detailing how the climate in Wales could change in the future*

Our climate is already changing and will continue to do so. Gwent is likely to experience hotter drier summers, warmer wetter winters and an increased frequency of extreme weather events. The values in Fig. C3<sup>cxcvii</sup> and Fig. C4<sup>cxcviii</sup> are taken from the UKCP18 probabilistic projections. Two emissions scenarios are used; RCP2.6 (roughly equivalent to a global warming +2°C above preindustrial scenario by 2100) and RCP6.0 (roughly equivalent to a global warming +4°C above preindustrial levels by 2100). The exception is sea level rise, where the RCP8.5 scenario is used, as for marine projections this is closer to a +4°C global warming scenario<sup>cxcix</sup>. It is important to note that these projections show average changes for a 30-year period (and only the central estimate); changes in individual years would show a much greater range of change and could be significantly higher (or lower).

The extent of these changes and their likely impact is dependent on our ability to reduce GHG emissions and rapidly decarbonise on a global scale. The [Climate Action Tracker \(Paris Agreement\)](#) considers current policy and international commitments and translates these commitments into the likely impact on temperature rise. The tracker identifies that we have already reached 1.1°C of warming compared to pre-industrial levels. The Paris Agreement has committed us to restricting warming to below 1.5°C, but progress remains slow. Ambitious policies are beginning to be developed, however large-scale transformation is far from the norm. Based on current policies, pledges and targets, the action tracker predicts that we are actually on target to see increases of temperature to between 2.1 and 3.9 °C by 2100<sup>cc</sup>.

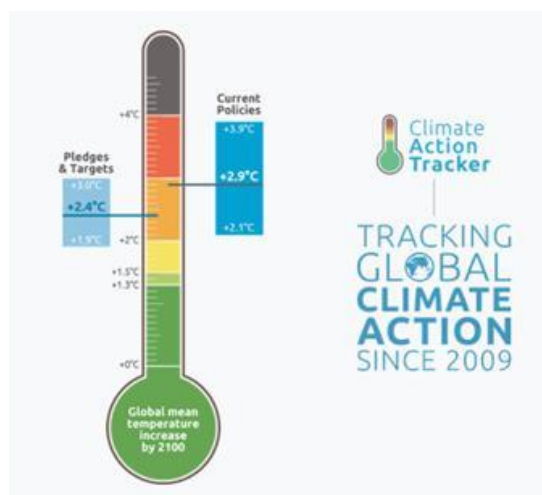


Fig. C5 Projected temperature increases based on current global policies, pledges and targets

The Intergovernmental Panel on Climate Change (IPCC) report (IPCC, 2018<sup>cc1</sup>) indicates that global warming in excess of 1.5°C above pre-industrial levels will undermine life-support systems for humanity (Fig. C5<sup>cc2</sup>).

When healthy, our natural habitats can provide clean air, water and land and in doing so protect the people and places of Gwent from environmental hazards such as flood, fire and drought.

## Flood

The continuous sea defence from Chepstow to Cardiff protects the coastal low-lying land from the extremely high tides of the Severn Estuary. Raised levels due to storm surges adds further pressure to the defences. The high tides also affect the lower river stretches of the Rivers Wye, Usk and Ebbw in Newport and Monmouthshire where the effects of 'backed-up' water can influence water levels a significant distance upstream. In recent years, major flood alleviation schemes have been completed at Chepstow, Caerleon and Crindau in Newport; with a further Newport scheme currently being planned for [Stephenson Street](#). Tides also strongly influence the drainage of much of the Gwent Levels as many of the watercourses (reens) may only drain during sufficiently low tide levels.

The smaller river catchments in Torfaen, Blaenau Gwent and Caerphilly as well as north Monmouthshire are susceptible to very rapid rises in river levels during heavy rainstorms. The flood peaks cascade quickly downstream where, during exceptional events, flows may exceed channel capacity, spilling onto floodplains. The larger catchments of the rivers Wye and Usk generally respond slower but flood waters often take longer to recede.

The most frequent and widespread cause of flooding is from surface water. The greatest impact generally occurs when there is a combination of capacity exceedance of watercourses and drainage systems; and often exacerbated by blocked culverts, seen in many areas across Gwent such as Skenfrith, Caldicot, Usk, Magor and Llanwenarth in Monmouthshire, the county town of Caerphilly, and Cwmbran in Torfaen.

	Present Day risk (defended)								
Local Authority	Tidal			Fluvial (River)			Surface Water		
Caerphilly	low	med	high	low	med	high	low	med	high
Residential	0	0	0	2687	503	456	4139	1021	1869
Non residential	0	0	0	440	75	61	515	114	276

<b>Newport</b>	low	med	high	low	med	high	low	med	high
Residential	11771	669	301	3815	214	38	4569	544	660
Non residential	1345	166	125	81	16	19	403	52	78
<b>Monmouthshire</b>	low	med	high	low	med	high	low	med	high
Residential	435	671	167	1754	252	80	1347	162	168
Non residential	54	163	15	474	58	25	154	32	31
<b>Torfaen</b>	low	med	high	low	med	high	low	med	high
Residential	0	0	0	933	167	253	1826	325	851
Non residential	0	0	0	150	55	39	232	56	153
<b>Blaenau Gwent</b>	low	med	high	low	med	high	low	med	high
Residential	0	0	0	1058	172	157	2429	612	1860
Non residential	0	0	0	85	31	26	300	78	282

Fig. C6 Properties at risk of flooding in Gwent

In Gwent, 14,014 residential properties are at risk of tidal flooding. 12,539 residential properties are at risk of fluvial (river) flooding. 22,382 residential properties are at risk of surface water flooding<sup>cciii</sup> (Fig. C6<sup>civ</sup>).

Communities at Risk Register (CaRR) 'community' name	Local Authority Area	Top 5 communities <b>Max score ranking</b> (undefended) (CaRR 2019)	All Wales <b>Max score</b> (undefended) (CaRR 2019)	Flood source
Maindee	Newport	1	1	tidal & SW
Liswerry	Newport	2	6	tidal
Duffryn	Newport	3	10	fluvial & tidal
Crindau	Newport	4	20	fluvial & tidal
Marshfield	Newport	5	27	tidal

Fig. C7 Communities in Gwent at greatest risk of flooding where "max" score represents the worst-case scenario where defences fail or standards of protection are exceeded

Communities at Risk Register (CaRR) 'community' name	Local Authority Area	Top 5 communities <b>Min score ranking</b> (defended) (CaRR 2019)	All Wales <b>Min score</b> (defended) (CaRR 2019)	Flood source
Caerphilly	Caerphilly	1	7	fluvial & SW
Duffryn	Newport	2	19	fluvial & tidal
Tredegar	Blaenau Gwent	3	23	surface water
Cwm	Blaenau Gwent	4	24	fluvial & SW
Abergavenny	Monmouthshire	5	28	fluvial

Fig. C8 Communities in Gwent at greatest risk of flooding where "min" score takes into account the presence of defences, flood warnings and investment

Fig. C7 and Fig. C8 represent the communities most at risk of flooding in Gwent. This data combines all rankings including tidal/fluvial and pluvial (surface water) sources.

## What are the well-being strengths?

### Community Flood Plans (CFPs)

Through local community engagement campaigns, areas at risk of flooding have been encouraged to produce their own [Community Flood Plans \(CFPs\)](#). The plans are voluntary, community-led and supported by NRW. Twelve communities have active plans; Rogerstone, Bassaleg, Pontymister (Risca), Cwm, Ynysddu, Caerleon, Liswerry and Maindee (Newport), Riverside Park (Monmouth), Ponthir, Llanbradach and Ystrad Mynach.

### Natural Resources Wales (NRW) Flood Warning Service

Home or business owners whose properties are at risk of flooding can receive warning messages by phone, email or text message.

17,172 properties in Gwent are currently signed-up to receive flood warnings. This equates to 59% of the properties that are situated within Flood Warning Areas (80% in Blaenau Gwent, but less than 10% in Monmouthshire).

### Natural flood management (NFM)

The Welsh Government's [National Strategy for Flood and Coastal Erosion Risk Management in Wales](#) recognises the need to consider Natural Flood Management (NFM) as a means of reducing flood and coastal risk. NFM is now an option for every Flood and Coastal Erosion Risk Management (FCERM) scheme. There is a requirement for developments to ensure sustainable drainage systems (SuDS) are considered. This helps reduce run-off and flood risk and may also relieve pressure on drainage systems. These schemes can provide multiple well-being benefits to communities.

## What are the issues impacting well-being?

Flooding and coastal erosion can have a variety of consequences and impacts, not only on well-being but wider economic, environmental and social factors. The 2020 floods were a stark reminder of the devastating consequences of intense rainfall events. However, even modest flooding events can significantly impact homes, businesses, key infrastructure and whole communities.

Flooding of infrastructure, primarily road and rail networks, can be costly both in terms of repairs and the disruption to businesses; employees may not be able to access the workplace along with delayed movement of goods. Disrupted transport routes also effects people's access to education, shops and health services; rural communities can be particularly vulnerable where there is often a large dependency on access.

All types of flooding carry a risk to life. Public Health England reported in 2017<sup>ccv</sup> (based on the winter 2013/14 floods) that floods are one of the most common environmental emergencies and have significant health impacts. Short term health impacts are usually due to injuries, infections, exposure to chemical hazards and disruption to health services; the longer-term effects are less well understood and may arise from the impact of damage to homes, loss of domestic utilities, having to move out until the home is habitable, and delayed recovery. The percentage of people with probable depression, anxiety or PTSD was high amongst people whose homes were flooded and the study found that the risk of poor mental health outcomes was greater the deeper the floodwater and that the risk was also raised with loss of a utility, evacuation of the property and duration. These effects can continue for many years after the actual flooding.

From a health perspective, quite often the worst affected are the more vulnerable in society. A 2017 report for Joseph Rowntree Foundation<sup>ccvi</sup> found that socially vulnerable neighbourhoods are over-represented in areas prone to flooding, but most significantly in areas prone to coastal and tidal

flooding. Certain parts of society are less able to cope with the effects of flooding and impacts are often distributed unequally with the greatest burdens generally falling on the most vulnerable and disproportionately borne by marginalised households.

Likely increases in surface water flooding will probably have the greatest impact on well-being in valleys communities due to a combination of population density, property type, likely rapid onset of event, aging infrastructure (including drainage) and general vulnerability in terms of ability to cope, financially and otherwise.

The longer people live in stressful environmental, economic and social circumstances, the greater the physiological and psychological effects they suffer, and the less likely they are to enjoy a healthy old age. These disadvantages tend to concentrate among the same people, and the effects on health are cumulative. Health inequalities are estimated to cost the Welsh economy £1.8 to £1.9 billion in productivity losses and £1.1 £1.8 billion in welfare costs per year<sup>ccvii</sup>.

Freshwater ecosystems are rich in biodiversity, and also provide important ecosystem services, including the provision of water resources and flood control. Disturbances, in the form of floods or droughts, are a natural part of these ecosystems, and play an important role in creating and regenerating habitats. However, extreme climatic events can cause damage to ecosystems and climate change means that these extreme events, which push ecosystems beyond the threshold of normal disturbance, are set to become more frequent. In many areas of Wales, rivers are also highly modified with altered hydromorphology and disrupted natural processes. This makes catchments less resilient and limits the ecological recovery of river ecosystems. It results in loss of biodiversity and compromises the ecosystem services we rely on, making communities and the environment more susceptible to the impacts of flood, drought, erosion or embankments including landslips and poor water quality.

### What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- It is becoming increasingly unrealistic (i.e. prohibitively expensive) to promote a ‘hold the line’ policy for all coastline. This raises questions of how to:
  - (i) plan our future shoreline on the open coast and along estuaries, and
  - (ii) deliver practical portfolios of adaptation options that are technically feasible, balance costs and benefits, can attract appropriate finance, and are socially acceptable<sup>ccviii</sup>.

### What are people telling us?

The South East Area Statement sets out a sustainable vision for the management of Gwent’s natural resources. This vision has been developed collaboratively and is underpinned by what specialists and wider stakeholders identified they want to see in Gwent.

With regards to flooding and climate change, stakeholders identified the following<sup>ccix</sup>:

- “Financial investments factor in climate impact.”
- “Decadal and multi-decadal planning for sites and towns, factoring in worst case scenarios as well as gradual change.”
- “Landowners and managers are incentivised to deliver nature-based solutions to climate action.”
- “Land use, catchment and ecosystem level planning for place.”

- “Homes, communities and businesses will be less vulnerable and more resilient to climate risk and protected against flooding, drought and heat.”

### Future trends and challenges

Flooding and coastal change risks to homes, communities, businesses and infrastructure have been identified as one of the top areas of climate change risk. It is now generally accepted that future river and surface water flooding and coastal inundation from climate change impacts are a major high-level risk and that despite progress with flood defences, it is unlikely that we will ever be able to fully manage and mitigate against all events. The population at risk of exposure to flooding is expected to increase over time as a result of changes in population size, land use and climate.

### Climate change

Climate change will increase sea levels and associated coastal flooding and erosion, as well as altering rainfall patterns leading to changes in river, surface water and groundwater flooding.

### Projected changes:

Three key climate change impacts relative to flood risk are extreme rainfall events, river flood flows and sea level rise. In winter, rainfall is expected to increase by approximately 6% by the 2050s and by between 7% to 13% by the 2080s from a 1981-2000 baseline (Fig. C4), this is projected to lead to an increase in the likelihood of flooding of infrastructure, businesses, and homes. The frequency and intensity of extreme rainfall events may also increase in future.

Total potential change anticipated for the 2020s (2015-2039)		
	Changes to river flood flows (1961-90 baseline)	Change to extreme rainfall
Upper estimate	25%	10%
Central estimate	10%	5%

*Fig. C9 Total change in river flood flows and extreme rainfall in Wales*

Fig. C9<sup>ccx</sup> shows estimates on the impact of climate change on extreme rainfall and river flow for Gwent. Increases in rainfall intensity due to climate change is likely to effect river levels, particularly within smaller catchments (less than 5km<sup>2</sup>) and on land and urban drainage systems. The change to relative mean sea level for the Newport and Monmouthshire Coastline is estimated to reach between 0.85cm (70<sup>th</sup> percentile) and 1.11m (95<sup>th</sup> percentile) by 2100. Figures here are projections based on UKCP18 and Welsh Government guidance.

It will not be possible to prevent all flooding; there is therefore a need to use a range of approaches to not only reduce the risk where possible, but to adapt our communities and infrastructure to be prepared for severe weather events and rising sea levels. This may involve improving defences, but equally will also mean better management of land and water across catchments to reduce run-off, intelligent planning and retro-fitting of our towns and cities and, in some cases, creating space for water and recognising the need to move out of harm's way.

The recently published [CCRA3 Technical Report for Wales](#)<sup>ccxi</sup> identified the following climate risks that are specific to Flooding and Coastal Change where **more action is needed**:

**Risk/opportunity N17. Coastal species and habitats: Coastal flooding, erosion and climate factors.**

**Risk I2. Infrastructure services: River and surface water flooding.**

**Risk I5. Transport networks: Slope and embankment failure.**

**Risk H3. People, communities and buildings: Flooding.**

**Risk H4. Viability of coastal communities: Sea level rise.**

**Risk B1. Flooding of business sites: Increase in flood risk.**

**Risk B2. Business locations and infrastructure: Coastal flooding, extreme weather, erosion and sea level rise.**

CCRA3 identified the following risks that are specific to flooding and coastal change that require **further investigation**:

**Risk N10. Aquifers and agricultural land: Sea level rise, saltwater intrusion.**

**Risk I3. Infrastructure services: Coastal flooding and erosion.**

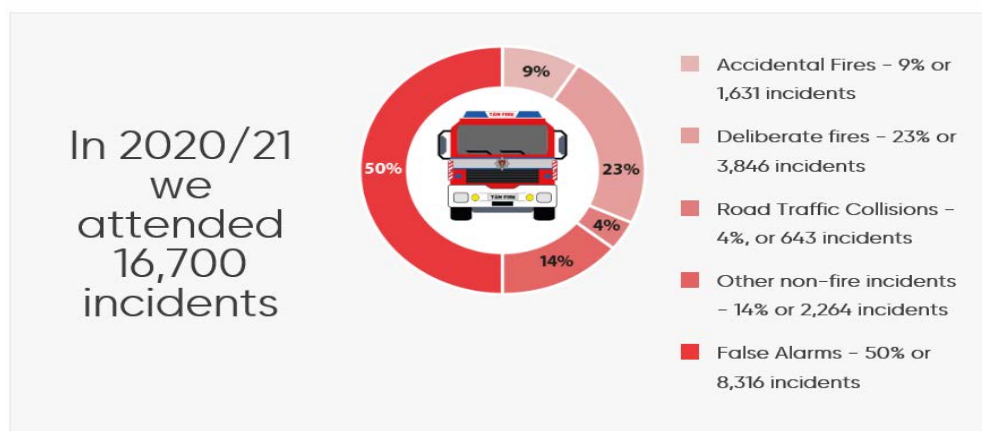
**Risk I4. Bridges and pipelines: Flooding and erosion.**

CCRA3 identified the following risks that are specific the Water Supply where it is recommended that we **sustain current action**:

**Risk I8. Public water supplies: Reduced water availability.**

## Fire

All fires have a detrimental effect on air quality, particularly large fires in outdoor areas. South Wales Fire and Rescue Service (SWFRS) aims to reduce the incidence and impact of fire on local communities, landscape, species and habitats through effective prevention and response.



*Fig. C10 Incidents attended by South Wales Fire and Rescue Service (SWFRS) in 2020-2021*

SWFRS attended 16,700 incidents (across all of south Wales) in 2020-21 (Fig. C10).

## Current State of Play

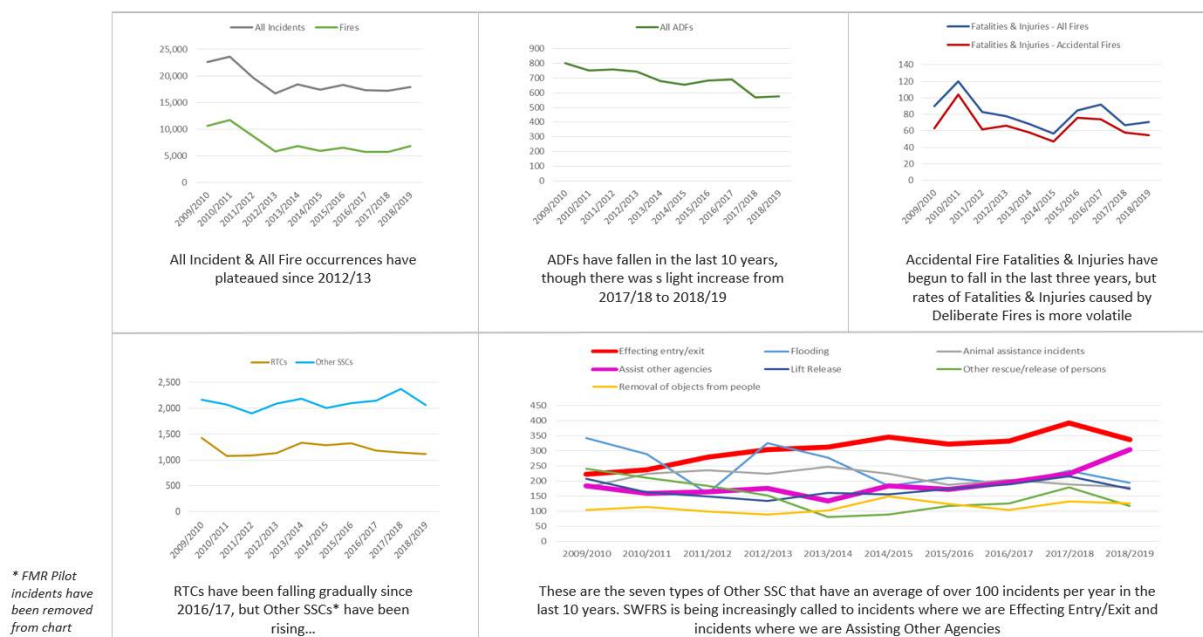


Fig. C11 South Wales Fire and Rescue Service (SWFRS) incidents by type 2009-2010 to present

The overall trend of incident response is indicated in Fig. C11<sup>ccxii</sup>.

Refuse fires, which include loose refuse, bin and skip fires, were identified as an area of focus for SWFRS in 2018 as they account for around 40% of all fires attended. The onset of the pandemic and lockdown restrictions saw a jump in refuse fire numbers from spring 2020, as civic recycling and waste sites were temporarily closed and then reopened with controlled access. Overall, there was an increase of 11% in refuse fires attended in 2020/21 compared with 2019/20.

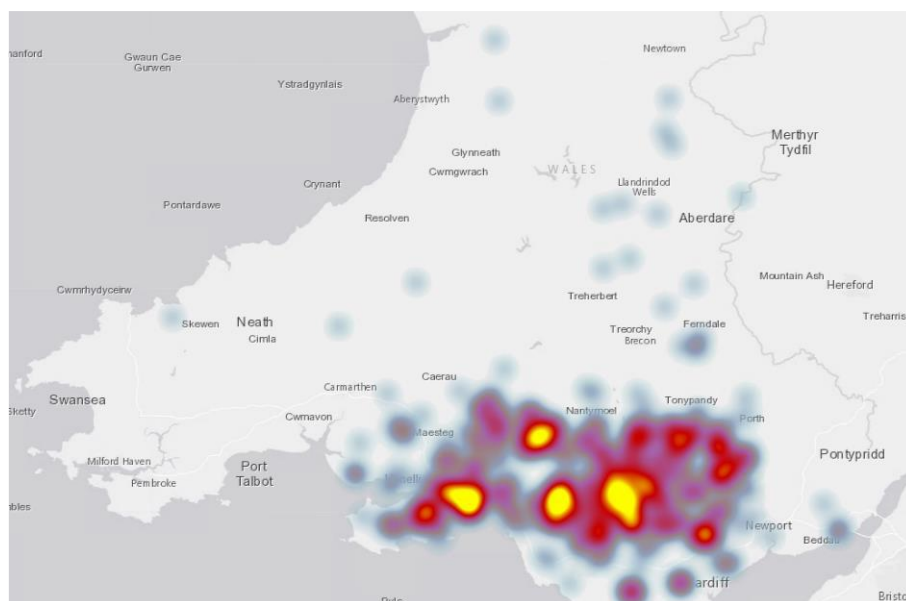
A wildfire is defined as any uncontrolled vegetation fire where a decision or action is needed about its suppression. A wildfire will meet one or more of the following criteria:

- Involves a geographical area of at least one hectare (10,000m<sup>2</sup>)
- Has a sustained flame length of more than 1.5m
- Requires a committed resource of at least four fire and rescue service appliances/resources
- Requires resources to be committed for at least six hours
- Presents a serious threat to life, environment, property and infrastructure.

Local Authority	WILDFIRE CAT 1	WILDFIRE CAT 2	Total
Blaenau Gwent	24	15	39
Caerphilly	48	24	72
Monmouthshire	3	3	6
Newport	2	1	3
Torfaen	8	6	14
<b>TOTAL</b>	<b>85</b>	<b>49</b>	<b>134<sup>ccxiii</sup></b>

Fig. C12 All grassland fires categorised as “deliberate” “wildfire” (2018-2020)

Wildfires deliberately caused by arson affect the South Wales Valleys every year (Fig. C12<sup>ccxiv</sup>).



*Fig. C13 Worst affected wildfire areas in south Wales*

The priority areas identified for deliberate wildfires are the old south Wales industrial valleys which lie north of the M4 from Swansea in the West to Pontypool in the east (Fig. C13<sup>ccxv</sup>).

2018 was warmer than average for the UK. High pressure dominated the summer; the warmest for the UK since 2006, the driest since 2003 and the sunniest since 1995<sup>ccxvi</sup>. Further analysis identified that the total crewing cost for attending these fires totalled approx. £215,800 for the 2018 calendar year<sup>ccxvii</sup>.

### What are the well-being strengths?

Proactive land management techniques can help reduce the extent of wildfires, to prevent them spreading across whole hillsides, devastating local wildlife and endangering communities.

### What are the issues impacting well-being?

Wildfires can result in multiple impacts to local wildlife, air quality, water quality, access and recreation, fire officer safety, community safety and human health. Wildfires can emit PM and toxic products, and can create extensive and long-lasting air pollution events, particularly during hot weather. Fires can also have severe impact on water quality<sup>ccxviii</sup>. There are multiple drivers that affect wildfire frequency and intensity including human triggers, vegetation type and wind patterns.

Wildfire can result in serious localised damage to, or loss of, habitats and species, which may show varying degrees of recovery in the years afterwards. Several types of habitat and ecosystem are at risk, especially upland and lowland heath, peatland, grassland, woodland and arable land.

Some of the serious recently recorded incidents of wildfires in the UK have occurred on heath or moorland, including peatlands<sup>ccxix</sup>. Wildfires on peat soils can lead to large amounts of carbon being released into the atmosphere, contributing further to climate change. The wildfire risk magnitude is of high local importance rather than being a threat to overall national production levels for food or timber.

The size of PM and the length of exposure are key determinants in the potential of adverse health conditions and will determine where, physiologically, the impact will be. There is extensive evidence to show that long term exposure to PM increases mortality and morbidity from cardiovascular and

respiratory diseases. PM has also been classified as carcinogenic to humans and causing lung cancer<sup>CCXX</sup>.

### What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- There is currently very little data on the impact of grassland fires on receiving waters. There is currently more literature on the risk of wildfire in forests compared to agricultural land.

### Future trends and challenges

#### Climate change

Annual temperatures in Wales are expected to rise between approximately 1.2°C by the 2050s and between 1.3°C and 2.3°C by the 2080s from a 1981-2000 baseline. Risks associated with rising temperatures, such as more extreme heatwave events causing impacts on people's health and wellbeing, are likely become more prevalent as a result (Fig. C4). The risk could double in a 2°C global temperature increase scenario and quadruple in a 4°C scenario.

It is likely that the frequency of moorland, grassland and forest fires may increase with regional differences. Iconic landscapes and cultural heritage assets could also be more vulnerable to wildfire exposure in future.

CCRA3<sup>CCXXI</sup> identified the following wildfire related risks that require **more action**:

**Risk N1. Terrestrial species and habitats: Changing climate conditions.**

**Risk/opportunity N5. Natural carbon stores, carbon sequestration and greenhouse gas (GHG) emissions.**

**Risk/opportunity N6. Agricultural and forestry productivity.**

**Risk N11. Freshwater species and habitats: Changing climatic conditions and extreme events.**

CCRA3 identified the following wildfire related risks that require **further investigation**:

**Risk/opportunity N18. Landscape character: Climate change.**

**Risk H7. Health and well-being: Changes to indoor and outdoor air quality.**

**Risk I7. Subterranean and surface infrastructure: Subsidence.**

#### COVID-19

Changes in behaviour as we emerge from the COVID-19 pandemic, including increased working from home, more use of outside space and local amenities, higher visitor numbers as people holiday in the UK and ongoing restrictions on waste disposal routes for some businesses and communities, have already resulted in increased refuse fires and may continue to put pressure on SWFRS in the coming months.

#### Public health

Predictions in public health highlight the effect an ageing population has on how each of the other main health issues impact our frontline services (e.g. obesity increases will impact fire and rescue services' bariatric rescues; an increase in dementia and living alone will impact the likelihood of an increase in accidental fires in dwellings).

## Housing

Ageing residents, the increase in rental housing, aging housing stock and an increase in homelessness all have the potential to increase the risk of fire on residents and communities across Gwent in the future.

## Recreation, access and tourism

This section considers the role of ecosystem services in contributing to well-being in Gwent, in terms of providing a vital service for access, recreation and tourism.

### What are the well-being strengths?

#### Access and recreation

Healthy, active and resilient natural and built environments provide opportunities for people to be physically active outdoors. While time in nature is beneficial by itself, exercise or physical well-being also scored highly as a motivation for visiting nature during the COVID-19 pandemic. This accrues health benefits associated with tackling many of the key health issues in Wales, particularly the rise in obesity and Type 2 Diabetes<sup>CCXXII</sup>. Sports participation also improves self-reported mental health<sup>CCXXIII</sup>.

Increasing access to green and blue spaces and providing community facilities to bring people together is a 'best buy' when it comes to preventing mental ill health and improving mental well-being. Those who regularly attend or participate in cultural activities are more likely to report higher subjective well-being in Wales<sup>CCXXIV</sup>. Natural heritage is also an important component of cultural well-being<sup>CCXXV</sup>. Freshwater features like rivers provide a sense of place and often act as a physical boundary between communities, while designated landscapes contain areas of enclosed farmland and associated patterns of crops, buildings and field enclosures, creating a unique natural environment, appreciated by residents and visitors alike<sup>CCXXVI</sup>. Living in 'historic' areas also increases social capital, connectedness and builds a sense of place<sup>CCXXVII</sup>. Gwent is rich in these environmental and historical features, which contribute to the vibrant identity and well-being of our communities<sup>CCXXVIII</sup>.

Welsh landscapes are accessible via a vast network of [Public Rights of Way \(PRoW\)](#), allowing members of the public to access and enjoy both urban green space and the countryside for their cultural, mental and physical well-being. In Gwent, the Welsh Government Woodland Estate (WGWE) contains 269km of PRoW which are maintained in line with the [Countryside and Rights of Way Act 2000](#), and therefore kept open and accessible for recreational use by the general public. WGWE freehold land (not leasehold) is dedicated as open access land under this legislation.

Other public green spaces such as parks, [National Nature Reserves \(NNR\)](#) and allotments, are owned and managed by Local Authorities or Environmental Non-governmental Organisations (eNGOs) to provide opportunities for play, recreation, exercise and volunteering<sup>CCXXIX</sup>. The most common activity undertaken on publicly accessible land is walking (hiking and dog walking)<sup>CCXXX</sup>, but other recreational uses include live action roleplay, horse riding, mountain biking, sports coaching, photoshoots, orienteering, forest bathing and festivals<sup>CCXXXI</sup>. Across the public sector estate, visitor experience, site presentation and public risk are taken seriously by land managers, which allows access for activities that contribute to well-being across Gwent.

#### Tourism

Wales' main attraction as a tourist destination is "the perceived quality of our landscape and environment"<sup>CCXXXII</sup> and 'landscape' features as one of [Visit Wales](#)' three promotional themes<sup>CCXXXIII</sup>. The tourism industry contributes some £6.2 billion which equates to (13.3%) of the national

economy. 170,000 people are in employment generated by the industry, equalling 12.7% of the Welsh workforce<sup>ccxxxiv</sup>. For example, [The Fishing Passport for recreational salmon and freshwater fisheries along the Wye and Usk attracts many tourists and inputs £16,500,000 per year to the local economy](#)<sup>ccxxxv</sup>.

Across Gwent there are several key outdoor sites and landscapes that are multiuse and are both regularly visited by locals and draw tourists from further afield. These include:

- [The Valleys Regional Park](#) Discovery Gateway sites ([Caerphilly Castle](#), [Cwmcarn Forest](#), [Parc Penallta](#), [Parc Bryn Bach](#) and [Blaenavon World Heritage Site \(WHS\)](#))
- [Newport Wetlands Nature Reserve](#)
- [The Wye Valley Area of Outstanding Natural Beauty \(AONB\)](#)
- [Brecon Beacons National Park \(BBNP\)](#)

## What are the issues impacting well-being?

### Inequalities

Inequality is a relatively well understood concept; it illustrates the difference in access to and use of scarce and valued resources among individuals or social groups. This may be related to the resources they hold as individuals (education, income, social and cultural capital and so on) or to their position in society (housing, employment situation). This is a social inequality. Inequalities can also be spatial; some places do not benefit from the same services or economic dynamics as others (e.g. digital access). Environmental inequalities intersect socio-economic and spatial inequalities, and this burden is borne primarily by socially and/or spatially disadvantaged and/or vulnerable populations. Those most vulnerable in society, or in vulnerable situations, such as the elderly, those living in relative poverty, the inactive, the unemployed, those at risk of flood or those living in areas of poor air quality or high levels of environmental noise, are at a higher risk of increasing health burdens and lower levels of healthy life expectancy because of known and avoidable environmental risk. These challenges can exacerbate the use of natural resources and increase pressure on ecosystem goods and services. The move towards health prevention to ease the burden on the NHS and associated services provides amplified opportunity for increasing ecosystem resilience and human health.

Green space accessibility can be limited by several factors. Resultant well-being benefits are therefore received inequitably across communities in Gwent, as they are across Wales, the UK and globally. Well-being can be associated with changes in economic prosperity or deprivation at the local level<sup>ccxxxvi</sup>. Many Gwent residents do not live within the recommended<sup>ccxxxvii</sup> 300m of a green space. It is also important to note that households identified as 'living within the recommended distance of a green space' does not mean that that green space is classed as accessible (i.e. it is an 'as the crow flies' calculation).

The National Survey for Wales (2019-20) found that 51% of people agreed that they would attend cultural events more frequently if events were closer to home<sup>ccxxxviii</sup>. Therefore, improving accessibility of outdoor spaces and activities, including by public and active transport for those without access to a car, may help to increase participation rates<sup>ccxxxix</sup> and reduce inequalities.

The [UK Equality Act 2010](#) protects individuals from unfair treatment in relation to protected characteristics. All organisations that own and manage outdoor spaces in Wales have a duty to not discriminate against people's protected characteristics in their service provision, where possible<sup>ccxl</sup>. There are several well-developed recreation sites in Gwent (e.g. Cwmcarn Forest, [Goytre Wharf](#) and [Barged Woodland Park](#)) that have all-ability attractions.

## COVID-19

There is no doubt that the COVID-19 pandemic and the subsequent government response have had and continue to have an on-going profound effect on the everyday lives of everyone. As the situation continues to evolve, it has become increasingly clear that both the disease and the responses to it are having wide-ranging impacts on the health and well-being of the population. Many of these impacts are significant and will extend beyond the short term. Although everyone has been affected in some way by the pandemic, the impacts for some people have been, and will continue to be, far starker than for others. COVID-19 has served to amplify existing inequalities.

The COVID-19 pandemic has been a compounding factor which has emphasised inequalities and inequities over the last 18 months. With restrictions urging people to stay home and only visit green space within five miles of their front door, most NRW managed woodland sites and NNRs in Wales saw a 90% reduction in visits during the first lockdown (March to June 2020)<sup>ccxli</sup>. In Gwent, the picture was no different, with a reduction in visitor numbers at many key sites, including Newport Wetlands Nature Reserve. Van Road Mountain Biking Trails in Caerphilly was the only WGWE site monitored in Gwent that saw an increase in visitor numbers during the first lockdown<sup>ccxlii</sup>, its close location to communities demonstrating people's use of only very local green space in adherence to restrictions<sup>ccxliii</sup>.

The inability for some to visit green space across this time will undoubtedly contribute to worsening physical and mental health, and will have been particularly difficult in communities where immediate access to green space is lacking, generally areas of greater deprivation.

Tourism has also been heavily affected by the pandemic, with businesses and the extended economy hit during some of the peak holiday times<sup>ccxliv</sup>. The impact of lockdown-related economic constriction may be felt in the South Wales Valleys area, particularly by women and minority ethnic individuals<sup>ccxlv</sup>.

Following an easing of lockdown restrictions, outdoor recreation sites saw a substantial rebound (July to September 2020), with visitor numbers at some NRW and NNR sites in Wales almost doubling compared to previous years<sup>ccxlii</sup>. Many UK residents are now choosing to stay in the UK for day trips, short breaks and holidays instead of flying abroad, which is good for the economy but is increasing human impacts on some 'honeypot' sites<sup>ccxlvii</sup>.

## Anti-social behaviour (ASB)

A commonly reported issue at outdoor tourism and recreation sites across Gwent is anti-social behaviour (ASB). The three most problematic issues identified by land managers are off-road vehicle use, wildfire arson and fly tipping. These activities can cause damage to land and vegetation, and destroy and disturb important habitats<sup>ccxlviii</sup>. In a recent study by [Coed Lleol](#), 'community safety and ASB' was also reported as one of the top four barriers to engaging with woodland well-being activities in Gwent<sup>ccxlix</sup>. ASB commonly leads to user conflict and can make other users fearful or avoid visiting due to the unpleasant visitor experience.

## Negative impacts on biodiversity

Use of 'hot spot' tourist sites in Gwent needs to be well managed. Overuse or misuse of sites can lead to declining environmental quality and biodiversity through path erosion, littering and disturbance. Closing sites and paths, however, merely displaces activity and so there is a need for behaviour change, which takes a shift in culture and significant time to achieve.

## Collaboration

Strong partnership working between public, private and third sector organisations is required to develop the access, recreation and tourism offer in Gwent. Many public sector departments are experiencing cut backs and a reduction in capacity, with local land managers reporting that it can be difficult to capitalise on nature's multiple well-being benefits as a result. Additionally, there is a disconnect between elements that contribute towards management of our landscapes, such as between sustainable travel design, planning and development, and health and ecological expertise.

Nature based solutions to environmental and human health should be seen as a 'best buy'. Green and blue spaces are not in fact 'free' health interventions, but resources that require significant management to maintain in a way that is inclusive, high quality and ecologically sensitive. A shift in funding from treatment to preventative care through a 'Natural Health Service' and green prescriptions, is called for in the South East Area Statement<sup>ccl</sup> and should be explored in Gwent. Additionally, it is important to recognise that the greatest environmental risks to human health can be mitigated and/or improved by the way in which ecosystems are managed (e.g. by improving air quality, reducing flood risk/incidence, controlling invasive non-native species (INNS), controlling illegal waste management and protecting fresh and marine water quality).

## Brexit

The Welsh tourism sector, of which the environment is a vital element, has faced particular difficulties due to the impact of Brexit; mainly due to the loss of European Union (EU) funding, which is unlikely to be matched domestically, and increased border checks, although overseas visitors make up a small proportion of visitors. Impacts on the 170,000 employees in this sector will particularly affect rural communities<sup>ccli</sup> such as rural Monmouthshire and the BBNP.

## What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

### Greenspace

- There is little recent research on those accessing Gwent's green spaces for recreation and tourism. Visitor surveys could help ensure that land managers are providing appropriate facilities for users. This would also provide the opportunity to address inequalities, by listening to what makes an environment attractive and accessible to lesser seen groups like minority ethnic and deprived communities. This will be addressed in the Wales People and Nature Survey 2021/22 (figures due late spring 2022).

### Anti-social behaviour (ASB)

- A consistent approach to recording ASB incidents is required across all land managers and areas, in order to gain a better local and national understanding of this issue. Accurate recording will help to identify priority areas and the need for targeted local multi-agency operations as well as national initiatives and preventative work<sup>cclii</sup>.

### Climate change

- Further investigation is needed into the risk that climate change poses in terms of people, communities, health and well-being, answering questions like: How will access, recreation and tourism in Gwent be affected by changing weather, sea levels, air quality and water quality?

## What are people telling us?

When asked about their most recent visit to the outdoors in Wales, 25% of respondents had visited a park or other local space, 19% the beach, sea or coastline, 14% woodland or forest and 6% a river, lake or canal<sup>ccliii</sup>.

The South East Area Statement sets out a sustainable vision for the management of Gwent's natural resources. This vision has been developed collaboratively and is underpinned by what specialists and wider stakeholders identified they want to see in Gwent.

With regards to recreation, access and tourism, stakeholders identified the following<sup>ccliv</sup>:

"The wildlife, habitats, landscapes and seascapes of Gwent are a source of inspiration and enjoyment for people who live and work here. They are healthy and thriving, providing essential natural benefits to the residents and visitors to the region."

"Nature and the outdoors are a mainstream part of people's lives and 'the system' (healthcare, planning, education, etc.)."

"People have access to safe natural spaces in which to exercise, play, grow food, unwind and relax."

"Children feel inspired, safe and encouraged to play outside."

"Communities benefit from increased physical activity, better mental health and the prevention of chronic health conditions."

However, some challenges to achieving this vision, identified through further engagement with the Healthy Active Connected Gwent network in 2020<sup>cclv</sup>, are as follows:

- Designing active travel solutions that are geographically and socially appropriate in historical towns and accounting for ageing populations
- Having access to limited funding and resources for action, in proportion to the population of Gwent
- The 'low profile' of nature-based solutions to health issues and inequalities across the adult population
- Navigating the complex risk and permissions processes for hosting activities outdoors

Over the last 18 months, it has also been particularly difficult to maintain momentum around nature-based solutions to health issues and inequalities, with the COVID-19 pandemic being a priority for many public services.

## Greatest barriers to use of woodlands across Gwent

Consultations with third sector groups and green prescription participants by [Coed Lleol](#) in 2020-21<sup>cclvi</sup> highlighted barriers to engaging with woodland well-being that were common across Gwent. These were as follows:

- Access, including a lack of greenspace, disabled access, transport infrastructure and local knowledge
- Physical state of the woodlands; concerns about unmanaged, unsafe and unwelcoming woodlands
- Provision; lack of local woodland well-being opportunities or lack of support in accessing them
- Community safety and ASB in woodlands.

## Future trends and challenges

### COVID-19

Evidence shows there are new user groups accessing green space and woodlands in the UK that, prior to the COVID-19 pandemic, were seldom seen<sup>cclvii</sup>. Some have different expectations and behaviours that current management practices are not designed to deal with. There is a need to ensure new users are engaged through educational campaigns to build respect and understanding for the countryside and for personal safety. Dog ownership has also increased over COVID-19, and dog-walking should be monitored for impacts on biodiversity and public safety<sup>cclviii</sup>.

The pandemic has also seen a change in patterns of where people access the environment. Remote working allows more choice of where to live, which could reshape local communities, and is likely to draw more people to rural areas, rather than economic centres<sup>cclix</sup>.

### Climate change

The specific health and well-being impacts of climate change on individuals and communities from exposure to future climate risk is detailed in the social chapter.

The recently published CCRA3 Technical Report for Wales<sup>cclx</sup> identified the following climate risks that are specific to the environments provision of cultural and heritage services where there is **more action needed**:

**Risk H11. Cultural heritage: Changes in temperature, precipitation, groundwater, land, ocean and coastal change.** Climate impacts that affect heritage assets may have knock on effects upon other sectors – including tourism, health and wellbeing, and natural environment and vice versa.

**Risk H3. People, communities and buildings: Flooding.**

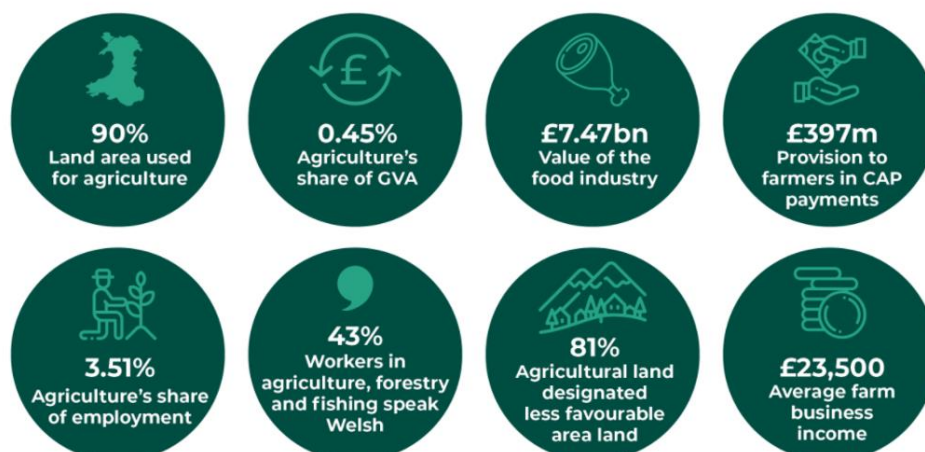
CCRA3 identified the following risks to the environments provision of cultural and heritage services that require **further investigation**:

**Risk/opportunity N18. Landscape character: Climate change.**

**Opportunity H2. Health and well-being: High temperatures.** Possible outcomes of this may be an increase in use of outdoor space for both physical activity, leisure activities, cultural activities, and domestic tourism.

**Risk/opportunity N18. Landscape character: Climate change.**

## Food and agriculture



Source: [June Survey](#), [Agriculture in the UK 2019](#), [Welsh Government press release](#), [Agriculture in Wales 2019](#) and [Agriculture facts and figures: 2019](#).

*Fig. C14 Welsh farming statistics (figures for 2018 or 2019 depending on the most current available)*

According to the most recent [Welsh farming statistics](#) (Fig. C14<sup>cclxi</sup>), Welsh agriculture accounts for 0.45% of gross value added (GVA), is worth £7.47 billion to the food industry and accounts for 3.51% of the overall share of employment in Wales, and 90% of its land use. The average Welsh farm has a business income of £23,500, and 81% of the land classified as agricultural is designated as less favourable area land (Senedd Research, 2021<sup>cclxii</sup>).

Beef, sheep, poultry, and dairy produce collectively made up 80% of Welsh agricultural forecasted output in 2018 (Welsh Government, 2019<sup>cclxiii</sup>). Overall, UK meat and milk production has been increasing in the UK from 2016 to 2018 (Department for Environment, Food & Rural Affairs (DEFRA), 2020<sup>cclxiv</sup>).

Some sectors like the lamb sector are more reliant on export markets. Around 5% of lamb from Wales is consumed in Wales, approximately 60% is consumed in the rest of the UK, and 35% is consumed in export markets. 5% of beef from Wales is consumed in Wales, approximately 80% is consumed in the rest of the UK, and 15% is consumed in export markets (Hybu Cig Cymru, 2020<sup>cclxv</sup>). Overall, however, 73% (Welsh Government, 2019<sup>cclxvi</sup>) of Welsh food and drink exports value are to the European Union (EU), highlighting the importance of this market to the overall food production system<sup>cclxvii</sup>.

Farmed land represents 65% of the area of Gwent<sup>cclxviii</sup>. There were an estimated 2,084 active farms in 2018, covering 105,199ha<sup>cclxix</sup>, giving an average farm size of 50ha. Grassland accounts for 78% of this, and arable and horticulture is just 13%. There are also 6,654ha of woodland within farms. The majority of farmland is in Monmouthshire, which has the most high-quality agricultural land. Farmed land also makes up the majority of the Gwent Levels, a large area of land reclaimed from the sea over centuries.

Agri-environment schemes, such as [Environmental Stewardship](#) and [Glastir](#) aim to encourage management of farms for biodiversity. Only 199 farms in Gwent participated in Glastir in 2019<sup>cclxx</sup>, with 12,374ha under some form of Glastir scheme. Compared to the number and area of farms in 2018, this represents less than 10% of farms, and 12% of farmed area. This is much less than the Welsh average, where 37% of the farmed area is under a Glastir scheme.

### What are the well-being strengths?

Food and fibre production rely on air, soil, water and biodiversity. Sustainable farming methods offer huge potential and opportunities for farmers. Sustainable methods not only provide healthier food but also considerably improve farmers' incomes. Studies show that throughout Europe, systems employing a range of more sustainable practices delivered between 10 and 110% increase in farm income (van der Ploeg et al., 2019<sup>cclxxi</sup>).

As well as providing food and fibre for current and future generations, agricultural holdings can provide a number of other well-being benefits to people and communities including regulating services like water storage, flood risk management, pollination opportunities and cultural services such as a sense of place, leisure and employment opportunities<sup>cclxxii</sup>.

### What are the issues impacting well-being?

Child hunger, rising diet-related illness, an explosion of demand for food banks and the uncertainty faced by the thousands of people employed in the catering and hospitality industry have an impact on social and economic well-being, as well as the environmental well-being impact assessed here<sup>cclxxiii</sup>.

### Unsustainable practices

Land use is identified by the United Nations (UN) Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) report (2019)<sup>cclxxiv</sup> as one of the key drivers of the nature emergency. Emissions of pollutants, depletion of resources, biodiversity loss and ecosystem degradation are consequences of the current system in Wales and beyond<sup>cclxxv</sup>. It has been estimated that for every £1 consumers spend on food, another £1 of costs are borne by society in terms of health impact and water pollution (Fitzpatrick et al., 2017<sup>cclxxvi</sup>).

In Wales, according to [Welsh June Agricultural Survey](#) data (Welsh Government, 2019<sup>cclxxvii</sup>) and a range of other sources, almost 90% of land over recent years is utilised for agricultural production, with most of that land intensified for food production (Blackstock et al., 2010; Armstrong, 2016; Welsh Government, 2019)<sup>cclxxviii</sup>. Semi-natural habitats and functioning ecosystems have reduced hugely in extent, becoming fragmented, and are often in poor ecological condition. These changes have caused the loss of more than 90% of semi-natural grassland habitats since the 1930s, negatively affecting the many species that rely on this habitat (Hayhow et al., 2019<sup>cclxxix</sup>).

## Agricultural pollution

### Wales' Environmental Pollution Incidents

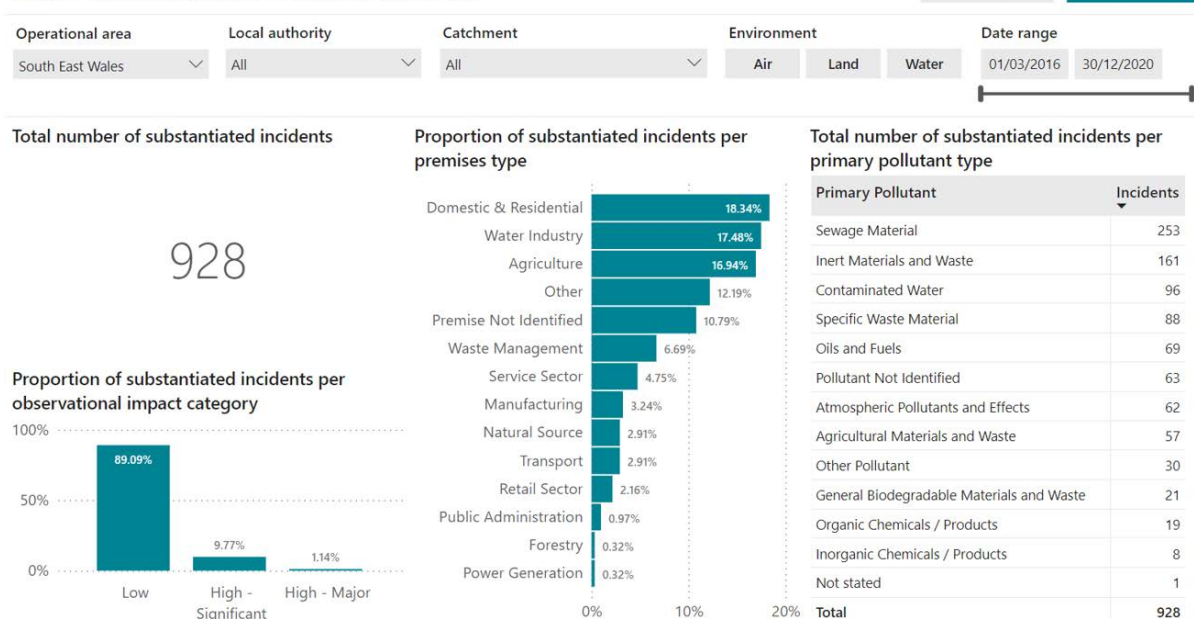


Fig. C15 Substantiated pollution incidents for Gwent by incident type

Agricultural practises involving manufactured fertilisers and animal waste cause pollution and eutrophication of both freshwater and terrestrial ecosystems. Between 2016 and 2020, 928 pollution incidents were substantiated in Gwent. Of those incidents, the third highest premises type was agriculture at 16% (Fig. C15<sup>cclxxx</sup>). Monmouthshire has a significantly higher proportion of agricultural premises contributing to a greater share of incidents at 29%, making this premises the highest contributor to pollution incidents in the county.

### Loss of farmland biodiversity

The [2016 State of Nature Report](#) concluded that the intensification of agriculture had caused largest long-term negative impact on wildlife<sup>cclxxxi</sup>. Specific factors included loss of marginal habitats such as ponds and hedgerows, intensification of grazing regimes, changes from spring to autumn sowing, and increased use of pesticides and fertilisers. Specialist farmland species are declining the most rapidly across all ecosystems. Overall, the index of change in abundance and occupancy for farmland species has fallen by 20% since 1970. The UK farmland bird indicator has fallen by 54% in the same period.

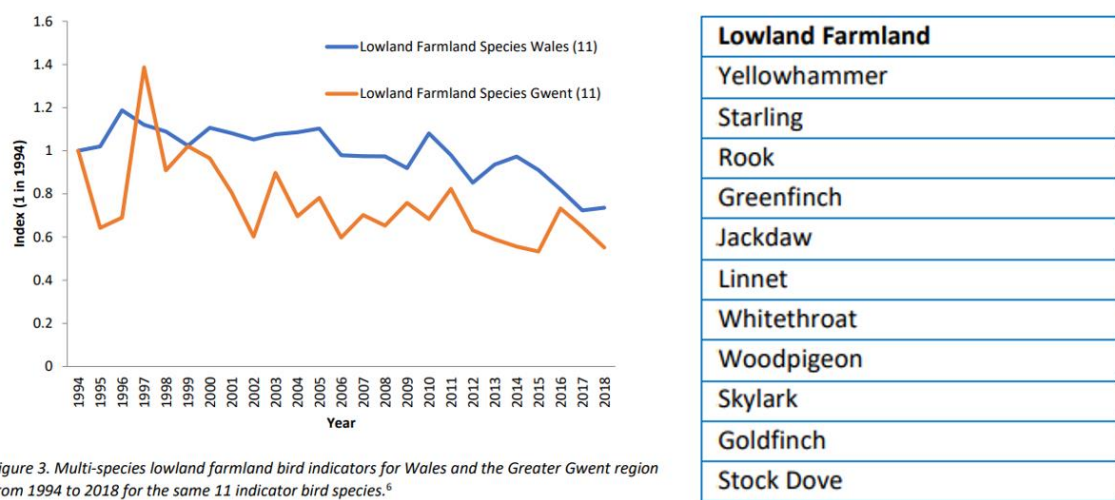


Fig. C16 Multi-species lowland farmland bird indicators for Wales and Gwent from 1994 to 2018 for the indicator species listed

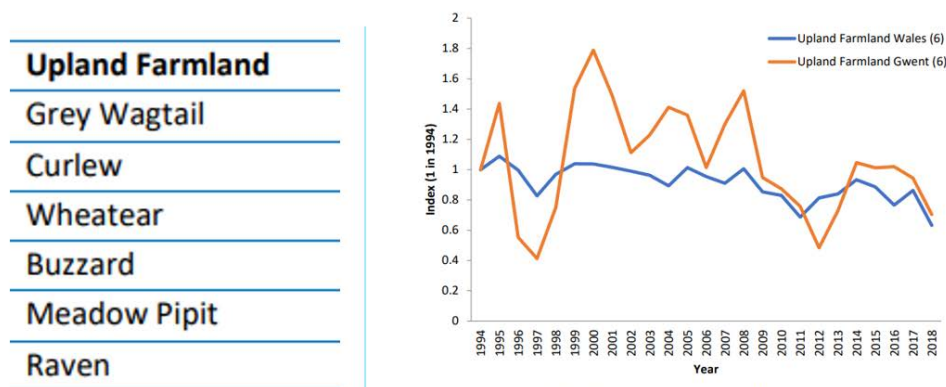


Fig. C17 Multi species upland farmland bird indicators for Wales and Gwent from 1994 to 2018 for the indicator species listed

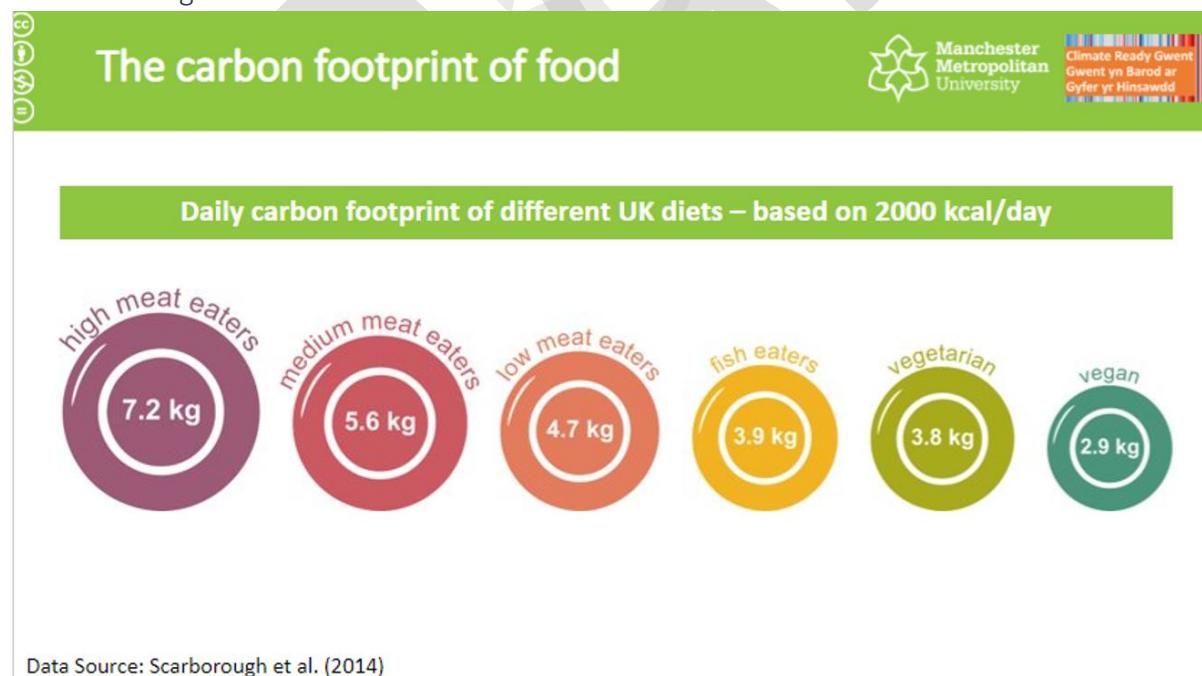
In Gwent, the figures taken from the recently published [Gwent State of Nature Report \(GSoN\)](#) (RGG, 2021) indicate that lowland (Fig. C16) and upland (Fig. C17) farmland birds show declines of 45% and 30%, respectively over the British Breeding Survey (BBS) period, largely in accordance with UK as well as Wales patterns for farmland and upland birds<sup>cclxxxii</sup>.

Farmland Birds			
Species	Conservation Status	Trend Gwent	Data availability
Barn Owl	Green (UK & Wales)	Fluctuating for the UK, insufficient data available at the Gwent level to determine trend	Moderate
Fieldfare	Amber (Wales) Red (UK)	No concern	Good
Northern Lapwing	Red (UK & Wales) Wales. Section 7 Priority Species	Decline to below sustainable limit	Good
Tree Sparrow	Red (UK& Wales) Wales Section 7 Priority Species	Decline of population to near extinction	Poor
Turtle Dove	VULNERABLE (Global)	Extinct in Gwent	Poor

*Fig. C18 Overall health of five specific species as taken from the Gwent State of Nature (GSON) report, 2021*

The report also took a closer look at the health of five specific farmland related species, one of which was extinct in Gwent (Turtle Dove), one below sustainable limits (Northern Lapwing), and one in decline to near extinction (Tree Sparrow), the Fieldfare and Barn Owl fared slightly better.

#### Climate change



*Fig. C19 Carbon footprint of food based on 2000 kcal/day*

Agriculture is responsible for 14% of Welsh GHG emissions (Welsh Government, 2019<sup>cclxxxiii</sup>; UK National Atmospheric Emissions Inventory (NAEI), 2020<sup>cclxxxiv</sup>); livestock and fertilisers being the

major sources. Fig. C19<sup>cclxxxv</sup> compares the daily carbon footprint of different UK diets demonstrating the impact of a high meat content diet compared to that of an increasingly meat free choice.

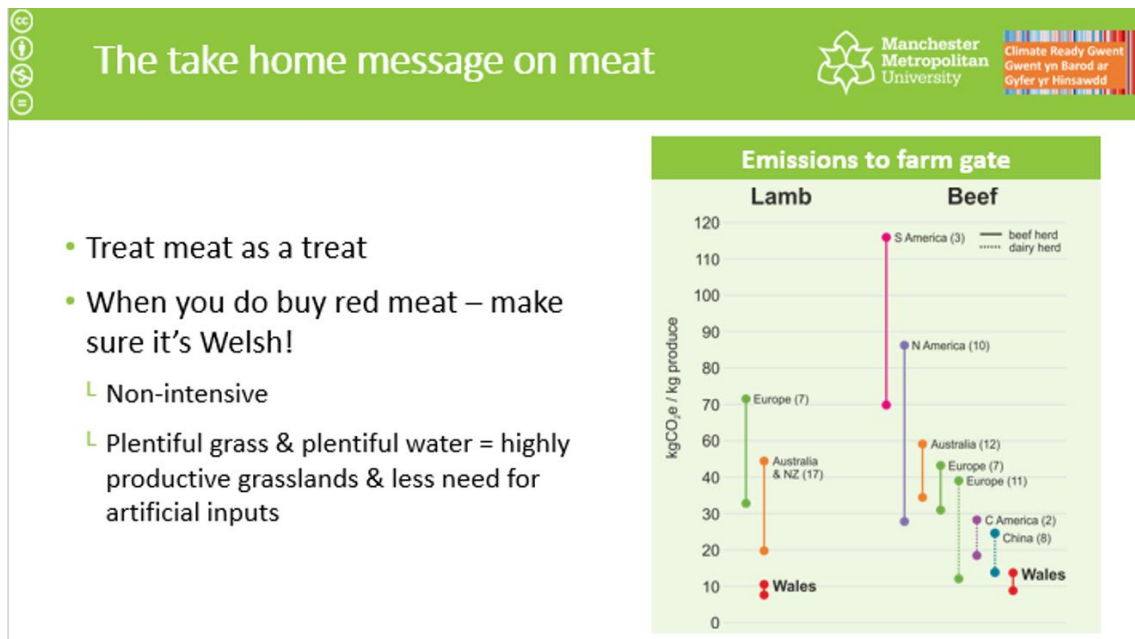


Fig. C20 Carbon footprint of lamb and beef production around the world

Fig. C20<sup>cclxxxvi</sup> compares the emissions of beef and lamb consumption based on farm level analysis with data on emissions to farm gate (does not include processing, packaging, transport and retail, but does include land use change and farm feed). This indicates that Welsh meat is among the lowest emissions in the world. Both data sets together indicate that there are considerable gains to be had from decreasing the quantity of meat in our diets, increasing its quality and buying local.

### What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- There is very limited information available on how much food production in Wales is sustainable. To effectively balance the improvement of the structure and function of ecosystems alongside the provision of food, fibre, and places where people live and work (infrastructure), 'good' must be defined and described.
- If farming is to be resilient and profitable, food must be produced in a sustainable way which safeguards the natural resources on which future food depends. Most importantly, to do so, systems and standards of soil and nutrient management need to evolve<sup>cclxxxvii</sup>.
- While there is a growing body of research on a wide range of sustainable farming practises, there is little information on their take up in Wales nor on the impact these are having at a landscape scale.
- Research to better understand the range, extent, spatial distribution and impact of the many different sustainable practises and their trade-offs would enable informed policy decisions to be taken to support farmers move towards sustainable practises.
- There is a need to predict future trends to enable us to prepare and respond to these pressures, for example the impacts of climate change. These are areas where there would be a need for strategic research and targeted long-term monitoring.

- Identification of opportunities for restoration of habitats and nature-based solutions are also key evidence needs to respond to the climate and nature emergencies.
- Current land management strategies do not include consideration of future climate risks including the potential impacts of up to a +4°C at 2100 scenario.

### What are people telling us?

The South East Area Statement sets out a sustainable vision for the management of Gwent's natural resources. This vision has been developed collaboratively and is underpinned by what specialists and wider stakeholders identified they want to see in Gwent.

With regards to food and agriculture, stakeholders identified the following<sup>cclxxxviii</sup>:

- "Agricultural land managed for food and ecology which is also profitable."
- "Respect for home produced (local) food which is delivered to high animal health and environmental standards which enhance the environment; buy local."

Welsh Government's recent publication [Climate Change and Reaching Net Zero: Perceptions and Awareness in Wales \(Welsh Government, 2021<sup>cclxxxix</sup>\)](#) summarises the findings from a survey which explored awareness, attitudes and preferences towards different pathways to reduce carbon emissions and reach net zero in Wales. One of the key findings was that whilst the majority of the respondents were concerned about climate change and agreed with the need to see a variety of societal changes to help reduce carbon emissions the option of switching to greener diets was the change least respondents wanted to see.

### Future trends and challenges

#### Economic and market changes

In 2019, the UK produced 55% of the population's food requirements (Department for Environment, Food & Rural Affairs (DEFRA), 2020<sup>ccxc</sup>), showing that just under half the UK's food is imported. To continue to supply the same proportion of food and meet increasing population requirements, without expanding the annual area managed intensively, crop and livestock yields will need to increase by more than 9% by 2050, based on current diets and consumption rates<sup>ccxci</sup>.

There is a major challenge to reduce agriculture's negative impact on the environment while simultaneously maintaining food production for a growing population. Managing environmental sustainability on farms in some circumstances is linked to a decrease in food production. If not balanced by measures such as improving efficiency, reducing food waste and modifying diets and technological advances, the area of land required for agricultural production may need to expand. This would risk increasing environmental pressures within Wales and abroad.

#### COVID-19

The COVID-19 pandemic has disproportionately and negatively impacted shut down sectors. The accommodation and food sector has probably been the most negatively affected in Wales, contributing more to the Welsh economy than to the UK economy<sup>ccxcii</sup>.

The pandemic impacted the dairy sector, with the closure of the food service and hospitality sectors leaving some processors without a viable market for their milk and milk products<sup>ccxciii</sup>.

#### Brexit

Many farmers in Wales have relied heavily on the [Common Agriculture Policy \(CAP\)](#) for income, particularly the [Basic Payment Scheme \(BPS\)](#), more so than in any other UK country<sup>ccxciv</sup>. Now the UK has left the CAP, an interim CAP-style system is being maintained under the [UK Agriculture Act 2020](#),

until Wales transitions to new domestic schemes. There has been [disagreement between the Welsh Government and UK Government](#) over whether commitments to provide full replacement funding for the schemes have been met. This is due to [different interpretations](#) of ongoing EU funding being provided through the [Rural Development Programme](#). The future agricultural policy will be developed in the context of new trade agreements. [Farmers are calling for a trade strategy](#) that seeks to both maximise access to overseas markets while safeguarding Wales's high food and farming standards<sup>CCXCV</sup>.

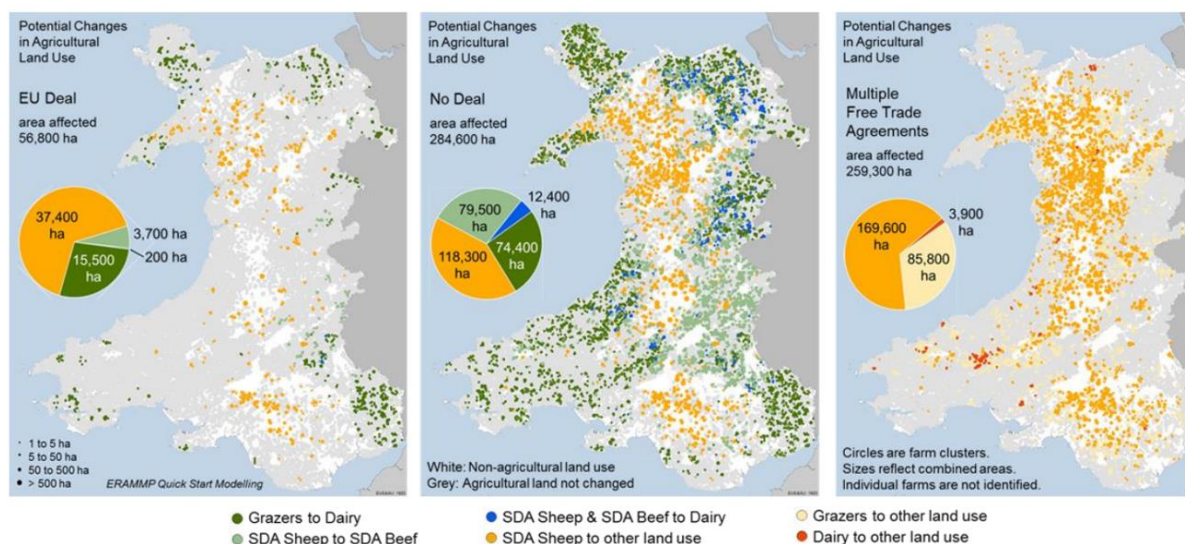


Fig. C21 Potential agricultural land use change for the three Brexit scenarios

The Welsh food and drink export market relies heavily on European trade (overall, 73% (Welsh Government, 2019<sup>CCXCVI</sup>) of Welsh food and drink exports value are to the EU). Fig. C21<sup>CCXCVII</sup> demonstrates the key findings from an estimated assessment of the potential impact under different trading scenarios. This study suggests that the total area potentially affected by the Brexit trade scenarios is 3 to 17% of current farmland depending on the future trade scenario (Emmett et al., 2019<sup>CCXCVIII</sup>).

### Climate change

Recent [UK Government analysis](#)<sup>CCXCIX</sup> indicates that in the Intergovernmental Panel on Climate Change Special report (IPCC, 2018<sup>CCC</sup>), for shared Socio-economic pathways (SSPs)<sup>CCCI</sup> 1 2, and 3, global crop and economic models project a 1–29% cereal price increase by 2050 which would impact consumers globally through higher food prices. Low-income consumers are particularly at risk.

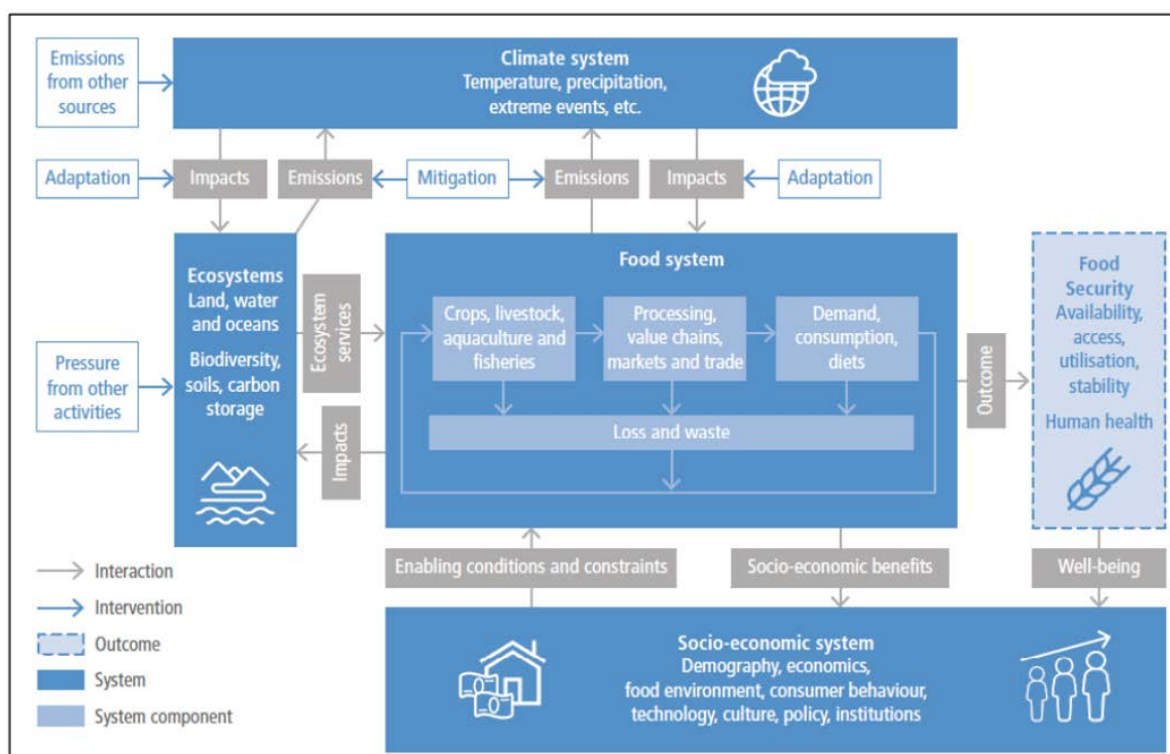


Fig. C22 Interlinkages between the climate system, food system, ecosystems and socio-economic system

Fig. C22<sup>ccci</sup> demonstrates the interlinkages between the climate system, food system, ecosystems (land, water, oceans) and socio-economic system. These systems operate at multiple scales. Food security is an outcome of the food system leading to human well-being which is also indirectly linked with climate and ecosystems through the socio-economic system.

The recently published CCRA3 Technical Report for Wales<sup>ccci</sup> identified the following climate risks that are specific to the Agriculture and Food sectors where there is **more action needed**:

**Risk N4. Soils: Changing climatic conditions, including seasonal aridity and wetness**

**Risk/opportunity N6. Agricultural and forestry productivity.**

**Risk N7. Agriculture: Pests, pathogens and invasive species.**

**Risk ID1. Food availability, safety, and quality: Decreasing yields from rising temperatures, water scarcity and ocean changes globally.**

Further analysis on **Risk N4**:

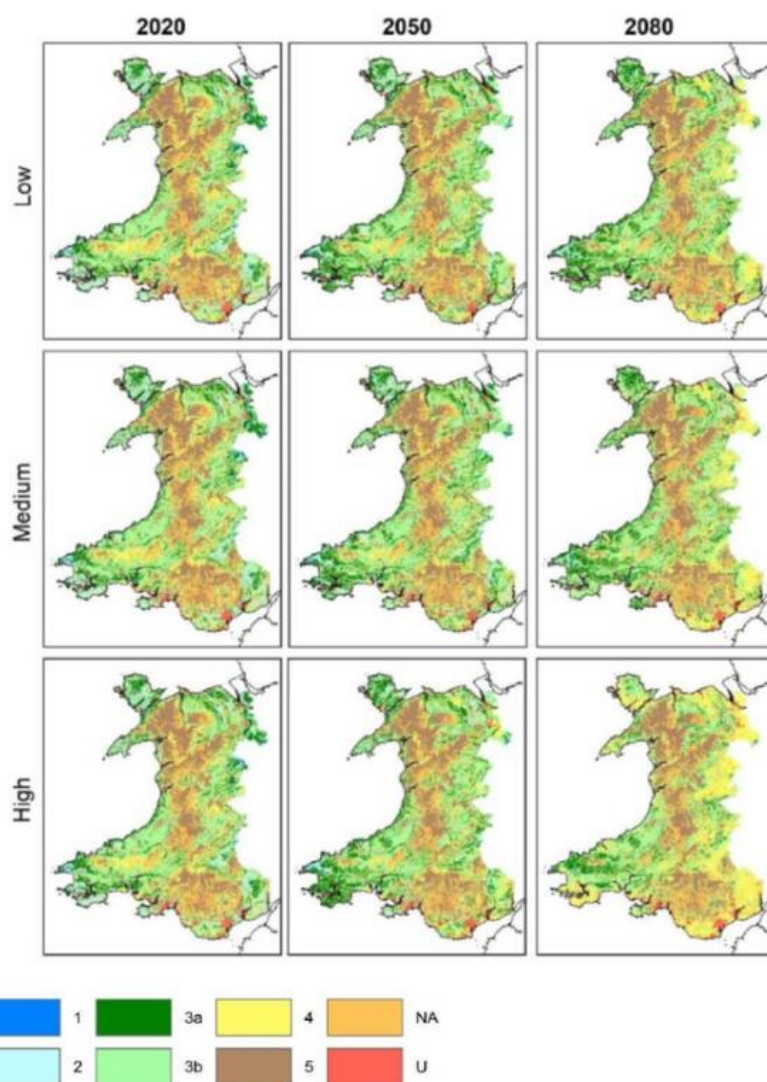


Fig. C23 Predicted Agricultural Land Classification (ALC) grade using UKCP18 scenarios

The Capability, Suitability and Climate Programme (Welsh Government, 2020<sup>ccciv</sup>) modelled the changes in the [Agricultural Land Classification \(ALC\)](#) and the best and most versatile agricultural land (BMV) (Grades 1 to 3a) (Keay C.A and Hannam J.A. 2020) Fig. C23 shows predicted significant deterioration in agricultural land quality in Gwent under high, medium and low emissions scenarios.

	Current	2020 Low	2050 Low	2080 Low	2020 Medium	2050 Medium	2080 Medium	2020 High	2050 High	2080 High
BMV	20%	23%	24%	18%	23%	24%	16%	23%	22%	9%
Not BMV	80%	77%	76%	82%	77%	76%	84%	77%	78%	91%

Fig. C24 Changes in percentages of best and most versatile (BMV) and Not BMV land in Wales using UKCP18 scenarios

Overall, the assessment shows predicted climate change impacts on soils with some soils improving and others downgrading, with potential changes in crop suitability, cropping and land use patterns in response to changing conditions (Keay C. A and Hannam J. A 2020) (Fig. C24<sup>ccciv</sup>). A key finding from

this research is that although drought risk is limited at present, it becomes a much stronger risk factor for a significant proportion of the country (Welsh border, Pembrokeshire, Anglesey and north Wales) by the 2050s, and especially by the 2080s.

CCRA3 identified the following risks that are specific the Agriculture and Food sector that require **further investigation**:

**Risk N10. Aquifers and agricultural land: Sea level rise, saltwater intrusion.**

**Opportunity N9. Agricultural and forestry productivity: New/alternative species becoming suitable.**

**Risk/opportunity N18. Landscape character: Climate change.**

**Risk H9. Food safety and food security.**

CCRA3 identified the following risks that are specific the Agriculture and Food sector where we are advised to **maintain a watching brief**:

**Opportunity ID2. UK food availability and exports: Increases in productivity and areas suitable for agriculture overseas.**

## Timber

In Gwent, there is roughly 24,000ha of woodland cover, approximately 15% of the total area<sup>cccv</sup>. Productive woodland accounts for the smallest element of this overall figure with conifer plantations, making up just 31% of the overall woodland resource. 62% of woodland cover is attributed to broadleaves.

### What are the well-being strengths?

Timber supports employment in small and large scale business and community enterprises, rural livelihoods, green growth and a regenerative economy. As well as being a renewable, sustainable material for a range of products and construction applications, use of timber can lock up carbon and displace carbon emissions associated with other types of materials. It also has the potential to reduce carbon emissions associated with transport, if locally grown sources are used<sup>cccvii</sup>.

Management of woodland for productive timber can have a number of well-being benefits for local communities. This can include improved access opportunities, with increased thinning and structural diversity creating more attractive recreational areas and improved habitats for wildlife. This also has a benefit for carbon sequestration and soil management.

Productive conifer plantations are located in the valleys to the west on the higher more exposed valley tops, such as at Cwmcarn, although there are also large productive woodlands in the east as well, along the Wye Valley and at Wentwood. The Usk plain is characterised by smaller, more native, woodlands due to a density of farmland and intense agriculture.

The volume of timber from WGWE in Gwent, compared to other areas, provides an indication of the difference in availability of timber and woodland. 45,351 tonnes of timber has been harvested to date in 2021, compared to approximately 211,000 tonnes in Powys and Ceredigion.

There are approximately five timber mills/suppliers in Gwent, the largest of which is Pontrillas Timber, suggesting that timber production plays a part in the economy of the region, but timber and products from the mills can be shipped to other parts of the UK so it can be hard to confirm the true

figure. Contractors and companies that harvest timber come from all over the UK to work in Gwent's woodlands.

### What are the issues impacting well-being?

The challenges for timber production in Gwent are:

- Woodland size
- Intensive agriculture and urban development competing for land which means that it is harder to expand current woodlands or create new ones as well as development pressure on existing woods
- Higher urban populations
- Conifer plantations in the west being situated on valleys tops and alongside communities making access harder and meaning the ability to diversify species is reduced due to higher exposure and altitude
- Wildfires are an increasing risk
- Low diversity in productive timber stock

### What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

- Currently there is incomplete data to accurately quantify the contribution that Welsh-grown timber makes to a regenerative economy and the more efficient use of natural resources in Wales. This is a future evidence need which has been identified by [Wood Knowledge Wales \(2020\)<sup>cccvi</sup>](#).
- There are gaps in the knowledge of exactly how much timber production contributes to the economy of Gwent at the local level.

### Future trends and challenges

#### Sector changes

Changes in softwood and hardwood timber availability will affect the forestry sector and the potential contribution that timber can make to resource efficiency as part of a regenerative economy unless more woodland is brought into sustainable commercial management and more new woodland is created that can produce utilisable timber<sup>cccx</sup>.

While the forecasted availability of hardwood timber is increasing, market opportunities are currently limited. In the future, private businesses in the whole supply chain (from tree nurseries to final product), must have confidence in forestry in Wales to drive investment to support a regenerative economy and greater resource efficiency.<sup>cccx</sup>

The current forecast highlights a drop in softwood timber availability over the next 30 years, but it is hoped that this can be compensated for by smoothing out production levels, bringing more woodland into management and creating more new woodland that can produce utilisable timber. On the plus side, forecast data shows an increase in the availability of hardwood timber, although concerns remain over the quantity and quality of products (as a potential substitute for softwood) that could eventually be derived from this increasing resource.

#### Climate change

The impact of future climatic changes on woodland and forestry sector is projected to be greater than those experienced to date.

The recently published CCRA3 Technical Report for Wales<sup>cccxi</sup> identified the following climate risks that are specific to the Forestry sector where there is **more action needed**:

**Risk N4. Soils: Changing climatic conditions, including seasonal aridity and wetness.**

**Risk/opportunity N5. Natural carbon stores, carbon sequestration and greenhouse gas (GHG) emissions.**

**Risk/opportunity N6. Agricultural and forestry productivity.**

**Risk N8. Forestry: Pests, pathogens, and invasive non-native species.**

CCRA3 identified the following risks that are specific the woodland and forestry sector that require **further investigation**:

**Opportunity N9. Agricultural and forestry productivity: New/alternative species becoming suitable.**

**Risk/opportunity N18. Landscape character: Climate change.**

## Water supply

Abstraction is the removal of water from a surface water (river, lake, pond, reservoir) or groundwater source, usually for human use. Abstraction from groundwater can also have an impact on a surface water source depending on the connectivity between the aquifer and the surface water.

Surface water is the main abstraction resource in Gwent, with only about 4% of the total annual volume licensed for abstraction coming from groundwater aquifers. There is a moderate to low demand for abstraction licences in these catchments. In Gwent, the main pressures on water resources are centred on several public water supply reservoirs at the top of the Rhymney and Ebbw catchments and the large unlicensed dock feeder abstractions from the downstream end of the Ebbw<sup>cccxi</sup>.

The Usk catchment is a key strategic resource for supplying potable water to much of Gwent and an extensive system of water transfers has been developed to distribute this water across the region. There are two public water supply impoundment reservoirs in the catchment. These comprise the [Llandegfedd Reservoir](#) (designated a [Special Scientific Interest \(SSSI\)](#)) at the head of the Sor Brook; and the Pantyreos Reservoir in the Malpas Brook catchment<sup>ccciii</sup>.

Some areas of Gwent are more rural and may rely on private water supplies. For example, there is an estimated 1000 properties in Monmouthshire utilising a private water supply (Monmouthshire Well-being Assessment 2016<sup>ccciv</sup>).

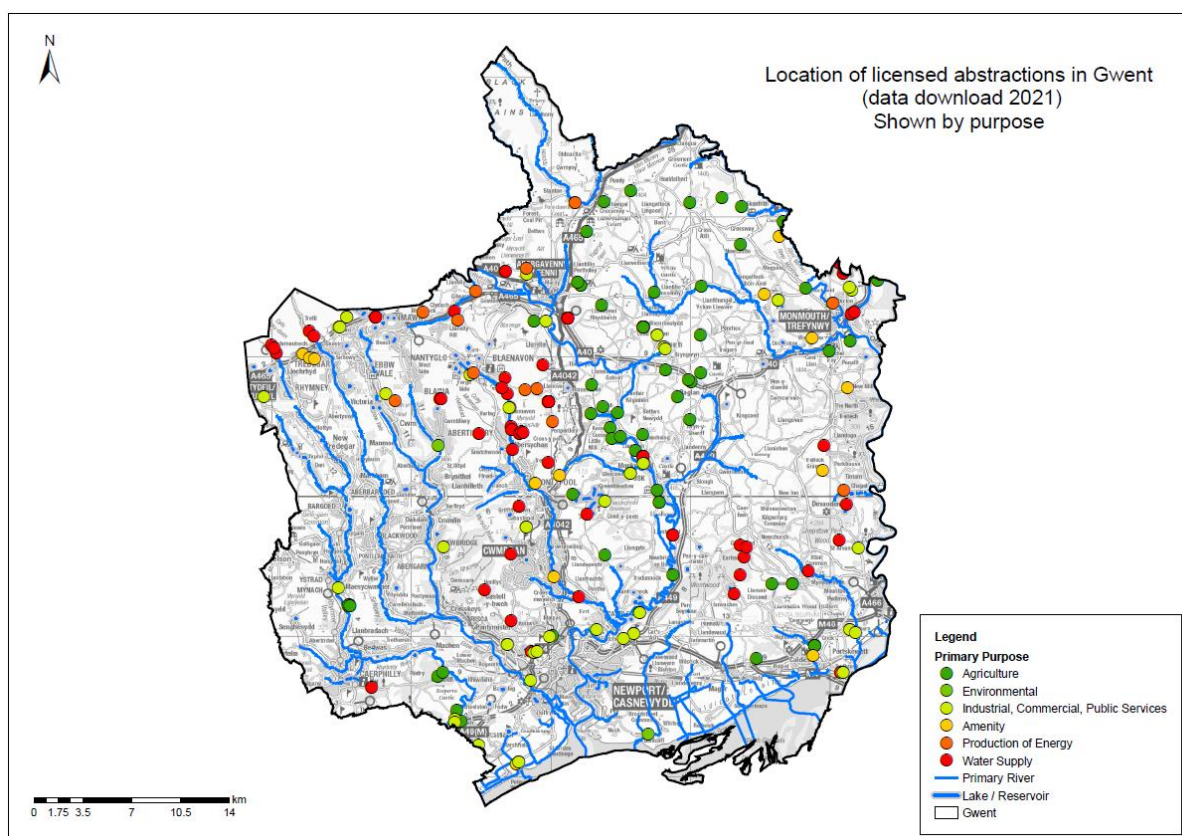


Fig. C25 Location of licenced abstractions in Gwent

There are 149 abstraction licences in Gwent (not including abstractions that are under 20m<sup>3</sup>/day or certain private water supplies which may not require a licence) (Fig. C25<sup>cccxv</sup>).

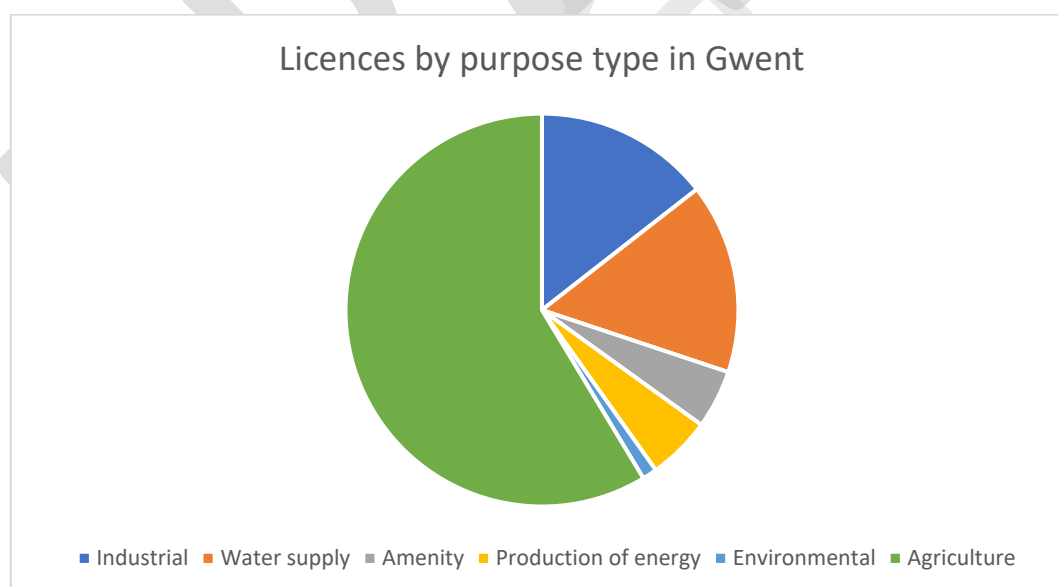


Fig. C26 Licences by purpose type in Gwent

The majority of these licences have an agricultural purpose which represents the largest total annual abstraction authorised for abstraction (Fig. C26<sup>cccxvi</sup>). Licences with an industrial purpose and water supply purpose both have a similar number of licences however, water supply has a considerable larger total annual abstraction quantity with just over half of the total annual volume authorised for

abstraction. Industrial purpose licences represent a negligible amount of the annual Gwent total. The number of hydropower generation licences has steadily increased within the catchment, currently accounting for 6% of the total annual licensed abstraction. There are a handful of amenity licences with maximum abstraction quantities for amenity being very little of the Gwent total. Environmental licences such as for wetland improvement or environment remediation are limited in the region (only three) and as such have a small total annual abstraction.

### What are the well-being strengths?

Rivers, lakes, reservoirs, ponds and groundwater are important for human survival. They provide drinking water and contribute to well-being through the opportunities they provide for recreation, tourism, manufacturing, energy generation, agriculture, connection to nature and blue space and the appreciation of landscape. Wetlands are linked to surface water which are also an important ecosystem for biodiversity and human enjoyment. Economic prosperity and employment opportunities are derived from these natural benefits which our water resource provides.

### What are the issues impacting well-being?

Impacts on the river environment will have a detrimental impact on well-being. Loss of habitat, species and biodiversity will reduce people's enjoyment of the river and reduce the amount of green and blue space for use.

#### Drought

Droughts are natural events which occur as a result of a prolonged period of low rainfall, creating a shortage of water. They affect the availability of water to different users as well as having an impact on people, the environment and businesses. Every drought is different in timescale, location and impact. Some can impact public water supply whilst others might have a greater impact on wildlife, riverine habitat and biodiversity.

#### River management

Licences may have conditions to reduce or cease abstraction when flows reach or are below a certain level to protect the environment. Low flows can cause problems for the enjoyment of the river from an aesthetic point of view, and can also exacerbate other incidences such as algal blooms or fish kills from not enough water or water temperatures getting too high.

Blue-green algal outbreaks directly affect water usage and tourism. Algal blooms have a negative impact on anglers and the aesthetics of the river, and they also have a significant ecological impact.

### Future trends and challenges

#### Climate change

Summer rainfall is expected to decrease by approximately 15% by the 2050s and by between 18% to 26% by the 2080s. Periods of water scarcity may become more prevalent under these scenarios, leading to possible implications in agriculture and industry (Fig. C4). The recently published CCRA3 Technical Report for Wales<sup>CCCxvii</sup> identified the following climate risks that are specific to water supply where there is **more action needed**:

**Risk I1. Infrastructure networks (water, energy, transport, ICT): Cascading failures.**

**Risk I2. Infrastructure services: River and surface water flooding.**

**Risk N10. Aquifers and agricultural land: Sea level rise, saltwater intrusion.**

CCRA3 identified the following risks that are specific to water supply that require **further investigation**:

**Risk I3. Infrastructure services: Coastal flooding and erosion.**

**Risk I7. Subterranean and surface infrastructure: Subsidence.**

**Risk H10. Health: Poor water quality and household supply interruptions.**

CCRA3 identified the following risks that are specific the Water Supply where it is recommended that we **sustain current action**:

**Risk I8. Public water supplies: Reduced water availability.**

DRAFT

## Section D: A regenerative economy with sustainable levels of production and consumption

*“Humans used to be a species just like any other on earth, but we’ve now become so populous and so destructive that we are the single most influential creature on earth.”*

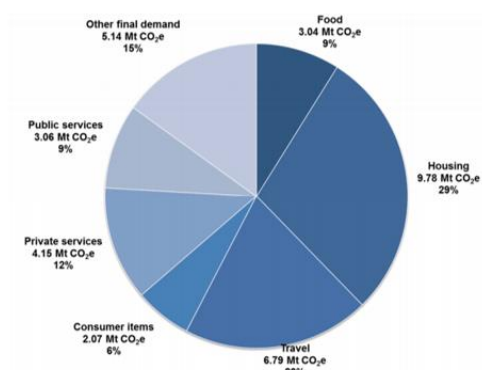
Dr Niall McCann Biologist / conservationist

### Net zero, zero waste and One Planet Wales

Gwent is not living within its environmental limits, an underlying principle of environmental sustainability. For Gwent to succeed in living within its fair share of Earth’s natural resources, we must be able demonstrate that our patterns of production and consumption do not place an environmental burden on the planet. We must assess to what extent Gwent is on track to meet its commitments to net zero, zero waste and One Planet living.

#### Greenhouse gas (GHG) emissions

The total carbon footprint of Wales is estimated at just over 34 million tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). This equates to 11.11 tCO<sub>2</sub>e per capita<sup>cccxviii</sup>. Approximately 75% of the greenhouse gas (GHG) emissions associated with Wales’ carbon footprint are from products purchased domestically, with the remaining 25% from the final consumption of imported goods<sup>cccxi</sup>. Further international comparisons can be made; China’s consumption-based footprint is around 6.4 tonnes (with a production-based footprint of 8.6tCO<sub>2</sub>e). India’s consumption-based figure stands at just 1.3tCO<sub>2</sub>e<sup>cccxx</sup>. This demonstrates the inequalities in carbon emissions currently present in consumption-based carbon footprints across the globe.



Rank	Theme/category	kt CO <sub>2</sub> e	% of theme
<b>Food</b>			
	Meat and meat products (excl. poultry)	625	21%
	Fruit and vegetables	505	17%
<b>Housing</b>			
	Domestic fuel and land use	4,157	43%
	Electricity, gas and other fuels	3,740	38%
	Imputed rentals for housing	472	5%
	Water supply and miscellaneous dwelling services	331	3%
	Actual rentals for housing	285	3%
<b>Travel</b>			
	Private transport, direct emissions and land use	3,777	56%
	Operation of personal transport equipment	1,219	18%
	Road transport services	478	7%
	Air transport services	472	7%
<b>Consumer items</b>			
	Other recreational equipment etc.	613	30%
	Private services	4,151	
	Retail trade services (excl. motor trade)	1,510	36%
	Catering services	836	20%
	Wholesale trade services (excl. motor trade)	426	10%
<b>Public services</b>			
	Health services	1,363	45%
	Public administration and defence services; compulsory social security services	548	18%
	Education services	545	18%
	Waste collection, treatment and disposal	260	9%
<b>Other final demand</b>			
	Construction	1,939	38%
	Coke and refined petroleum products	389	8%

Fig. D1 Chart: Carbon footprint of Wales by consumption theme

Table: Carbon footprint of Wales dominant categories

Fig. D1<sup>cccxi</sup> provides an analysis of the most important categories contributing to the Welsh carbon footprint. The table provides a breakdown of the data by dominant type. This data provides some

insight into where targeted reduction policies may have the greatest effect. For instance, housing makes a significant contribution to emissions, specifically in relation to the requirement to heat space and water using fossil fuels. This also represents the best option for reducing emissions. It is worth noting that electricity is much easier to decarbonise than fuel use. Travel is also a significant contributor.

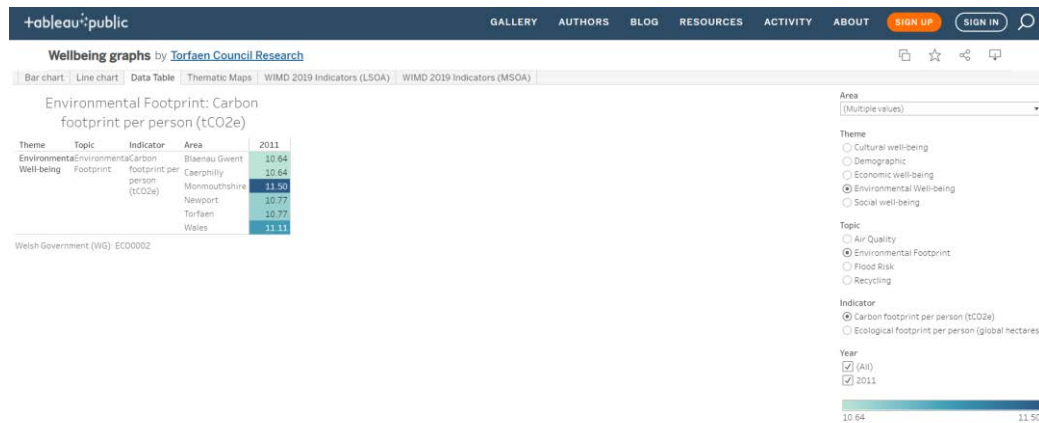


Fig. D2 Carbon footprint of Wales by region

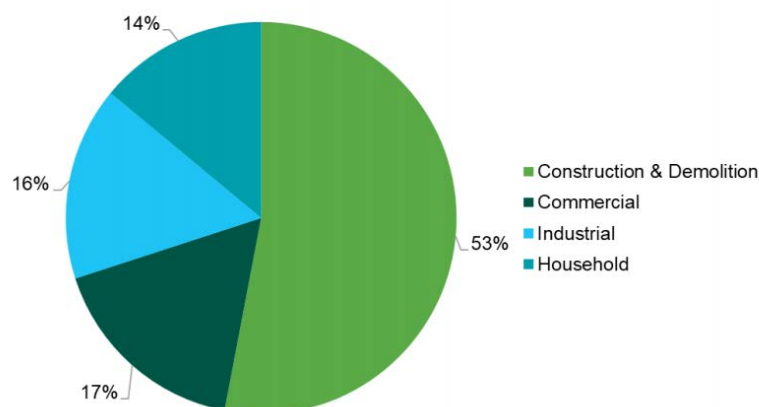
Fig. D2<sup>CCCXXII</sup> shows emissions per capita by local authority area. The areas with the lowest overall environmental burden per capita in Gwent are the more densely populated areas. Inherent limitations in the data prevent a detailed analysis of the difference between local authority areas.

### Waste and ecological footprint

Wales uses many resources for activities in business and industry, farming and food production, home and office, and this impacts on the natural environment. When waste is generated, it can be detrimental to ecosystems, biodiversity and the well-being of the population, especially where it is not managed appropriately at authorised waste sites or is managed through illegal activity. Generating waste also increases pressure on the use of natural resources.

### Waste generation

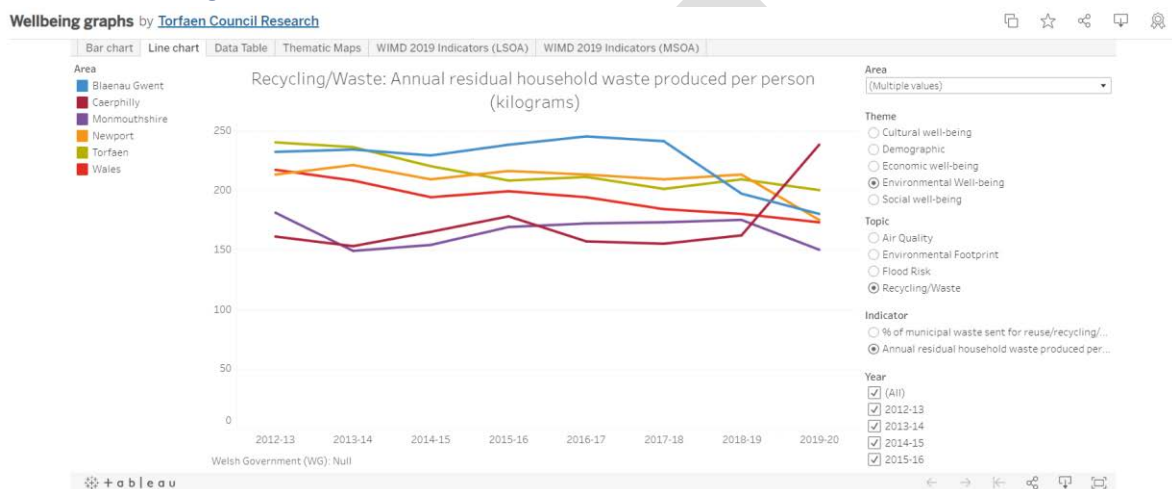
Quantifying waste generated by sector in Wales in a given year is difficult due to a lack of a regular comprehensive data source. In 2018, the total quantity of waste generated in Wales was estimated to be 8.9 million tonnes, excluding mining and quarrying wastes, agriculture, forestry and fishing.



*Fig. D3 Wastes generated by economic activity and households, 2018 (excluding mining and quarrying, agriculture, forestry and fishing wastes) (Note: Construction and demolition waste includes dredging spoils)*

Fig. D3<sup>cccxxiii</sup> shows that the majority of waste generated in Wales in 2018 was estimated to originate from the construction and demolition sector (53%), followed by the commercial (17%) and industrial sectors (16%) (Department for Environment, Food & Rural Affairs (DEFRA), 2018<sup>cccxxiv</sup>). In comparison, waste generated from household sources (14%) contributed the least to total waste generation (StatsWales, 2019<sup>cccxxv</sup>). These figures are not available at the regional level but are presented here to give an overall understanding of waste generation by sector. National trends have been analysed over the period 2012-2018. There was a statistically significant reduction in waste generated from households, industry, and commerce between these years<sup>cccxxvi</sup>.

### Household waste generation



*Fig. D4 Annual residual household waste produced per person (kgs by local authority)*

Fig. D4<sup>cccxxvii</sup> shows the data for residual waste produced per person in kgs by local authority area. Waste generation per person is above average levels in four of the five local authority areas in Gwent, with Monmouthshire the only area to register a below average figure. Levels in Caerphilly considerably exceed the Welsh average.

### Waste recycling

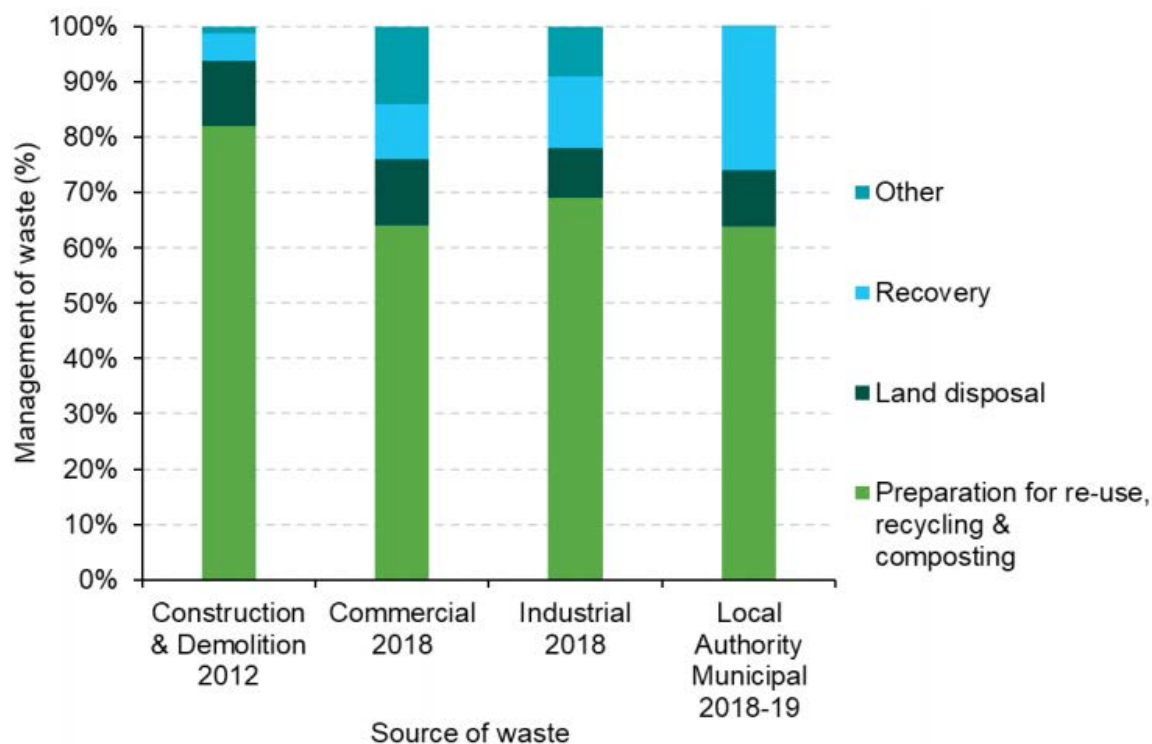


Fig. D5 Management of waste generated in Wales by origin

The Welsh Government Circular Economy strategy ‘[Beyond Recycling](#)’ sets a one planet resource use and zero waste aspiration for 2050<sup>cccxxviii</sup> (zero waste means that 100% of waste that is still generated in 2050 will be re-used or recycled as a resource). Wales has made major improvements in managing waste over the last decade by increasing the amount sent for recycling, and reducing the amount sent for disposal (Fig. D5<sup>cccxxix</sup>). These statistics are not available on a Gwent scale but are provided here for context.

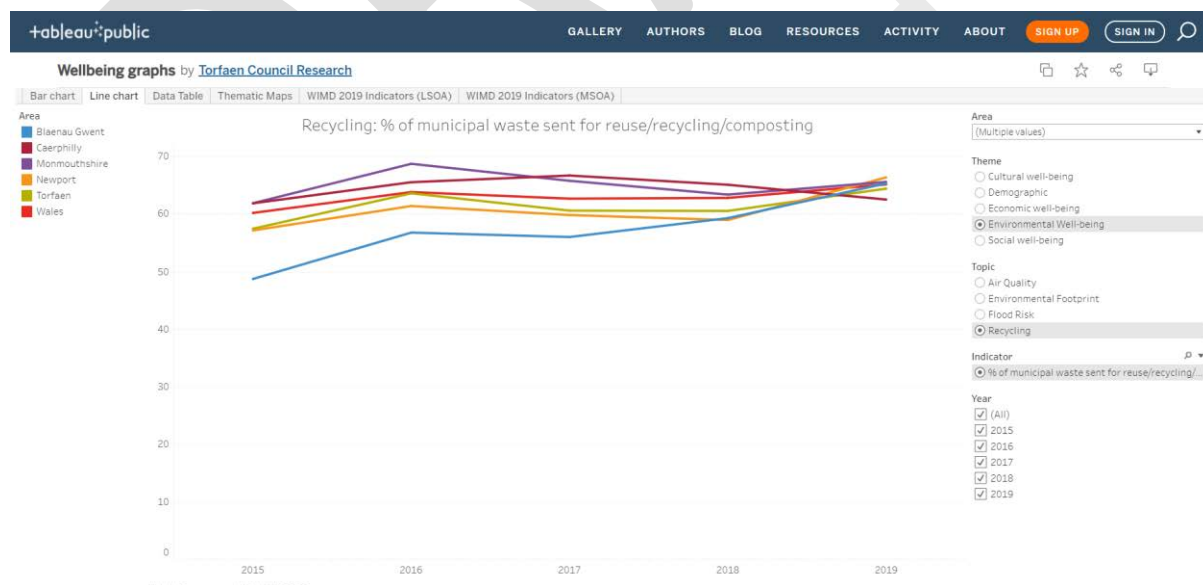


Fig. D6 % of municipal waste sent for reuse/recycling/composting

In 1998-99, only 5% of municipal waste was recycled; in 2018-19 this had reached 63%<sup>cccxxx</sup>. Wales is now recognised as having the highest household recycling rate in the UK; the second highest in

Europe and the third highest in the world. Wales is transitioning to a high recycling nation which is a necessary component of a circular and regenerative economy. Gwent recorded recycling rates at or above the Welsh average figure in 2019 (Fig. D6<sup>cccxxxi</sup>). However, the data demonstrates that more needs to be done in Gwent to prevent waste from being generated if we are to achieve zero waste and one planet living.

## Ecological footprint

Ecological footprint is an indicator of the total environmental burden we place on the planet. It represents the area of land needed to provide raw materials, energy and food, and to absorb pollution and waste created by the population<sup>cccxxii</sup>. The ecological footprint takes account of carbon dioxide (CO<sub>2</sub>) emissions associated with Welsh consumption activities and expresses them as an area of land.

The ecological footprint also accounts for the area required to produce the food and fibre people consume and the area required to provide space for Welsh infrastructure such as roads and buildings. It is a separate indicator from the carbon footprint.

The last ecological footprint for Wales was calculated in 2011 and was 10.05 million global hectares. This is roughly five times the size of Wales and equivalent to 3.28 global hectares per person in Wales<sup>cccxxiii</sup>. This means that if everyone in the world were to consume the same as the average Welsh resident, it is estimated that just over 2.5 Earths would be required to provide the resources and absorb the waste. This is slightly lower than the figure for the UK, which is 2.7 Earths. Although a few years old, our ecological footprint suggests that our key natural resources are being depleted faster than they can be replenished.



Fig. D7 2003 ecological footprint by local authority

In Gwent, Monmouthshire has the highest ecological footprint per person and Blaenau Gwent has the lowest (Fig. D7<sup>cccxxiv</sup>). The variation in ecological footprint is influenced by a number of factors including income, demographics, patterns of household expenditure and the energy performance of housing stock.

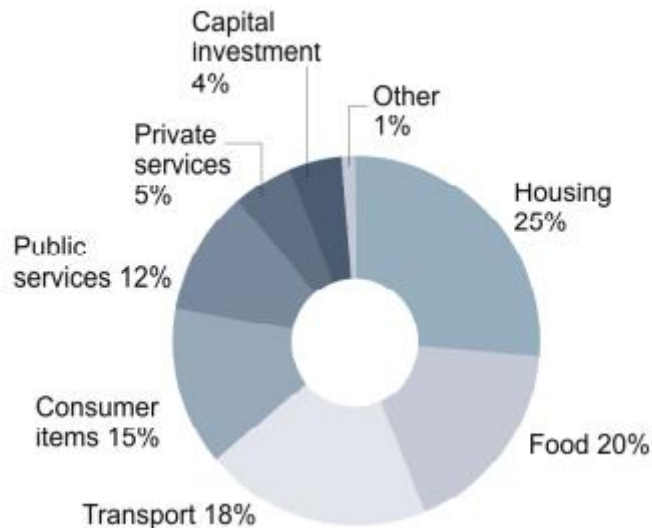


Fig. D8 Ecological footprint of Wales by Welsh Government consumption theme

Fig. D8<sup>CCXXV</sup> sets out consumption by theme (final demand) contributing to Wales's ecological footprint. By grouping the ecological footprint by theme, it is possible to identify four broad areas that contribute significantly to the ecological footprint of Wales; housing, food, transport (or personal travel), and consumer items. Together these items account for 78% of the ecological footprint of Wales.

### What are the well-being strengths?

Net zero

The [Cardiff Capital Region \(CCR\)](#), which includes Gwent, has identified the need to transform the region's energy use across the heat, electricity, transport and fuel sectors in order to enable a transition to net zero by 2050.

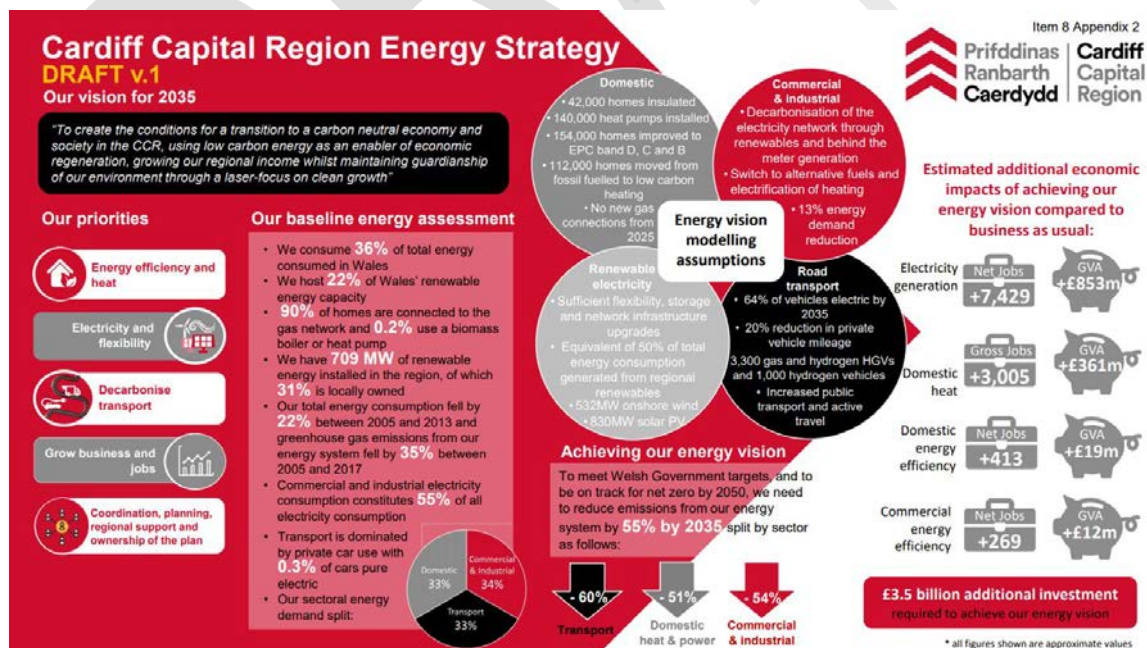


Fig. D9 Cardiff Capital Region Energy Strategy

To achieve the energy system transformation, Welsh Government techno-economic analysis shows that the investment needed between now and 2035 totals £8.6 billion, with investments required from a range of stakeholders<sup>cccxxxvi</sup>. That investment would create 47,330 (mostly net) jobs and a £7.2 billion uplift in gross value added (GVA) (Fig. D9<sup>cccxxxvii</sup>).

Urban habitat makes up approximately 20,000ha of Gwent. Opportunities for renewable energy generation in the form of solar thermal energy are far from fully exhausted. Investment in low carbon heat and fuel alternatives at household and community scale will not only safeguard our existing non-renewable sources but also provide an income for current and future generations. Use of nature-based solutions to sequester carbon can also deliver multiple benefits to communities.

Meeting decarbonisation targets can also lead to improvements in the quality of life for communities which suffer from the adverse impacts of poor air quality. Poor air quality in the UK is estimated to cause 40,000 early deaths annually (Air Quality Expert Group, 2020<sup>cccxxxviii</sup>), with 2,000 deaths in Wales alone. This amounts to 6% of total deaths (Public Health Wales, 2016<sup>cccxxxix</sup>). This was demonstrated during the COVID-19 pandemic where lockdown restrictions affected energy use, emissions and some air pollutants across the UK. Initial assessments suggest a reduction in nitrogen oxide (NO<sub>x</sub>) and nitrogen dioxide (NO<sub>2</sub>) emissions in urban areas during lockdowns, as a result of lower traffic volumes (Clean Air Advisory Panel, 2020<sup>cccxl</sup>). This and the associated reduction in traffic noise is likely to have had a positive impact on well-being<sup>cccxli</sup>.

### Zero waste and One Planet Wales

Reducing and reusing waste is one way to reduce our consumption of resources and provide positive benefits to ecosystems in Wales. Wales is leading the way in the UK for providing separate food waste recycling for households, with 99% of households having access to a food waste collection. In 2018-19, Welsh Local Authorities reported that the majority (71%) of food waste that they collected from households and businesses was recycled at anaerobic digestion (AD) facilities located in Wales (Natural Resources Wales (NRW), 2020<sup>cccxlili</sup>).

In the UK, AD is the main source of biogas as a renewable energy technology. Food waste breaks down naturally in the AD plants in the absence of oxygen and produces a gas, which can then be used to produce electricity and heat. The leftover organic material, known as digestate, is rich in nutrients and can be used as a substitute to chemical-based fertilisers and as a soil improver. This high percentage of biodegradable waste, which is processed by Welsh recycling infrastructure and diverted away from landfill, demonstrates that Wales is moving towards a localised circular economy for this waste stream.

### What are the issues impacting well-being?

#### Net zero

Some low-income households are subject to a triple climate change injustice; they make a relatively small contribution to carbon emissions, pay disproportionately for the policies to mitigate carbon emissions and benefit the least from those policies than higher income households<sup>cccxlili</sup>. As well as low income households generally, there is a wider set of disadvantaged groups that can be described as 'energy vulnerable', who may struggle to pay their energy bills, potentially due to high energy needs as well as poverty<sup>cccxliv</sup>.

## Vulnerability

### Socio-economic characteristics

GB adults unless stated



Fig. D10 Socio-economic characteristics of vulnerability

Fig. D10<sup>cccxlv</sup> demonstrates some of the social, cultural and economic determinants of energy vulnerability. It should be noted that policies which seek to accelerate decarbonisation through energy bills alone may exacerbate other inequalities for these groups.

### Zero waste

The achievement of zero waste by 2050 and a move towards a one planet material footprint for Wales requires a circular economy that goes far beyond recycling. Waste generation is an indicator of how far Wales has yet to go to achieve sustainable production and consumption, starting with influencing societal attitudes towards waste norms. More needs to be done to prevent waste from being generated if we are to achieve zero waste and one planet living.

Despite the generally increasing recycling trend and decrease in waste sent to landfill, evidence indicates that there are considerable amounts of recyclable material still present within the mixed residual waste streams generated by industry, commerce and households in Wales. This waste is currently sent for landfill and incineration. In terms of waste generated by industrial and commercial sectors, the majority of residual waste (74.5%) could be diverted for recycling (WRAP Cymru 2020<sup>cccxlvi</sup>). The most common material which could be diverted from residual waste is food waste. There are also significant opportunities to divert other recyclables such as packaging material generated by the commercial sectors.

In terms of waste generated by households, almost half (48.9%) of residual waste collected at the kerbside is widely recyclable. Food waste is the single biggest contributor to this, despite most households having access to a weekly separate food waste collection. Furthermore, of the food waste separately collected for recycling, almost half of it (45.4%) could be avoided and an additional 2.6% was avoidable food waste still in its packaging (WRAP Cymru 2016<sup>cccxlvii</sup>). This indicates that there are still significant opportunities for preventing food waste generated by Welsh householders, and increasing recycling rates by improving participation in existing recycling schemes.

### Waste crime

Where a waste site operates outside of the legislative framework it may impact the surrounding environment and communities. Communities may suffer from odour, litter, dust, noise, vermin, and fly infestations from non-compliant permitted sites or illegal waste sites. In addition, ecosystems suffer where waste is inappropriately treated, stored or disposed of without the correct and proper infrastructure. Waste crime and poor waste management practices can lead to fires, which impacts on key infrastructure and local amenities and can risk the closure of main roads, railway lines, schools and hospitals, as well as damaging amenities for nearby communities. In addition, fire incidents consume a large amount of public sector resources, pollute the environment and disrupt communities. This impacts on the protection and health of people, places and ecosystem resilience. When Welsh waste is managed inappropriately abroad or illegally exported through mismanagement, there are global impacts such as marine pollution or waste abandoned at docksides.

Type	Cost Range (£m)
Illegal waste sites	£2.3–5.6 million
Waste fires	£0.7–1.1 million
Fly-tipping	£4.7–11.8 million
Misclassification	£1.3–7.3 million
Permit breaches	£4.9 million
Illegal exports	£1.3–1.7 million
All types	£15.2–32.4 million

*Fig. D11 Estimated costs of waste crime by type in Wales 2015-16*

While the cost to legitimate businesses, landowners and the wider economy are difficult to quantify, it is estimated that misclassification, illegal exports and exemption abuses amounted to £15.2- £32.4 million of economic impact to Wales in 2015/16 (Fig. D11) (Eunomia 2017<sup>cccxlvi</sup>).

### What are the gaps in understanding?

It is recommended that the following gaps in understanding are given due consideration in the development of the Gwent Well-being Plan:

#### Net zero

- Until emissions data are published in 2021 and 2022, we do not have an accurate estimate of emissions trends in Wales in 2019 and 2020.
- Furthermore there is no provision in Welsh climate legislation for how performance towards carbon budgets is measured ([Climate Change Committee](#)<sup>cccxlvi</sup>).
- All public sector organisations across Gwent are required to undertake a carbon baselining exercise to inform and prioritise decarbonisation activity. Not all organisations have

undertaken this activity, however early information from those organisations that have undertaken this exercise indicates that procurement activity accounts for a considerable proportion of emissions (Blaenau Gwent Decarbonisation Plan 2020-2030<sup>cccl</sup>; Natural Resources Wales Carbon Positive<sup>cccli</sup>).

- Meeting our combined net zero carbon, waste and One Planet milestones is going to require a significant shift in the energy, food, waste, transport and building sectors. This will require new and different skills and technological capacity. The extent to which this transformation will impact labour and capital supply and demand in the Gwent region is unknown, more work will have to be undertaken to understand how best to support the shift in key industries across the region.

## What are people telling us?

### Net zero

In 2020, the Welsh Government surveyed over 1000 Welsh residents via an online survey with the aim of developing the evidence base around public awareness, attitudes and preferences towards net zero pathways and societal change. The participants selected were representative of the Welsh population. The report, [Climate change and reaching net zero: perceptions and awareness in Wales](#)<sup>ccclii</sup> made the following findings:

#### Climate change concern and perceptions

The majority of survey respondents reported being fairly or very concerned about climate change (86%). Despite this, only 22% of respondents thought that climate change would affect the UK 'A great deal', and only 15% thought this for their local area. Under half (46%) of respondents thought climate change would affect other countries 'A great deal'.

When asked how much a range of sectors contributed to the UK's carbon emissions, the majority of respondents thought that all sectors contributed at least to some extent. The sector respondents thought contributed the most was transport, and the sector respondents thought contributed the least was agriculture. 82% of respondents perceived transport to contribute to carbon emissions 'a great deal' compared to 55% who perceived the same about agricultural emissions.

#### Net Zero knowledge and support

The majority (84%) of respondents had heard of the net zero concept before. 57% reported knowing a little or a fair amount; only 8% reported knowing a lot about it.

80% of respondents reported that they strongly or somewhat support the UK commitment of reaching net zero by 2050. Over two thirds (68%) responded that they strongly or somewhat support the Wales net zero commitment of reaching 95% reduction in emissions by 2050, with an ambition to reach net zero by 2050.

At the time of data collection the Wales net zero commitment was a 95% reduction in carbon emissions by 2050, and an ambition to reach net zero by 2050. Since data collection, this has now changed to a commitment to net zero by 2050, in line with the UK Government target.

#### Perceptions of carbon-reducing changes and technologies

Respondents were given a list of potential changes to society which could be made to reach the net zero target (e.g. greener industry, lower transport emissions, greener energy supply) and asked to state whether they would like to see this change. Across most of the listed changes to society, over 7 out of 10 of respondents would like to see some or a lot of a change. Waste reduction had the highest percentage (84%) of respondents who wanted to see a change. However, greener diets is an exception to this. The percentage of respondents who would like to see some or a lot of this change

is relatively low (47%) and one quarter (25%) of respondents would not want to see any or much of this change.

Respondents were provided with descriptions of GHG removal technologies and renewable energy supplies as options to help reach net zero and asked how positively or negatively they feel about them. Respondents were widely positive about these two options with slightly more respondents being positive about wind/nuclear energy supply (72%) than GHG removal technologies (67%).

#### Likelihood and perceptions of lifestyle changes

When asked how likely they thought a range of lifestyle changes would be to occur over the next few decades, respondents saw energy efficiency as the most likely to occur (67% perceived this as extremely or somewhat likely). The consumption of half as much meat and dairy was perceived as the least likely to occur (44% reported this as extremely or somewhat likely).

Respondents were then asked how likely they would be to make a variety of changes in their own lives. Responses were mixed. Around half (53%) said they were at least somewhat likely to reduce their thermostat temperature and use less heating (50%). Avoiding planes for holiday and business trips was likely to occur for four in ten respondents, although the impact of coronavirus restrictions should be considered here. Respondents were least likely to buy an electric car or switch to a low-carbon heating technology, with both being viewed as likely by only a third of respondents.

#### Perceptions of the future

At least half of the respondents view a net zero future as better for well-being, health and the economy. The positive impact on well-being and health was most certain among respondents (77% and 80% responding 'better' respectively). The impact on the economy was less certain; with 51% responding better, but just under a third (28%) responding worse.

The percentage of respondents who agreed or strongly agreed that the way we live our lives will need to change substantially to address climate change was considerably higher (84%), than respondents who agreed or strongly agreed that technology will help reduce most of our carbon emissions (41%).

#### Best Practice local involvement

In March 2021, Blaenau Gwent Public Services Board worked in partnership with Cynnal Cymru and the Electoral Reform Society Cymru to undertake a Climate Assembly. The Assembly took place online via Zoom. 50 residents of Blaenau Gwent were selected by sortition to address the question "What should we do in Blaenau Gwent to tackle the climate crisis in a way that is fair and improves living standards for everyone?" Citizens made the following recommendations when considering where they would like to see action:

Theme	Recommendation	% Support
Transport	Establish an affordable, integrated road & rail transport system accessible throughout BG.  A one ticket system that links to bus, rail & cycle schemes - inclusivity for purchasing of tickets (digital or paper).  Accessible all hours with safety via lighting, CCTV and to keep maintained.	91
Transport	Establish & improve a safe, easily maintainable infrastructure for walkers & cyclists, for either recreational or work purposes, with access to the public transport network. Including lighting & CCTV & storage for bikes.	88
House retrofit	Train local tradespeople, create qualifications and upskill local businesses, involve FE colleges and local Universities, future proof it and provide the right courses to enable them to do the work in all green construction.	86
Green space and nature	Implement a programme of woodland preservation and reforestation of BG, using the right tree in the right place for the right reason, increasing opportunities for jobs, biodiversity and connecting woodlands. Making sure the skills are available so we can create green jobs, e.g. saw milling and timber framed housing.	86
Housing new build	Ensure that all new build properties are built using the latest sustainable technologies (E.g. Glantffwrdd development as a template), employing local builders and providing a variety of accommodation types appropriate for all inc. homeless/single occupancy up to large families.	81

*Fig. D12 Five recommendations from the Blaenau Gwent Climate Assembly which received over 80% of the vote and were officially passed by the Assembly.*

Fig. D12<sup>cccliii</sup> identifies the recommendations made which received over 80% of support from residents. These include activity focused on transport, housing, nature and green space.

### Future Trends and challenges

Wales' GHG emissions have fallen by a quarter since 1990 (UK National Atmospheric Emissions Inventory (NAEI), 2020<sup>cccliv</sup>). The UK Government target and UK Climate Change Committee (UKCCC) recommendation for achieving net zero emissions is 2050. A transition to net zero carbon has the potential to yield more than £90 billion of annual benefits to the UK because of the wider improvements to the environment and human health, alongside unlocking opportunities for innovation and employment (Vivid Economics, 2020<sup>ccclv</sup>). In order to meet its commitments to net zero, the Climate Change Committee Advice Report: The path to a Net Zero Wales recommends action across four key areas<sup>ccclvi</sup>:

- Reducing demand for carbon-intensive activities: Reduced demand and improved efficiency
- Take-up of low-carbon solutions: Around 40% of the emissions saving is from people and businesses adopting low-carbon solutions as high-carbon options are phased out
- Expansion of low-carbon energy supplies: Low-carbon electricity can now be produced more cheaply than high-carbon electricity in the UK and globally. Low-carbon hydrogen scales up
- Land: A transformation is needed in Wales' land while supporting Welsh farmers

- Flexibility to meet net zero: Alongside the nature-based removals, by 2035 the UK should be using bioenergy (largely grown in the UK) with carbon capture and storage (CCS) to deliver engineered removals of CO<sub>2</sub> at scale (though these technologies may not necessarily be located in Wales).

## COVID-19

Climate policy and emissions will be impacted in ways that are difficult to predict by the response to the COVID-19 pandemic and its lasting effects<sup>ccclvii</sup>. The impacts of the pandemic on emissions in 2020 led to reduced energy demands during the lockdown period, however these impacts are considered to be transient, reversing as the economy opens<sup>ccclviii</sup>.

Lockdown restrictions led to a surge in online shopping and home deliveries. There were significant increases in the use of disposable single-use items, often plastic, like personal protective equipment (PPE). The recent outcome of the [Everyday Plastic Survey](#) completed during the pandemic indicated that domestic plastic waste production increased by 25% under lockdown conditions, particularly fruit and veg packaging, snack wrappers, parcel bags and PPE (Everyday Plastic 2020<sup>ccclix</sup>). It is likely that there has been an increase in the use of other single-use packaging items. For example, the closure of pubs and restaurants and restrictions in people movement led to an increase in food and drink takeaways. Some restaurants experimented with takeaways for the first time and may be permanent converts after realising the benefits of increasing profit margins (Citywire 2020<sup>ccclx</sup>). It is too early to understand how the pandemic has impacted waste generation and the longer term impact to consumer behaviours, where some progress had been made prior to the pandemic in raising awareness and encouraging re-use (i.e. coffee cups).

## Brexit

Another important development that will shape UK and Welsh climate policy in the next few years is the UK's exit from the European Union (EU).

### Box 1.1

#### The impact of Brexit on Wales' climate objectives

The UK's departure from the European Union will have implications for the UK's and Wales' environmental and decarbonisation policies. Key implications include:

- **Leaving the EU's Emissions Trading System (EU ETS).** Current Government proposals are to replicate this scheme, with a smaller UK ETS, with a view to linking to the EU ETS. A carbon tax has also been proposed.
- **Product standards set at an EU level** have been an important driver of energy efficiency, and emissions reductions in lights, appliances and vehicles.
- **Leaving the Common Agricultural Policy (CAP),** which provides direct income support for farmers, as well as payments for environmental services. Wales' replacement scheme, 'Sustainable Farming', aims to transition to rewarding farmers more for public goods including mitigating and adapting to climate change.
- **Environmental governance** to replace the role of the European Commission in enforcing environmental regulations in Wales. The Welsh Government has stated their preferred option is to establish a new environmental governance body in Wales, but this will not be legislated before the next Parliamentary term.<sup>2</sup>

As we noted in 2016, in areas where EU mechanisms are working effectively – such as product standards, which reduce emissions and save consumers' money, or targets for waste reduction – the aim should be to replicate them at UK or Welsh level. Some areas, such as leaving the Common Agricultural Policy, present an opportunity to better target public funds towards environmental goals.

*Fig. D15 Impact of Brexit on Wales' climate objectives*

The full scale of adjustments required will likely only be known after the end of the transition period, but a number of structural changes are already underway (Fig. D15<sup>ccclxi</sup>).

#### Market forces

Demand for using recycled materials is greatly influenced where it is cheaper than extracting and using virgin materials. Increased confidence in the quality and specification of recycled products to replace new or virgin materials will increase the market and demand for such materials. Frameworks like quality protocols (UK Government 2015<sup>ccclxii</sup>) and industry standards are a key tool in supporting waste recyclers to demonstrate this.

Many countries are now restricting the types of waste they will receive for recycling and reprocessing. Restrictions and bans on the import and export of waste and resources will mean that, while Wales continues to generate waste and resources, more domestic infrastructure is needed to treat these materials.

#### Technological advancement

Technological and innovative developments will provide new and better solutions for how Wales can deal with waste and resources and decarbonise.

The cost of key low-carbon technologies have continued to fall. For example, the contracted price for electricity generated by offshore wind fell again in the latest auction round by around a third compared to the previous auction two years earlier<sup>ccclxiii</sup>. These cost reductions are driven by scale manufacturing, investor confidence and 'learning-by-doing' during deployment within an effective

low-risk policy framework. These effects can be replicated in other areas of the economy, as markets scale up globally and the costs of low-carbon technologies continue to fall.

DRAFT

## Endnotes

- <sup>i</sup> Natural Resources Wales. 2020. State of Natural Resources Report (SoNaRR): Executive Summary. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693209/sonarr2020-executive-summary.pdf>
- <sup>ii</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- <sup>iii</sup> IPBES, 2019: Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany Accessed here: <https://zenodo.org/record/3553579#.YUse4hmSmUk>
- <sup>iv</sup> Hayhow DB, Eaton MA, Stanbury AJ, Burns F, Kirby WB, Bailey N, Beckmann B, Bedford J, Boersch-Supan PH, Coomber F, Dennis EB, Dolman SJ, Dunn E, Hall J, Harrower C, Hatfield JH, Hawley J, Haysom K, Hughes J, Johns DG, Mathews F, McQuatters-Gollop A, Noble DG, Outhwaite CL, Pearce-Higgins JW, Pescott OL, Powney GD and Symes N (2019) The State of Nature 2019. The State of Nature partnership Accessed here: <https://nbn.org.uk/wp-content/uploads/2019/09/State-of-Nature-2019-UK-full-report.pdf>
- <sup>v</sup> Government Office for Science (GO-Science) Trend Deck, N14 Accessed here: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/994400/GO-Science Trend Deck - Natural Resources section - Spring 2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/994400/GO-Science_Trend_Deck_-_Natural_Resources_section_-_Spring_2021.pdf)
- <sup>vi</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- <sup>vii</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSon\\_3\\_Birds.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSon_3_Birds.pdf) p107
- <sup>viii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Biodiversity. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693305/sonarr2020-theme-biodiversity.pdf>
- <sup>ix</sup> Emmett, B.A. et al. (2019) ERAMMP Report 11: Year 1 Summary. Report to Welsh Government (Contract C210/2016/2017)(CEH NEC06297) Accessed here: <https://erammp.wales/sites/default/files/ERAMMP%20Rpt%2011%20Year-1%20Summary%20v1.1.pdf>
- <sup>x</sup> Government Office for Science (GO-Science) Trend Deck, N12 Accessed here: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/994400/GO-Science Trend Deck - Natural Resources section - Spring 2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/994400/GO-Science_Trend_Deck_-_Natural_Resources_section_-_Spring_2021.pdf)
- <sup>xi</sup> Hayhow DB, Eaton MA, Stanbury AJ, Burns F, Kirby WB, Bailey N, Beckmann B, Bedford J, Boersch-Supan PH, Coomber F, Dennis EB, Dolman SJ, Dunn E, Hall J, Harrower C, Hatfield JH, Hawley J, Haysom K, Hughes J, Johns DG, Mathews F, McQuatters-Gollop A, Noble DG, Outhwaite CL, Pearce-Higgins JW, Pescott OL, Powney GD and Symes N (2019) The State of Nature 2019. The State of Nature partnership Accessed here: <https://nbn.org.uk/wp-content/uploads/2019/09/State-of-Nature-2019-UK-full-report.pdf>
- <sup>xii</sup> IPBES (2019): Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany Accessed here: <https://zenodo.org/record/3553579#.YUse4hmSmUk>
- <sup>xiii</sup> Government Office for Science (GO-Science) Trend Deck, N13 Accessed here: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/994400/GO-Science Trend Deck - Natural Resources section - Spring 2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/994400/GO-Science_Trend_Deck_-_Natural_Resources_section_-_Spring_2021.pdf)
- <sup>xiv</sup> Data can be accessed via the Wales Environment Portal here: <https://smnr-nrw.hub.arcgis.com/apps/3ad6560d23d243c29f4fabd99a42eaa9/explore>

xv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Biodiversity. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693305/sonarr2020-theme-biodiversity.pdf>

xvi Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

xvii Vision for the Sustainable Management of Natural Resources in Gwent as taken from the South East Area Statement <https://naturalresources.wales/about-us/area-statements/south-east-wales-area-statement/ways-of-working/?lang=en>

xviii IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland Accessed here: <https://www.ipcc.ch/sr15/>

xix Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>



xxi Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>

xxii Natural Resources Wales and White Consultants, 2016 Update to LANDMAP Visual and Sensory Statistics Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/684054/landmap-visual-and-sensory-stats-by-area-statement-2017.pdf?mode=pad&rnd=131625598320000000>

xxiii Natural Resources Wales and White Consultants, 2016 Update to LANDMAP Visual and Sensory Statistics, p. 7 Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/684054/landmap-visual-and-sensory-stats-by-area-statement-2017.pdf?mode=pad&rnd=131625598320000000>

xxiv Statistics for Wales & Welsh Government (2019), Agricultural Small Area Statistics (2002-2018), Welsh Government Accessed here: <https://gov.wales/agricultural-small-area-statistics-2002-2018>

xxv Statistics for Wales & Welsh Government (2019), Agricultural Small Area Statistics (2002-2018), Welsh Government Accessed here: <https://gov.wales/agricultural-small-area-statistics-2002-2018>

xxvi Welsh Government, 2019. Agriculture in Wales 2019. Accessed here: <https://gov.wales/agriculture-wales>

xxvii Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>

xxviii LANDMAP is the formally-adopted approach for landscape assessments in Wales, and is advocated by the Welsh Assembly Government. It is an all-Wales Geographic Information System (GIS)-based landscape information resource where characteristics, qualities and influences on the landscape are recorded as five themed spatial layers

xxix Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>

xxx Natural Resources Wales and White Consultants, 2016 Update to LANDMAP Visual and Sensory Statistics Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/684054/landmap-visual-and-sensory-stats-by-area-statement-2017.pdf?mode=pad&rnd=131625598320000000>

xxxi Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>

xxxii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Urban. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693301/sonarr2020-ecosystem-urban.pdf>

- xxxiii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Urban. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693301/sonarr2020-ecosystem-urban.pdf>
- xxxiv Future Generations Commissioner for Wales, 2020. The Future Generations Report 2020: Executive Summaries. Accessed here: <https://www.futuregenerations.wales/wp-content/uploads/2020/07/At-A-Glance-FG-Report.pdf>
- xxxv Natural Resources Wales, 2014 Tree Cover in Wales' Towns and Cities Understanding canopy cover to better plan and manage our urban trees Accessed here: <https://naturalresourceswales.gov.uk/media/3705/tree-cover-in-wales-towns-and-cities-2014-summary.pdf?lang=en>
- xxxvi Natural Resources Wales, 2014 Tree Cover in Wales' Towns and Cities Understanding canopy cover to better plan and manage our urban trees Accessed here: <https://naturalresourceswales.gov.uk/media/3705/tree-cover-in-wales-towns-and-cities-2014-summary.pdf?lang=en>
- xxxvii ADAS, 2019. Assessment of Welsh Soil Issues in Context. Report to Welsh Government Soils Policy Unit. Accessed here: <https://gov.wales/assessment-soil-issues-context>
- xxxviii Natural Resources Wales, 2016. The State of Contaminated Land in Wales. Natural Resources Wales Accessed here: <https://naturalresources.wales/evidenceand-data/research-and-reports/state-of-the-environment-reports/the-state-of-contaminated-land-in-wales/?lang=en>
- xxxix Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>
- xl Data can be accessed via the Wales Environmental Portal here: <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- xli Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales p. 11 Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>
- xlii Emmett, B.A. et al. (2019) ERAMMP Report 11: Year 1 Summary. Report to Welsh Government (Contract C210/2016/2017)(CEH NEC06297) Accessed here: <https://erammp.wales/sites/default/files/ERAMMP%20Rpt%2011%20Year-1%20Summary%20v1.1.pdf>
- xliii Welsh Government, 2018. Brexit & Our Land: Securing the Future of Welsh Farming. Accessed here: [https://gov.wales/sites/default/files/consultations/2018-07/brexit-and-our-land-consultation-document\\_0.pdf](https://gov.wales/sites/default/files/consultations/2018-07/brexit-and-our-land-consultation-document_0.pdf)
- xliv Emmett, B.A. et al. (2019) ERAMMP Report 11: Year 1 Summary. Report to Welsh Government (Contract C210/2016/2017)(CEH NEC06297) Accessed here: <https://erammp.wales/sites/default/files/ERAMMP%20Rpt%2011%20Year-1%20Summary%20v1.1.pdf>
- xlv United Nations, Department of Economic and Social Affairs, Population Division, 2019. World Population Prospects 2019: Accessed here: <https://population.un.org/wpp/>
- xlv Office for National Statistics (ONS), 2019. National population projections: 2018- based. Accessed here: <https://www.ons.gov.uk/releases/nationalpopulationprojections2018based>
- xlv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales p. 49 <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>
- xlv UKCCC. 2020. UK Committee on Climate Change. Land use: Policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-netzero-uk/>
- xlv IPBES, 2019: Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany Accessed here: <https://zenodo.org/record/3553579#.YUse4hmSmUk>
- xlv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>

- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>xlv</sup> Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>
- <sup>xlv</sup> Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>xlv</sup> Air Quality Expert Group. 2020. Estimation of changes in air pollution emissions, concentrations and exposure during the COVID-19-19 outbreak in the UK. Rapid Evidence Review for DEFRA, SG, WG & Dept of Agriculture, Environment & Rural Affairs in Northern Ireland. Available from: [https://uk.air.defra.gov.uk/library/reports.php?report\\_id=1005](https://uk.air.defra.gov.uk/library/reports.php?report_id=1005)
- <sup>xlv</sup> Public Health Wales. 2016a. Estimating the Mortality burden of air pollution in Wales. in National Assembly for Wales. <https://senedd.wales/research%20documents/18-009/18-009-web-english.pdf>
- <sup>xlv</sup> Welsh Government Clean Air Advisory Panel, 2020, Impacts of the COVID-19-19 pandemic on air quality in Wales: March to October 2020 Accessed here: [https://airquality.gov.wales/sites/default/files/documents/2021-01/Clean\\_Air\\_Advisory\\_Panel\\_report-Impacts\\_of\\_the\\_COVID-19-19\\_pandemic\\_on\\_air\\_quality\\_in\\_Wales\\_English.pdf](https://airquality.gov.wales/sites/default/files/documents/2021-01/Clean_Air_Advisory_Panel_report-Impacts_of_the_COVID-19-19_pandemic_on_air_quality_in_Wales_English.pdf)
- <sup>xlv</sup> Wales Centre for Public Policy: Briefing on well-being and the impact of COVID-19-19 and Brexit June 2021 (unpublished)
- <sup>xlv</sup> Natural Resources Wales. 2020. State of Natural Resources Report (SoNaRR): Assessment of the Achievement of SMNR Aim 3: Wales has Healthy Places for People, Protected from Environmental Risks. Natural Resources Wales p. 16 Accessed here: [https://cdn.cyfoethnaturiol.cymru/media/693612/165960736\\_8330461\\_1785381.pdf](https://cdn.cyfoethnaturiol.cymru/media/693612/165960736_8330461_1785381.pdf)
- <sup>xlv</sup> Natural Resources Wales. 2020. State of Natural Resources Report (SoNaRR): Assessment of the Achievement of SMNR Aim 3: Wales has Healthy Places for People, Protected from Environmental Risks. Natural Resources Wales p. 16 Accessed here: [https://cdn.cyfoethnaturiol.cymru/media/693612/165960736\\_8330461\\_1785381.pdf](https://cdn.cyfoethnaturiol.cymru/media/693612/165960736_8330461_1785381.pdf)
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>xlv</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>xlv</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- <sup>xlv</sup> The maps are downloadable from the Welsh Government [Lle Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. A handbook on habitat networks. Practical application for improving connectivity and building ecosystem resilience. NRW Evidence Report No. 275. NRW. Bangor).
- <sup>xlv</sup> Wales Environment Information Portal Accessed here: <https://smnr-nrw.hub.arcgis.com/apps/036c04ccb85948d2abe7312de75ad318/explore>

- xlv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- xlv South East Area Statement Landscape profiles unpublished, available from NRW on request.
- xlv Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- xlv The maps are downloadable from the Welsh Government [Lle Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. A handbook on habitat networks. Practical application for improving connectivity and building ecosystem resilience. NRW Evidence Report No. 275. NRW. Bangor).
- xlv South East Area Statement Landscape profiles unpublished, available from NRW on request.
- xlv Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>
- xlv Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- xlv Data on INNS can be accessed via the Wales Environment Portal here: <https://smnr-nrw.hub.arcgis.com/apps/3ad6560d23d243c29f4fabd99a42eaa9/explore>
- xlv South East Area Statement Landscape profiles unpublished, available from NRW on request.
- xlv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- xlv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- xlv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- xlv [CCRA-Evidence-Report-Wales-Summary-Final.pdf \(ukclimaterisk.org\)](#)
- xlv Forest Research. 2019c. Public opinion of forestry 2019. Wales. Accessed here: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/public-opinion-of-forestry/>
- xlv Woodland Trust. 2017. A Space for people - Targeting action for woodland access. Accessed here: <https://www.woodlandtrust.org.uk/publications/2017/06/space-for-people-woodland-access>
- xlv Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- xlv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- xlv Data can be accessed via the Wales Environment Portal: <https://app.powerbi.com/view?r=eyJrIjojZmUyYzI1YTItZThkNy00MDJjLWVhZmEtYmY4NDZmOTFhZmU4IiwidCI6Ijg4NjVlZjBmLWFiZGUtNDg3Yy1iZjE3LTUyYjUwMzc1ZDc1NyIsImMiOiJh9&pageName=ReportSection1fb964ee4646f4cbcb4e>
- xlv South East Area Statement Landscape profiles unpublished, available from NRW on request.
- xlv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- xlv Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- xlv The maps are downloadable from the Welsh Government [Lle Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. *A handbook on habitat networks*).

---

*Practical application for improving connectivity and building ecosystem resilience.* NRW Evidence Report No. 275. NRW. Bangor).

<sup>xlv</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>

<sup>xlv</sup> Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>

<sup>xlv</sup> Government Office for Science (GO-Science) Trend Deck, N14 Accessed here: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/994400/GO-Science Trend Deck - Natural Resources section - Spring 2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/994400/GO-Science_Trend_Deck_-_Natural_Resources_section_-_Spring_2021.pdf)

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>

<sup>xlv</sup> Stevens CJ, Dise NB, Mountford JO, Gowing DJ. 2004. Impact of nitrogen deposition on the species richness of grasslands. *Science* 303, 1876-1879., Stevens CJ, Duprè C, Dorland E, Gaunik C, Gowing DJG, Bleeker A, Diiekman M, Alard D, Bobbink R, Fowler D, Corcket E, Mountford JO, Vandvik V, Aarrestad PA, Muller S, Dise NB. 2010b. Nitrogen deposition threatens species richness of grasslands across Europe. *Environmental Pollution* 158, 2940-2945., Van den Berg LJJ, Vergeer P, Rich TCG, Smart SM, Guest D, Ashmore MR. 2011. Direct and indirect effects of nitrogen deposition on species composition change in calcareous grassland. *Global Change Biology* 17, 1871-1883

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>

<sup>xlv</sup> Data on INNS can be accessed via the Wales Environment Portal here: <https://smnr-nrw.hub.arcgis.com/apps/3ad6560d23d243c29f4fabd99a42eaa9/explore>

<sup>xlv</sup> Stroh PA, Walker KJ, Smith SLN, Jefferson RG, Pinches C, Blackstock TH. 2019. Grassland plants of the British and Irish lowlands: ecology, threats and management. Botanical Society of Britain and Ireland, Hertfordshire.

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>

<sup>xlv</sup> Welsh Government. 2017b. The Environmental Impact Assessment (Agriculture) (Wales) Regulations 2017.

<sup>xlv</sup> UKCCC. 2020. UK Committee on Climate Change. Land use: Policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-netzero-uk/>

<sup>xlv</sup> UKCCC. 2020. UK Committee on Climate Change. Land use: Policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-netzero-uk/>

<sup>xlv</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Mountains, moorlands and heaths. Natural

---

Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693306/sonarr2020-ecosystem-mountains-moorlands-and-heaths.pdf>

<sup>xlv</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>

<sup>xlv</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)

<sup>xlv</sup> The maps are downloadable from the Welsh Government [Lle Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. A handbook on habitat networks. Practical application for improving connectivity and building ecosystem resilience. NRW Evidence Report No. 275. NRW. Bangor).

<sup>xlv</sup> Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>

<sup>xlv</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Mountains, moorlands and heaths. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693306/sonarr2020-ecosystem-mountains-moorlands-and-heaths.pdf>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Mountains, moorlands and heaths. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693306/sonarr2020-ecosystem-mountains-moorlands-and-heaths.pdf>

<sup>xlv</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

<sup>xlv</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales. <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales. <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>

<sup>xlv</sup> Natural Resources Wales (2020) A Plan of Action for Salmon and Sea Trout in Wales – Tackling the Salmonid Emergency. Natural Resources Wales, Bangor Accessed here: <https://naturalresources.wales/about-us/strategies-and-plans/salmon-and-sea-trout-plan-of-action-2020/salmon-and-sea-trout-plan-of-action-for-wales-2020-overview/?lang=en>

<sup>xlv</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)

<sup>xlv</sup> Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>

<sup>xlv</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)

<sup>xlv</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)

[gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)

<sup>xlv</sup> Data can be accessed via the Wales Environmental Portal <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>

<sup>xlv</sup> Hatton-Ellis TW, Jones TG. 2021. Compliance Assessment of Welsh River SACs against Phosphorus Targets. NRW Evidence Report No: 489, 96pp, Natural Resources Wales, Bangor Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693025/compliance-assessment-of-welsh-sacs-against-phosphorus-targets-final-v10.pdf?mode=pad&rnd=132557227300000000>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Invasive Non-native Species. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693300/sonarr2020-theme-invasive-non-native-species.pdf>

<sup>xlv</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>

<sup>xlv</sup> Hatton-Ellis TW, Jones TG. 2021. Compliance Assessment of Welsh River SACs against Phosphorus Targets. NRW Evidence Report No: 489, 96pp, Natural Resources Wales, Bangor Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693025/compliance-assessment-of-welsh-sacs-against-phosphorus-targets-final-v10.pdf?mode=pad&rnd=132557227300000000>

<sup>xlv</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>

<sup>xlv</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

<sup>xlv</sup> Data can be accessed via the Wales Environment Portal <https://app.powerbi.com/view?r=eyJrIjoiaWUyYzI1YTItZThkNy00MDJlLWEyZmEtYmY4NDFmOTE3YzU4IiwidCI6Ilg4NjVlZjBmLWFjZGUtNDg3Yy1iZjE3LTUyYUwMzc1ZDc1NyIsImMiOiJh9&pageName=ReportSection1fb964ee4646f4cbcb4e>

<sup>xlv</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>

<sup>xlv</sup> NRW, 2018. Severn Estuary / Môr Hafren Special Area of Conservation: Indicative site level feature condition assessments 2018. NRW Evidence Report Series, Report No: 235, 41pp, NRW, Bangor Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/684391/severn-sac-ica-2018.pdf>

<sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>

<sup>xlv</sup> ASC. 2016. UK Climate Change Risk Assessment 2017 Evidence Report – Summary for Wales. London: Adaptation Sub-Committee of the Committee on Climate Change.

<sup>xlv</sup> Ibrahim J. 2020. Public Service Boards in Wales: A review of marine and coastal priorities to improve wellbeing. NRW Evidence Report No. 433

<sup>xlv</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)

<sup>xlv</sup> The term ‘indicative condition assessment’ describes the use of readily available evidence and expert judgement in an intensive, collective workshop process to provide an indication of feature condition at the site level

<sup>xlv</sup> [Use of UK Climate Projections 2018 \(UKCP18\) - Revision 1, November 2020 \(onr.org.uk\)](https://onr.org.uk)

<sup>xlv</sup> Rowe EC, Mitchell Z, Tomlinson S, Levy P, Banin L F, Sawicka K, Martín Hernandez C, Dore A. 2020. Trends Report 2020: Trends in critical load and critical level exceedances in the UK. Report to Defra under Contract AQ0843, CEH Project NEC05708.

- 
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Marine. Natural Resources Wales., <https://cdn.cyfoethnaturiol.cymru/media/693277/sonarr2020-ecosystem-marine.pdf>
- <sup>xlv</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Invasive Non-native Species. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693300/sonarr2020-theme-invasive-non-native-species.pdf>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlv</sup> Environmental Audit Committee. 2016. Environmental impact of microplastics, HC 179, 2016-17.
- <sup>xlv</sup> Findings from the third UK Climate Change Risk Assessment (CCRA3) Evidence Report 2021 <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA3-Briefing-Marine.pdf>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlv</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xlv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlv</sup> Chmura GL, Anisfeld SC, Cahoon DR, Lynch JC. 2003. Global carbon sequestration in tidal, saline wetland soils Global Biogeochemical Cycles 17 (4).
- <sup>xlv</sup> Ford H, Garbutt A, Duggan-Edwards M, Pagés JF, Harvey R, Ladd C, Skov MW. 2019. Large-scale predictions of salt-marsh carbon stock based on simple observations of plant community and soil type. Biogeosciences 16 (2), 425–436.
- <sup>xlv</sup> Armstrong S, Hull S, Pearson Z, Wilson R, Kay S. 2020. Estimating the Carbon Sink Potential of the Welsh Marine Environment. NRW Evidence Report No. 428, Cardiff.
- <sup>xlv</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xlv</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xlvi</sup> Office for National Statistics (ONS), 2019. National population projections: 2018- based. Accessed here: <https://www.ons.gov.uk/releases/nationalpopulationprojections2018based>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales p. 49 <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>
- <sup>xlvi</sup> UKCCC. 2020. UK Committee on Climate Change. Land use: Policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-netzero-uk/>
- <sup>xlvi</sup> IPBES, 2019: Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D.

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Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany Accessed here: <https://zenodo.org/record/3553579#.YUSe4hmSmUk>

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>

<sup>xlvi</sup> Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>

<sup>xlvi</sup> Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>

<sup>xlvi</sup> Air Quality Expert Group. 2020. Estimation of changes in air pollution emissions, concentrations and exposure during the COVID-19 outbreak in the UK. Rapid Evidence Review for DEFRA, SG, WG & Dept of Agriculture, Environment & Rural Affairs in Northern Ireland. Available from: [https://uk.air.defra.gov.uk/library/reports.php?report\\_id=1005](https://uk.air.defra.gov.uk/library/reports.php?report_id=1005)

<sup>xlvi</sup> Public Health Wales. 2016a. Estimating the Mortality burden of air pollution in Wales. in National Assembly for Wales. <https://senedd.wales/research%20documents/18-009/18-009-web-english.pdf>

<sup>xlvi</sup> Welsh Government Clean Air Advisory Panel, 2020, Impacts of the COVID-19-19 pandemic on air quality in Wales: March to October 2020 Accessed here: [https://airquality.gov.wales/sites/default/files/documents/2021-01/Clean\\_Air\\_Advisory\\_Panel\\_report-Impacts\\_of\\_the\\_COVID-19-19\\_pandemic\\_on\\_air\\_quality\\_in\\_Wales\\_English.pdf](https://airquality.gov.wales/sites/default/files/documents/2021-01/Clean_Air_Advisory_Panel_report-Impacts_of_the_COVID-19-19_pandemic_on_air_quality_in_Wales_English.pdf)

<sup>xlvi</sup> Wales Centre for Public Policy: Briefing on well-being and the impact of COVID-19-19 and Brexit June 2021 (unpublished)

<sup>xlvi</sup> Natural Resources Wales. 2020. State of Natural Resources Report (SoNaRR): Assessment of the Achievement of SMNR Aim 3: Wales has Healthy Places for People, Protected from Environmental Risks. Natural Resources Wales p. 16 Accessed here: [https://cdn.cyfoethnaturiol.cymru/media/693612/165960736\\_8330461\\_1785381.pdf](https://cdn.cyfoethnaturiol.cymru/media/693612/165960736_8330461_1785381.pdf)

<sup>xlvi</sup> Natural Resources Wales. 2020. State of Natural Resources Report (SoNaRR): Assessment of the Achievement of SMNR Aim 3: Wales has Healthy Places for People, Protected from Environmental Risks. Natural Resources Wales p. 16 Accessed here: [https://cdn.cyfoethnaturiol.cymru/media/693612/165960736\\_8330461\\_1785381.pdf](https://cdn.cyfoethnaturiol.cymru/media/693612/165960736_8330461_1785381.pdf)

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>

<sup>xlvi</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>

<sup>xlvi</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>

- <sup>xlvi</sup> The maps are downloadable from the Welsh Government [Lle Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. A handbook on habitat networks. Practical application for improving connectivity and building ecosystem resilience. NRW Evidence Report No. 275. NRW. Bangor).
- <sup>xlvi</sup> Wales Environment Information Portal Accessed here: <https://smnr-nrw.hub.arcgis.com/apps/036c04ccb85948d2abe7312de75ad318/explore>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>xlvi</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.
- <sup>xlvi</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- <sup>xlvi</sup> The maps are downloadable from the Welsh Government [Lle Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. A handbook on habitat networks. Practical application for improving connectivity and building ecosystem resilience. NRW Evidence Report No. 275. NRW. Bangor).
- <sup>xlvi</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.
- <sup>xlvi</sup> Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>
- <sup>xlvi</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- <sup>xlvi</sup> Data on INNS can be accessed via the Wales Environment Portal here: <https://smnr-nrw.hub.arcgis.com/apps/3ad6560d23d243c29f4fabd99a42eaa9/explore>
- <sup>xlvi</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>xlvi</sup> [CCRA-Evidence-Report-Wales-Summary-Final.pdf \(ukclimaterisk.org\)](#)
- <sup>xlvi</sup> Forest Research. 2019c. Public opinion of forestry 2019. Wales. Accessed here: <https://www.forestresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/public-opinion-of-forestry/>
- <sup>xlvi</sup> Woodland Trust. 2017. A Space for people - Targeting action for woodland access. Accessed here: <https://www.woodlandtrust.org.uk/publications/2017/06/space-for-people-woodland-access>
- <sup>xlvi</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>xlvi</sup> Data can be accessed via the Wales Environment Portal: <https://app.powerbi.com/view?r=eyJrIjoiZmUyYzI1YTItZThkNy00MDJjLWVhZmEtYmY4NDFmOTE3YzU4IiwidCI6Ijg4NjVlZjBmLWFiZGUtNDg3Yy1iZjE3LTVjYjUwMzc1ZDc1NyIsImMiOiJh9&pageName=ReportSection1fb964ee4646f4cbcb4e>
- <sup>xlvi</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>

- <sup>xlvi</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- <sup>xlvi</sup> The maps are downloadable from the Welsh Government [Lle Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. A handbook on habitat networks. Practical application for improving connectivity and building ecosystem resilience. NRW Evidence Report No. 275. NRW. Bangor).
- <sup>xlvi</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>xlvi</sup> Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>
- <sup>xlvi</sup> Government Office for Science (GO-Science) Trend Deck, N14 Accessed here: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/994400/GO-Science Trend Deck - Natural Resources section - Spring 2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/994400/GO-Science_Trend_Deck_-_Natural_Resources_section_-_Spring_2021.pdf)
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>xlvi</sup> Stevens CJ, Dise NB, Mountford JO, Gowing DJ. 2004. Impact of nitrogen deposition on the species richness of grasslands. *Science* 303, 1876-1879., Stevens CJ, Duprè C, Dorland E, Gaunik C, Gowing DJG, Bleeker A, Diiekman M, Alard D, Bobbink R, Fowler D, Corcket E, Mountford JO, Vandvik V, Aarrestad PA, Muller S, Dise NB. 2010b. Nitrogen deposition threatens species richness of grasslands across Europe. *Environmental Pollution* 158, 2940-2945., Van den Berg LJJ, Vergeer P, Rich TCG, Smart SM, Guest D, Ashmore MR. 2011. Direct and indirect effects of nitrogen deposition on species composition change in calcareous grassland. *Global Change Biology* 17, 1871-1883
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>xlvi</sup> Data on INNS can be accessed via the Wales Environment Portal here: <https://smnr-nrw.hub.arcgis.com/apps/3ad6560d23d243c29f4fabd99a42eaa9/explore>
- <sup>xlvi</sup> Stroh PA, Walker KJ, Smith SLN, Jefferson RG, Pinches C, Blackstock TH. 2019. Grassland plants of the British and Irish lowlands: ecology, threats and management. Botanical Society of Britain and Ireland, Hertfordshire.
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>xlvi</sup> Welsh Government. 2017b. The Environmental Impact Assessment (Agriculture) (Wales) Regulations 2017.
- <sup>xlvi</sup> UKCCC. 2020. UK Committee on Climate Change. Land use: Policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-netzero-uk/>
- <sup>xlvi</sup> UKCCC. 2020. UK Committee on Climate Change. Land use: Policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-netzero-uk/>

- 
- <sup>xlvii</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xlviii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Mountains, moorlands and heaths. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693306/sonarr2020-ecosystem-mountains-moorlands-and-heaths.pdf>
- <sup>xlvix</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- <sup>xlvi</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)
- <sup>xlvi</sup> The maps are downloadable from the Welsh Government [Lle Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. A handbook on habitat networks. Practical application for improving connectivity and building ecosystem resilience. NRW Evidence Report No. 275. NRW. Bangor).
- <sup>xlvi</sup> Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>
- <sup>xlvi</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Mountains, moorlands and heaths. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693306/sonarr2020-ecosystem-mountains-moorlands-and-heaths.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Mountains, moorlands and heaths. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693306/sonarr2020-ecosystem-mountains-moorlands-and-heaths.pdf>
- <sup>xlvi</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xlvi</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales. <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales. <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>
- <sup>xlvi</sup> Natural Resources Wales (2020) *A Plan of Action for Salmon and Sea Trout in Wales – Tackling the Salmonid Emergency*. Natural Resources Wales, Bangor Accessed here: <https://naturalresources.wales/about-us/strategies-and-plans/salmon-and-sea-trout-plan-of-action-2020/salmon-and-sea-trout-plan-of-action-for-wales-2020-overview/?lang=en>
- <sup>xlvi</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)
- <sup>xlvi</sup> Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>
- <sup>xlvi</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)

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[gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)

<sup>xlvi</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)

<sup>xlvi</sup> Data can be accessed via the Wales Environmental Portal <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>

<sup>xlvi</sup> Hatton-Ellis TW, Jones TG. 2021. Compliance Assessment of Welsh River SACs against Phosphorus Targets. NRW Evidence Report No: 489, 96pp, Natural Resources Wales, Bangor Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693025/compliance-assessment-of-welsh-sacs-against-phosphorus-targets-final-v10.pdf?mode=pad&rnd=132557227300000000>

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Invasive Non-native Species. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693300/sonarr2020-theme-invasive-non-native-species.pdf>

<sup>xlvi</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>

<sup>xlvi</sup> Hatton-Ellis TW, Jones TG. 2021. Compliance Assessment of Welsh River SACs against Phosphorus Targets. NRW Evidence Report No: 489, 96pp, Natural Resources Wales, Bangor Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693025/compliance-assessment-of-welsh-sacs-against-phosphorus-targets-final-v10.pdf?mode=pad&rnd=132557227300000000>

<sup>xlvi</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>

<sup>xlvi</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

<sup>xlvi</sup> Data can be accessed via the Wales Environment Portal <https://app.powerbi.com/view?r=eyJrljoiZmUyYzI1YTItZThkNy00MDJlWEYzMmEtYmY4NDFmOTE3YzU4IiwidCI6Ijg4NjVlZjBmLWFiZGUtNDg3Yy1iZjE3LTVjYjUwMzc1ZDc1NyIsImMiOiJh9&pageName=ReportSection1fb964ee4646f4cbcb4e>

<sup>xlvi</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>

<sup>xlvi</sup> NRW, 2018. Severn Estuary / Môr Hafren Special Area of Conservation: Indicative site level feature condition assessments 2018. NRW Evidence Report Series, Report No: 235, 41pp, NRW, Bangor Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/684391/severn-sac-ica-2018.pdf>

<sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>

<sup>xlvi</sup> ASC. 2016. UK Climate Change Risk Assessment 2017 Evidence Report – Summary for Wales. London: Adaptation Sub-Committee of the Committee on Climate Change.

<sup>xlvi</sup> Ibrahim J. 2020. Public Service Boards in Wales: A review of marine and coastal priorities to improve wellbeing. NRW Evidence Report No. 433

<sup>xlvi</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)

<sup>xlvi</sup> The term ‘indicative condition assessment’ describes the use of readily available evidence and expert judgement in an intensive, collective workshop process to provide an indication of feature condition at the site level

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- <sup>xlvi</sup> [Use of UK Climate Projections 2018 \(UKCP18\) - Revision 1, November 2020 \(onr.org.uk\)](#)
- <sup>xlvi</sup> Rowe EC, Mitchell Z, Tomlinson S, Levy P, Banin L F, Sawicka K, Martín Hernandez C, Dore A. 2020. Trends Report 2020: Trends in critical load and critical level exceedances in the UK. Report to Defra under Contract AQ0843, CEH Project NEC05708.
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Marine. Natural Resources Wales., <https://cdn.cyfoethnaturiol.cymru/media/693277/sonarr2020-ecosystem-marine.pdf>
- <sup>xlvi</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Invasive Non-native Species. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693300/sonarr2020-theme-invasive-non-native-species.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlvi</sup> Environmental Audit Committee. 2016. Environmental impact of microplastics, HC 179, 2016-17.
- <sup>xlvi</sup> Findings from the third UK Climate Change Risk Assessment (CCRA3) Evidence Report 2021 <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA3-Briefing-Marine.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlvi</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xlvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- <sup>xlvi</sup> Chmura GL, Anisfeld SC, Cahoon DR, Lynch JC. 2003. Global carbon sequestration in tidal, saline wetland soils Global Biogeochemical Cycles 17 (4).
- <sup>xlvi</sup> Ford H, Garbutt A, Duggan-Edwards M, Pagés JF, Harvey R, Ladd C, Skov MW. 2019. Large-scale predictions of salt-marsh carbon stock based on simple observations of plant community and soil type. Biogeosciences 16 (2), 425–436.
- <sup>xlvi</sup> Armstrong S, Hull S, Pearson Z, Wilson R, Kay S. 2020. Estimating the Carbon Sink Potential of the Welsh Marine Environment. NRW Evidence Report No. 428, Cardiff.
- <sup>xlvi</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xlvi</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xlvii</sup> Office for National Statistics (ONS), 2019. National population projections: 2018- based. Accessed here: <https://www.ons.gov.uk/releases/nationalpopulationprojections2018based>
- <sup>xlviii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales p. 49 <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>
- <sup>xlix</sup> UKCCC. 2020. UK Committee on Climate Change. Land use: Policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-netzero-uk/>

- 
- <sup>i</sup> IPBES, 2019: Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany Accessed here: <https://zenodo.org/record/3553579#.YUSe4hmSmUk>
- <sup>ii</sup> Natural Resources Wales. 2016. State of Natural Resources Report (SoNaRR): Assessment of the Sustainable Management of Natural Resources. Technical Report. Natural Resources Wales p. 6 Accessed here: <https://naturalresources.wales/media/682045/chapter-5-wellbeing-final-for-publication.pdf>
- <sup>iii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>liii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>liv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>lv</sup> Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>
- <sup>lvi</sup> Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>
- <sup>lvii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>lviii</sup> Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>
- <sup>lix</sup> Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>
- <sup>lx</sup> Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>
- <sup>lxi</sup> Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>
- <sup>lxii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>lxiii</sup> Air Quality Expert Group. 2020. Estimation of changes in air pollution emissions, concentrations and exposure during the COVID-19 outbreak in the UK. Rapid Evidence Review for DEFRA, SG, WG & Dept of Agriculture, Environment & Rural Affairs in Northern Ireland. Available from: [https://uk.air.defra.gov.uk/library/reports.php?report\\_id=1005](https://uk.air.defra.gov.uk/library/reports.php?report_id=1005)
- <sup>lxiv</sup> Public Health Wales. 2016a. Estimating the Mortality burden of air pollution in Wales. in National Assembly for Wales. <https://senedd.wales/research%20documents/18-009/18-009-web-english.pdf>
- <sup>lxv</sup> Welsh Government Clean Air Advisory Panel, 2020, Impacts of the COVID-19 pandemic on air quality in Wales: March to October 2020 Accessed here: [https://airquality.gov.wales/sites/default/files/documents/2021-01/Clean\\_Air\\_Advisory\\_Panel\\_report-Impacts\\_of\\_the\\_COVID-19\\_pandemic\\_on\\_air\\_quality\\_in\\_Wales\\_English.pdf](https://airquality.gov.wales/sites/default/files/documents/2021-01/Clean_Air_Advisory_Panel_report-Impacts_of_the_COVID-19_pandemic_on_air_quality_in_Wales_English.pdf)
- <sup>lxvi</sup> Wales Centre for Public Policy: Briefing on well-being and the impact of COVID-19 and Brexit June 2021 (unpublished)
- <sup>lxvii</sup> Natural Resources Wales. 2020. State of Natural Resources Report (SoNaRR): Assessment of the Achievement of SMNR Aim 3: Wales has Healthy Places for People, Protected from Environmental Risks. Natural Resources Wales p. 16 Accessed here: [https://cdn.cyfoethnaturiol.cymru/media/693612/165960736\\_8330461\\_1785381.pdf](https://cdn.cyfoethnaturiol.cymru/media/693612/165960736_8330461_1785381.pdf)
- <sup>lxviii</sup> Natural Resources Wales. 2020. State of Natural Resources Report (SoNaRR): Assessment of the Achievement of SMNR Aim 3: Wales has Healthy Places for People, Protected from Environmental Risks. Natural Resources Wales p. 16 Accessed here: [https://cdn.cyfoethnaturiol.cymru/media/693612/165960736\\_8330461\\_1785381.pdf](https://cdn.cyfoethnaturiol.cymru/media/693612/165960736_8330461_1785381.pdf)

- <sup>lxix</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>lxx</sup> Public Health England, 2018, Heath Matters: Air Quality  
<https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution>
- <sup>lxxi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Air Quality. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693285/sonarr2020-theme-air-quality.pdf>
- <sup>lxxii</sup> Public Health England, 2018, Heath Matters: Air Quality  
<https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution>
- <sup>lxxiii</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021)  
<https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>lxxiv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>lxxv</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- <sup>lxxvi</sup> The maps are downloadable from the Welsh Government [Lle Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. A handbook on habitat networks. Practical application for improving connectivity and building ecosystem resilience. NRW Evidence Report No. 275. NRW. Bangor).
- <sup>lxxvii</sup> Wales Environment Information Portal Accessed here: <https://smnr-nrw.hub.arcgis.com/apps/036c04ccb85948d2abe7312de75ad318/explore>
- <sup>lxxviii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>lxxix</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.
- <sup>lxxx</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- <sup>lxxxi</sup> The maps are downloadable from the Welsh Government [Lle Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. A handbook on habitat networks. Practical application for improving connectivity and building ecosystem resilience. NRW Evidence Report No. 275. NRW. Bangor).
- <sup>lxxxii</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.
- <sup>lxxxiii</sup> Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>
- <sup>lxxxiv</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- <sup>lxxxv</sup> Data on INNS can be accessed via the Wales Environment Portal here: <https://smnr-nrw.hub.arcgis.com/apps/3ad6560d23d243c29f4fabd99a42eaa9/explore>
- <sup>lxxxvi</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.
- <sup>lxxxvii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>lxxxviii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>lxxxix</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>xc</sup> [CCRA-Evidence-Report-Wales-Summary-Final.pdf \(ukclimaterisk.org\)](#)
- <sup>xci</sup> Forest Research. 2019c. Public opinion of forestry 2019. Wales. Accessed here: <https://www.forestryresearch.gov.uk/tools-and-resources/statistics/statistics-by-topic/public-opinion-of-forestry/>

- <sup>xcii</sup> Woodland Trust. 2017. A Space for people - Targeting action for woodland access. Accessed here: <https://www.woodlandtrust.org.uk/publications/2017/06/space-for-people-woodland-access>
- <sup>xciii</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>xciv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>xcv</sup> Data can be accessed via the Wales Environment Portal: <https://app.powerbi.com/view?r=eyJrIjojZmUyYzI1YTItZThkNy00MDJlWEYzMmEtYmY4NDFmOTE3YzU4IiwidCI6Ilg4NjVlZjBmLWFiZGUtNDg3Yy1iZjE3LTUyYjUwMzc1ZDc1NyIsImMiOiJh9&pageName=ReportSection1fb964ee4646f4cbcb4e>
- <sup>xcvi</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.
- <sup>xcvii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>xcviii</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- <sup>xcix</sup> The maps are downloadable from the Welsh Government [Le Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. A handbook on habitat networks. Practical application for improving connectivity and building ecosystem resilience. NRW Evidence Report No. 275. NRW. Bangor).
- <sup>c</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.
- <sup>ci</sup> South East Area Statement Landscape profiles unpublished, available from NRW on request.
- <sup>cii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>ciii</sup> Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>
- <sup>civ</sup> Government Office for Science (GO-Science) Trend Deck, N14 Accessed here: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/994400/GO-Science\\_Trend\\_Deck\\_-\\_Natural\\_Resources\\_section\\_-\\_Spring\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/994400/GO-Science_Trend_Deck_-_Natural_Resources_section_-_Spring_2021.pdf)
- <sup>cv</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>cvi</sup> Stevens CJ, Dise NB, Mountford JO, Gowing DJ. 2004. Impact of nitrogen deposition on the species richness of grasslands. Science 303, 1876-1879., Stevens CJ, Duprè C, Dorland E, Gaunik C, Gowing DJG, Bleeker A, Diiekmann M, Alard D, Bobbink R, Fowler D, Corcket E, Mountford JO, Vandvik V, Aarrestad PA, Muller S, Dise NB. 2010b. Nitrogen deposition threatens species richness of grasslands across Europe. Environmental Pollution 158, 2940-2945., Van den Berg LJJ, Vergeer P, Rich TCG, Smart SM, Guest D, Ashmore MR. 2011. Direct and indirect effects of nitrogen deposition on species composition change in calcareous grassland. Global Change Biology 17, 1871-1883
- <sup>cvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>cvi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>
- <sup>cix</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources

Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>

<sup>cx</sup> Data on INNS can be accessed via the Wales Environment Portal here: <https://smnr-nrw.hub.arcgis.com/apps/3ad6560d23d243c29f4fabd99a42eaa9/explore>

<sup>cx<sup>i</sup></sup> Stroh PA, Walker KJ, Smith SLN, Jefferson RG, Pinches C, Blackstock TH. 2019. Grassland plants of the British and Irish lowlands: ecology, threats and management. Botanical Society of Britain and Ireland, Hertfordshire.

<sup>cx<sup>ii</sup></sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>

<sup>cx<sup>iii</sup></sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Semi-natural Grasslands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693298/sonarr2020-ecosystem-semi-natural-grasslands.pdf>

<sup>cx<sup>iv</sup></sup> Welsh Government. 2017b. The Environmental Impact Assessment (Agriculture) (Wales) Regulations 2017.

<sup>cx<sup>v</sup></sup> UKCCC. 2020. UK Committee on Climate Change. Land use: Policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-netzero-uk/>

<sup>cx<sup>vi</sup></sup> UKCCC. 2020. UK Committee on Climate Change. Land use: Policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-netzero-uk/>

<sup>cx<sup>vii</sup></sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

<sup>cx<sup>viii</sup></sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Mountains, moorlands and heaths. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693306/sonarr2020-ecosystem-mountains-moorlands-and-heaths.pdf>

<sup>cx<sup>ix</sup></sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>

<sup>cx<sup>x</sup></sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Ecosystems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Ecosystems_Data.pdf)

<sup>cx<sup>xi</sup></sup> The maps are downloadable from the Welsh Government [Le Data Portal](#) NRW has produced a handbook on the use of the Habitat Network Maps (Latham J and Rothwell J. 2019. A handbook on habitat networks. Practical application for improving connectivity and building ecosystem resilience. NRW Evidence Report No. 275. NRW. Bangor).

<sup>cx<sup>xii</sup></sup> South East Area Statement unpublished, available from NRW on request.

<sup>cx<sup>xiii</sup></sup> Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>

<sup>cx<sup>xiv</sup></sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership. Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>

<sup>cx<sup>xv</sup></sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Mountains, moorlands and heaths. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693306/sonarr2020-ecosystem-mountains-moorlands-and-heaths.pdf>

<sup>cx<sup>xvi</sup></sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Mountains, moorlands and heaths. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693306/sonarr2020-ecosystem-mountains-moorlands-and-heaths.pdf>

<sup>cx<sup>xvii</sup></sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

<sup>cx<sup>xviii</sup></sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>

- 
- <sup>cxix</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales. <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>
- <sup>cxx</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>
- <sup>cxixi</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales. <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>
- <sup>cxixii</sup> Natural Resources Wales (2020) A Plan of Action for Salmon and Sea Trout in Wales – Tackling the Salmonid Emergency. Natural Resources Wales, Bangor Accessed here: <https://naturalresources.wales/about-us/strategies-and-plans/salmon-and-sea-trout-plan-of-action-2020/salmon-and-sea-trout-plan-of-action-for-wales-2020-overview/?lang=en>
- <sup>cxixiii</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)
- <sup>cxixiv</sup> Baseline data can be accessed via the NRW website here: <https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en>
- <sup>cxixv</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)
- <sup>cxixvi</sup> Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSoN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSoN_1_Introduction_Eco_systems_Data.pdf)
- <sup>cxixvii</sup> Data can be accessed via the Wales Environmental Portal <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- <sup>cxixviii</sup> Hatton-Ellis TW, Jones TG. 2021. Compliance Assessment of Welsh River SACs against Phosphorus Targets. NRW Evidence Report No: 489, 96pp, Natural Resources Wales, Bangor Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693025/compliance-assessment-of-welsh-sacs-against-phosphorus-targets-final-v10.pdf?mode=pad&rnd=132557227300000000>
- <sup>cxixix</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Invasive Non-native Species. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693300/sonarr2020-theme-invasive-non-native-species.pdf>
- <sup>cxl</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- <sup>cxli</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>
- <sup>cxlii</sup> Hatton-Ellis TW, Jones TG. 2021. Compliance Assessment of Welsh River SACs against Phosphorus Targets. NRW Evidence Report No: 489, 96pp, Natural Resources Wales, Bangor Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693025/compliance-assessment-of-welsh-sacs-against-phosphorus-targets-final-v10.pdf?mode=pad&rnd=132557227300000000>
- <sup>cxliii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Freshwater. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693312/sonarr2020-ecosystem-freshwater.pdf>
- <sup>cxliv</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>cxlv</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- <sup>cxlvi</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>

- cxlvii NRW, 2018. Severn Estuary / Môr Hafren Special Area of Conservation: Indicative site level feature condition assessments 2018. NRW Evidence Report Series, Report No: 235, 41pp, NRW, Bangor Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/684391/severn-sac-ica-2018.pdf>
- cxlviii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- cxlix ASC. 2016. UK Climate Change Risk Assessment 2017 Evidence Report – Summary for Wales. London: Adaptation Sub-Committee of the Committee on Climate Change.
- cl Ibrahim J. 2020. Public Service Boards in Wales: A review of marine and coastal priorities to improve wellbeing. NRW Evidence Report No. 433
- cli Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature\\_Report\\_files/GGSonN\\_1\\_Introduction\\_Eco\\_systems\\_Data.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Resident/Countryside/Nature_Report_files/GGSonN_1_Introduction_Eco_systems_Data.pdf)
- clii The term ‘indicative condition assessment’ describes the use of readily available evidence and expert judgement in an intensive, collective workshop process to provide an indication of feature condition at the site level
- cliii [Use of UK Climate Projections 2018 \(UKCP18\) - Revision 1, November 2020 \(onr.org.uk\)](https://www.onr.org.uk)
- cliv Rowe EC, Mitchell Z, Tomlinson S, Levy P, Banin L F, Sawicka K, Martín Hernandez C, Dore A. 2020. Trends Report 2020: Trends in critical load and critical level exceedances in the UK. Report to Defra under Contract AQ0843, CEH Project NEC05708.
- clv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- clvi Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- clvii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Marine. Natural Resources Wales., <https://cdn.cyfoethnaturiol.cymru/media/693277/sonarr2020-ecosystem-marine.pdf>
- clviii Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- clix Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Invasive Non-native Species. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693300/sonarr2020-theme-invasive-non-native-species.pdf>
- clx Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- clxi Environmental Audit Committee. 2016. Environmental impact of microplastics, HC 179, 2016-17.
- clxii Findings from the third UK Climate Change Risk Assessment (CCRA3) Evidence Report 2021 <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA3-Briefing-Marine.pdf>
- clxiii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- clxiv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- clxv Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- clxvi Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Coastal Margins. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693314/sonarr2020-ecosystem-coastal-margins.pdf>
- clxvii Chmura GL, Anisfeld SC, Cahoon DR, Lynch JC. 2003. Global carbon sequestration in tidal, saline wetland soils Global Biogeochemical Cycles 17 (4).

- clxviii Ford H, Garbutt A, Duggan-Edwards M, Pagés JF, Harvey R, Ladd C, Skov MW. 2019. Large-scale predictions of salt-marsh carbon stock based on simple observations of plant community and soil type. *Biogeosciences* 16 (2), 425–436.
- clxix Armstrong S, Hull S, Pearson Z, Wilson R, Kay S. 2020. Estimating the Carbon Sink Potential of the Welsh Marine Environment. NRW Evidence Report No. 428, Cardiff.
- clxx Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- clxxi Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- clxxii UKCCC. 2020. Committee on Climate Change. Land Use: policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-net-zero-uk/> [accessed February 2021]
- clxxiii Future Generations Commissioner for Wales, 2020. The Future Generations Report 2020: Decarbonisation Accessed here: <https://www.futuregenerations.wales/wp-content/uploads/2020/05/FGC-Report-English.pdf>
- clxxiv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Climate Change. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693282/sonarr2020-theme-climate-change.pdf>
- clxxv Evans C, Rawlins B, Grebby S, Scholefield P, Jones P. 2015. Glastir Monitoring & Evaluation Programme. Mapping the extent and condition of Welsh peat. Welsh Government (Contract reference: C147/2010/11). NERC/Centre for Ecology & Hydrology (CEH Project: NEC04780). Available from: <https://gmep.wales/resources> [accessed February 2021]
- clxxvi Calculated using the [International Union for Conservation of Nature \(IUCN\) carbon figures](#)
- clxxvii Calculated using the [US Environmental Protection Agency \(EPA\) Greenhouse Gas Equivalencies Calculator](#)
- clxxviii Welsh Government. 2019. Prosperity for All: A Low Carbon Wales. Welsh Government. Cardiff. Available from: <https://gov.wales/prosperity-all-low-carbon-wales> [accessed February 2021]
- clxxix UKCCC. 2020b. Committee on Climate Change. Land Use: policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-net-zero-uk/> [accessed February 2021]
- clxxx UKCCC. 2020b. Committee on Climate Change. Land Use: policies for a Net Zero UK. Available from: <https://www.theccc.org.uk/publication/land-use-policies-for-a-netzero-uk/> [accessed February 2021]
- clxxxi Maskell LC, Alison J, Smart SM. 2019. ERAMMP Year 1 Report 20: GMEP Outstanding Analysis Part 1 - Re-analysis of data for SoNaRR. Report to Welsh Government (Contract C210/2016/2017). Centre for Ecology & Hydrology Project NEC06297 Accessed here: <https://erammp.wales/sites/default/files/ERAMMP%20Rpt-30%20GMEP%20re-analysis%20for%20SoNaRR2020%20v1.0.pdf>
- clxxxii In order to make the effects of different greenhouse gases comparable, the Intergovernmental Panel on Climate Change (IPCC) of the United Nations has defined the so-called "Global Warming Potential". This index expresses the warming effect of a certain amount of a greenhouse gas over a set period of time (usually 100 years) in comparison to CO<sub>2</sub>. GHGs can be calculated as CO<sub>2</sub> equivalents. See full definition here: <https://www.myclimate.org/information/faq/faq-detail/what-are-co2-equivalents/>
- clxxxiii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Climate Change. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693282/sonarr2020-theme-climate-change.pdf>
- clxxxiv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Climate Change. Natural Resources Wales. Available from: <https://cdn.cyfoethnaturiol.cymru/media/693282/sonarr2020-theme-climate-change.pdf>
- clxxxv South East Area Statement Landscape profiles unpublished, available from NRW on request.
- clxxxvi Senedd Research. 2019. Blue Carbon Research Briefing. National Assembly for Wales. Available from: <https://research.senedd.wales/research-articles/blue-carbonand-its-role-in-combating-climate-change/> [accessed February 2021]
- clxxxvii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Marine. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693277/sonarr2020-ecosystem-marine.pdf>
- clxxxviii Armstrong S, Hull S, Pearson Z, Wilson R, Kay S. 2020. Estimating the Carbon Sink Potential of the Welsh Marine Environment. Natural Resources Wales Evidence Report No 428. NRW, Cardiff, 74p. Available from: <https://naturalresources.wales/evidence-and-data/research-and-reports/marinereports/marine-and-coastal-evidence-reports/?lang=en> [accessed February 2021]

- clxxxix Natural Resources Wales. 2019. GN030f Benthic habitat assessment guidance for marine developments and activities: A guide to characterising and monitoring seagrass beds. Natural Resources Wales, Bangor Accessed here: <https://cdn.naturalresources.wales/media/689360/gn030f-seagrass-final-24jun2019.pdf>
- cx c Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- cxci O'Sullivan OS, Holt AR, Warren PH, Evans KL. 2017. Optimising UK urban road verge contributions to biodiversity and ecosystem services with cost-effective management. *Journal of Environmental Management* 191, 162-171 Accessed here: <https://www.sciencedirect.com/science/article/pii/S0301479716310556>
- cxcii UKCCC. 2019. UK Committee on Climate Change. Net Zero The UK's contribution to stopping global warming. Available from: <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/> [accessed February 2021]
- cxciiii Vision for Climate Ready Natural Resources in Gwent as taken from the South East Area Statement Accessed here: <https://naturalresources.wales/about-us/area-statements/south-east-wales-area-statement/climate-ready-gwent/?lang=en>
- cxciiv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>
- cxci v Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) Accessed here: <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- cxci vi Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) Accessed here: <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- cxci vii These values are taken from the UKCP18 probabilistic projections and represent a central (median) estimate of 30-year average change in each variable from a 1981-2000 baseline. Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- cxci viii These values are taken from the UKCP18 probabilistic projections and represent a central (median) estimate of 30-year average change in each variable from a 1981-2000 baseline. Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- cxci x The full likely range of change (i.e. 10 - 90th percentile) in each average variable is not shown here but is available from the full UKCP18 database.
- cc For an understanding of RCP pathways see [UKCP18 Guidance: Representative Concentration Pathways \(RCPs\)](#)
- cci IPCC. 2018: Intergovernmental Panel on Climate Change. Summary for Policymakers. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.* [Masson-Delmotte V, Zhai P, Pörtner H-O, Roberts D, Skea J, Shukla PR, Pirani A, Moufouma-Okia W, Péan C, Pidcock R, Connors S, Matthews JBR, Chen Y, Zhou X, Gomis MI, Lonnoy E, Maycock T, Tignor M, Waterfield T (editors)]. In Press. Available from: <https://www.ipcc.ch/sr15/chapter/spm/> [Accessed February 2021]
- ccii IPCC, 2019: Summary for Policymakers. In: *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems* [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.- O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)]. In press. Accessed here: <https://www.ipcc.ch/srccl/chapter/summary-for-policymakers/>
- cciii Note: These values should not be combined to give a total as some properties will be at risk from more than 1 flood source
- cciv Data taken from National Flood Risk Assessment data 2021 (as yet unpublished)
- ccv The English National Study for Flooding and Health: First year report. PHE Publications gateway number 2016575. CC 2017 Accessed here: <http://www.wales.nhs.uk/sitesplus/documents/888/PHW-Prosperity-for-all-report-%28Eng-web%29.pdf>

- ccvi Present and future flood vulnerability, risk and disadvantage: A UK assessment, Sayers, P., Penning-Rowsell, E., Horritt, M. (2017).  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/597846/NSFH\\_briefing\\_for\\_policymakers\\_and\\_practitioners.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/597846/NSFH_briefing_for_policymakers_and_practitioners.pdf)
- ccvii Mariana Dyakova, Mark A. Bellis, Sumina Azam, Kathryn Ashton, Anna Stielke, Elodie Besnier, 2019, Driving Prosperity for All through Investing for Health and Well-being, Public Health Wales NHS Trust Accessed here:
- ccviii Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021)  
<https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- ccix South East Area Statement taken from the integrated vision [Natural Resources Wales / South East Wales Area Statement](#)
- ccx Adapting to Climate Change: Guidance for Flood and Coastal Erosion Risk Management Authorities in Wales, Welsh Government April 2021
- ccxi Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021)  
<https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- ccxii South Wales Fire and Rescue Service (unpublished), available on request
- ccxiii Data provided by SWFRS and Mid and West Fire and Rescue Service *\*Data may be subject to change pending completion/validation of records*
- ccxiv South Wales Fire and Rescue Service (unpublished), available on request
- ccxv South Wales Fire and Rescue Service (unpublished), available on request
- ccxvi Met Office, 2018, Met Office Annual weather assessment 2018 Accessed here:  
[https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/summaries/uk\\_monthly\\_climate\\_summary\\_annual\\_2018.pdf](https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/summaries/uk_monthly_climate_summary_annual_2018.pdf)
- ccxvii Costs are based on the following criteria: Where a pump has attended the scene; crewing cost of pump appliances only, each pump crewed by one Crew Manager (competent level) and four Fire Fighters (competent level). (Crew Manager (competent level) hourly rate = £15.46. Fire Fighter (competent level) hourly rate = £13.94)
- ccxviii Nunes, J.P., Doerr, S., Keesstra, S., Pulquério, M., et al. 2018. Policy brief: impacts of fires on water quality. Results from the Connecteur/PLACARD workshop on Fire impacts on water quality, 14–16 February 2018, Lisbon Accessed here: <https://www.placard-network.eu/wp-content/PDFs/wildfire-water-quality-briefingV3.pdf>
- ccxix <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA3-Briefing-Wildfire.pdf>
- ccxx Public Health England, 2018, Heath Matters: Air Quality  
<https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution>
- ccxxi Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021)  
<https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- ccxxii Armstrong, A., Brockett, B., Eustice, T., Lorentzon, A., O'Brien, L., Williams, S, 2021, Why Society Needs Nature: Lessons from Research during COVID-19-19. Accessed here:  
<https://www.forestresearch.gov.uk/research/why-society-needs-nature/>
- ccxxiii Lakey, J., Smith, N., Oskala, A. and McManus, S. (2017). Culture, sport and well-being: Findings from the Understanding Society adults survey Accessed here:  
[https://www.artscouncil.org.uk/sites/default/files/download-file/Culture%20sport%20and%20wellbeing\\_adults.pdf](https://www.artscouncil.org.uk/sites/default/files/download-file/Culture%20sport%20and%20wellbeing_adults.pdf)
- ccxxiv Natural Resources Wales, 2020, State of Natural Resources Report (SoNaRR): Assessment of the Achievement of SMNR Aim 3: Wales has Healthy Places for People, Protected from Environmental Risks. Accessed here: [SoNaRR2020 Aim 3 assessment](#)
- ccxxv Wales Centre for Public Policy: Cultural well-being briefing June 2021 (unpublished)
- ccxxvi Natural Resources Wales, 2020, State of Natural Resources Report (SoNaRR): Assessment of the Achievement of SMNR Aim 3: Wales has Healthy Places for People, Protected from Environmental Risks. Accessed here: [SoNaRR2020 Aim 3 assessment](#)
- ccxxvii Armstrong, A., Brockett, B., Eustice, T., Lorentzon, A., O'Brien, L., Williams, S. (2021) Why Society Needs Nature: Lessons from Research during COVID-19-19. Accessed here:  
<https://www.forestresearch.gov.uk/research/why-society-needs-nature/>
- ccxxviii South East Area Statement Landscape profiles unpublished, available from NRW on request.

- ccxxix South East Area Statement Landscape profiles unpublished, available from NRW on request.
- ccxxx Sport Wales/Welsh Government, 2019, National Survey for Wales 2018-19: Sport and Active Lifestyles – State of the Nation Report Accessed here:  
<https://www.sport.wales/files/f16771b9041ecbd847704e346c9e15bc.pdf>
- ccxxxi Natural Resources Wales, 2021, Permits given for recreational activities across the Welsh Government's Woodland Estate in Gwent 2019-2021. Available from NRW on request.
- ccxxxi Wales Tourism Alliance, 2016, Inquiry into the Future of Agricultural and Rural Development Policies in Wales: Evidence Paper from Wales Tourism Alliance. Accessed here: [AAB 12 Wales Tourism Alliance.pdf](#)
- ccxxxiii Welsh Government, 2020, Welcome to Wales: Priorities for the Visitor Economy 2020-2025 Accessed here: <https://gov.wales/sites/default/files/publications/2020-01/welcome-to-wales-priorities-for-the-visitor-economy-2020-to-2025.pdf>
- ccxxxiv Wales Tourism Alliance, 2016, Inquiry into the Future of Agricultural and Rural Development Policies in Wales: Evidence Paper from Wales Tourism Alliance. Accessed here: [AAB 12 Wales Tourism Alliance.pdf](#)
- ccxxxv The Fishing Passport, 2019, Facts and Figures - The Fishing Passport Magazine 2019 (Summer) Accessed here: <https://wyes.foleon.com/passport/the-fishing-passport-magazine-2019-summer/facts-and-figures/>
- ccxxxvi Wales Centre for Public Policy: Cultural well-being briefing June 2021 (unpublished)
- ccxxxvii Natural England, 2010, 'Nature Nearby' Accessible Natural Greenspace Guidance Accessed here:  
[http://www.ukmaburbanforum.co.uk/documents/other/nature\\_nearby.pdf](http://www.ukmaburbanforum.co.uk/documents/other/nature_nearby.pdf)
- ccxxxviii Welsh Government, 2020, National Survey for Wales, 2019-20. Accessed here: [National Survey for Wales: results viewer | GOV.WALES](#)
- ccxxxix Wales Centre for Public Policy, 2021, Cultural well-being briefing. Unpublished, currently in draft.
- ccxl The Sensory Trust and Natural Resources Wales, 2017, By All Reasonable Means Accessed here:  
[https://cdn.cyfoethnaturiol.cymru/media/693695/ogn-045-by-all-reasonable-means-least-restrictive-access-to-the-outdoors\\_-004.pdf?mode=pad&rnd=132665823850000000](https://cdn.cyfoethnaturiol.cymru/media/693695/ogn-045-by-all-reasonable-means-least-restrictive-access-to-the-outdoors_-004.pdf?mode=pad&rnd=132665823850000000)
- ccxli Armstrong, A., Brockett, B., Eustice, T., Lorentzon, A., O'Brien, L., Williams, S, 2021, Why Society Needs Nature: Lessons from Research during COVID-19-19. Accessed here:  
<https://www.forestresearch.gov.uk/research/why-society-needs-nature/>
- ccxlii Armstrong, A., Brockett, B., Eustice, T., Lorentzon, A., O'Brien, L., Williams, S, 2021, Why Society Needs Nature: Lessons from Research during COVID-19-19. Accessed here:  
<https://www.forestresearch.gov.uk/research/why-society-needs-nature/>
- ccxliii Natural Resources Wales, 2020, Forestry and NNR Visitor Data Report January to September 2020 - Issue 2. Prepared by Stuart France, Linetop Ltd. Unpublished, available from NRW on request.
- ccxliv Natural Resources Wales, 2020, State of Natural Resources Report (SoNaRR): Assessment of the Achievement of SMNR Aim 3: Wales has Healthy Places for People, Protected from Environmental Risks Accessed here: [SoNaRR2020 Aim 3 assessment](#)
- ccxlv Wales Centre for Public Policy, 2021, COVID-19-19 and Brexit Briefing Paper. Unpublished, currently in draft.
- ccxlvii Armstrong, A., Brockett, B., Eustice, T., Lorentzon, A., O'Brien, L., Williams, S, 2021, Why Society Needs Nature: Lessons from Research during COVID-19-19. Accessed here:  
<https://www.forestresearch.gov.uk/research/why-society-needs-nature/>
- ccxlviii Natural Resources Wales, 2020, State of Natural Resources Report (SoNaRR): Assessment of the Achievement of SMNR Aim 3: Wales has Healthy Places for People, Protected from Environmental Risks Accessed here: [SoNaRR2020 Aim 3 assessment](#)
- ccxlviii Natural Resources Wales, 2021, Anti-Social Behaviour on NRW-Managed Land (South East). Unpublished, available from NRW on request.
- ccxlix Coed Lleol (Small Woods Wales), 2021, Investigating the Need and Opportunities for Social Prescribing, Outdoor Health and Active Woods Well-being Activities in South-East Wales. Unpublished, available from NRW on request.
- cccl South East Area Statement unpublished, available from NRW on request.
- cccli Wales Centre for Public Policy, 2021, COVID-19-19 and Brexit Briefing Paper. Unpublished, currently in draft.
- ccclii Natural Resources Wales, 2021, Anti-Social Behaviour on NRW-Managed Land (South East). Unpublished, available from NRW on request.
- cccliii Armstrong, A., Brockett, B., Eustice, T., Lorentzon, A., O'Brien, L., Williams, S. (2021) Why Society Needs Nature: Lessons from Research during COVID-19-19 Accessed here:  
<https://www.forestresearch.gov.uk/research/why-society-needs-nature/>
- cccliv South East Area Statement taken from the integrated vision [Natural Resources Wales / South East Wales Area Statement](#)

- cclv Natural Resources Wales (South East People & Places team), 2020. Unpublished, available from NRW on request.
- cclvi Coed Lleol (Small Woods Wales), 2021, Investigating the Need and Opportunities for Social Prescribing, Outdoor Health and Actif Woods Well-being Activities in South-East Wales. Unpublished, available from NRW on request.
- cclvii Armstrong, A., Brockett, B., Eustice, T., Lorentzon, A., O'Brien, L., Williams, S, 2021, Why Society Needs Nature: Lessons from Research during COVID-19-19. Accessed here: <https://www.forestresearch.gov.uk/research/why-society-needs-nature/>
- cclviii South East Land Management Team, Natural Resources Wales, 2021. Unpublished, observational information.
- cclix Wales Centre for Public Policy, 2021, COVID-19-19 and Brexit Briefing Paper. Unpublished, currently in draft
- cclx Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- cclxi Source June Survey Agriculture in the UK 2019 Welsh Government press release Agriculture in Wales 2019 and Agriculture facts and figures.
- cclxii Senedd Research, 2021. A new landscape for farmers and nature? Accessed here: <https://research.senedd.wales/research-articles/a-new-landscape-for-farmers-and-nature/>
- cclxiii Welsh Government. 2019b. Farming Facts & Figures Wales 2019. Available from: <https://gov.wales/farming-facts-and-figures-2019> [Accessed July 2020]
- cclxiv Department for Environment Food and Rural Affairs (Defra). 2020. Agriculture in the United Kingdom 2019. Available from: <https://www.gov.uk/government/statistics/agriculture-in-the-united-kingdom-2019> [Accessed July 2020]
- cclxv Hybu Cig Cymru (HCC). 2020a. Industry Statistics. Available from: <https://meatpromotion.wales/en/industry-statistics> [Accessed July 2020]
- cclxvi Welsh Government. 2019e. Our ambition to further develop Wales' food and drink sector. Consultation. Available from: <https://gov.wales/developing-wales-food-and-drink-sector> [Accessed July 2020]
- cclxvii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales p. 45 Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>
- cclxviii Statistics for Wales & Welsh Government (2019), Agricultural Small Area Statistics (2002-2018), Welsh Government Accessed here: <https://gov.wales/agricultural-small-area-statistics-2002-2018>
- cclxix Statistics for Wales & Welsh Government (2019), Agricultural Small Area Statistics (2002-2018), Welsh Government Accessed here: <https://gov.wales/agricultural-small-area-statistics-2002-2018>
- cclxx Welsh Government (2019) Response to FOI request. Rural Payments Wales, Welsh Government unpublished
- cclxxi Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Enclosed Farmland. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693343/sonarr2020-ecosystem-enclosed-farmland.pdf>
- cclxxii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Enclosed Farmland. Natural Resources Wales p. 42 Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693343/sonarr2020-ecosystem-enclosed-farmland.pdf>
- cclxxiii Food Sense Wales, Well-being Assessment briefing note (unpublished)
- cclxxiv IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany Accessed here: <https://ipbes.net/global-assessment>
- cclxxv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>
- cclxxvi Fitzpatrick I, Young R, Perry M, Rose E. 2017. The Hidden Cost of UK Food. The Sustainable Food Trust
- cclxxvii Statistics for Wales & Welsh Government (2019), June 2020 Survey of Agriculture and Horticulture: Results for Wales, Welsh Government Accessed here: <https://gov.wales/sites/default/files/statistics-and-research/2020-12/survey-agriculture-and-horticulture-june-2020-932.pdf>

- cclxxviii Blackstock KL, Ingram J, Burton R, Brown KM, Slee B. 2010. Understanding and influencing behaviour change by farmers to improve water quality. *Science of the Total Environment* 408 (23), 5631–5638. Welsh Government. 2019a. Survey of agriculture and horticulture, June 2019 [online]. Available from: <https://gov.wales/survey-agriculture-and-horticulture> [Accessed February 2021]
- cclxxix Hayhow DB, Eaton MA, Stanbury AJ, Burns F, Kirby WB, Bailey N, Beckmann B, Bedford J, Boersch-Supan PH, Coomber F, Dennis EB, Dolman SJ, Dunn E, Hall J, Harrower C, Hatfield JH, Hawley J, Haysom K, Hughes J, Johns DG, Mathews F, McQuatters-Gollop A, Noble DG, Outhwaite CL, Pearce-Higgins JW, Pescott OL, Powney GD and Symes N. 2019. State of Nature 2019. The State of Nature partnership. Available from: <https://nbn.org.uk/stateofnature2019/> [accessed March 2021]
- cclxxx Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- cclxxxi Hayhow DB, Eaton MA, Stanbury AJ, Burns F, Kirby WB, Bailey N, Beckmann B, Bedford J, Boersch-Supan PH, Coomber F, Dennis EB, Dolman SJ, Dunn E, Hall J, Harrower C, Hatfield JH, Hawley J, Haysom K, Hughes J, Johns DG, Mathews F, McQuatters-Gollop A, Noble DG, Outhwaite CL, Pearce-Higgins JW, Pescott OL, Powney GD and Symes N (2019) The State of Nature 2019. The State of Nature partnership Accessed here: <https://nbn.org.uk/wp-content/uploads/2019/09/State-of-Nature-2019-UK-full-report.pdf>
- cclxxxii Jones S M, Karran A, Bosanquet S, Barter G, Garrett H and Hancocks E. 2021. Greater Gwent State of Nature. Produced by the Resilient Greater Gwent Partnership Accessed here: <https://www.blaenau-gwent.gov.uk/en/resident/countryside/resilient-greater-gwent/>
- cclxxxiii Welsh Government. 2019c. Prosperity for All: A Low Carbon Wales. Cardiff: Welsh Government.
- cclxxxiv NAEI. 2020a. (National Atmospheric Emissions Inventory) Smith H, Thistlethwaite G, Jones L, Richmond B, Hampshire K, May K, Garland L, Zhang H. Devolved Administration GHG Inventory: 1990-2018. National Atmospheric Emissions Inventory. Available from: [https://naei.beis.gov.uk/reports/reports?report\\_id=1000](https://naei.beis.gov.uk/reports/reports?report_id=1000) [Accessed January 2021]
- cclxxxv Scarborough, P., Appleby, P., Mizdrak, A., Briggs, A., Travis, R., Bradbury, K. and Key, T. (2014). Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK. *Climatic Change*, 125(2), pp.179-192. DOI: 10.1007/s10584-014-1169-1 Accessed here: <https://rdcu.be/b13Ag>
- cclxxxvi Slide prepared by Manchester Metropolitan university for Climate Ready Gwent Carbon Literacy training. Source: Welsh data is from report above (LCA by Bangor University- based on 20 Welsh farms). For comparison lamb and beef data were abstracted from the database underpinning the Poore & Nemecek paper – which is provided here: <https://ora.ox.ac.uk/objects/uuid:a63fb28c-98f8-4313-add6-e9eca99320a5>
- cclxxxvii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales p. 11 Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>
- cclxxxviii South East Area Statement integrated vision for Gwent: <https://naturalresources.wales/about-us/area-statements/south-east-wales-area-statement/ways-of-working/?lang=en>
- cclxxxix Campbell, Lucy (2021). Climate Change and Reaching Net Zero: Perceptions and Awareness in Wales. Cardiff: Welsh Government, GSR report number 49/2021. Accessed here: <https://gov.wales/sites/default/files/statistics-and-research/2021-07/climate-change-and-reaching-net-zero-perceptions-and-awareness-in-wales.pdf>
- ccxc Department for Environment, Food & Rural Affairs (DEFRA). 2020. Food Statistics in your pocket: Global and UK supply. Available from: <https://www.gov.uk/government/statistics/food-statistics-pocketbook/food-statisticsin-your-pocket-global-and-uk-supply> [Accessed March 2021]
- ccxi Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales p. 45 Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>
- ccxii Wales Centre for Public Policy: Briefing on well-being and the impact of COVID-19 and Brexit June 2021 (unpublished)
- ccxiii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Land use and soils. Natural Resources Wales p. 64 Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693310/sonarr2020-theme-land-use-and-soils.pdf>
- ccxiv Department for Environment, Food & Rural Affairs (DEFRA), 2019, Agriculture in the United Kingdom 2019 Accessed here <https://www.gov.uk/government/statistics/agriculture-in-the-united-kingdom-2019>

- <sup>ccxcv</sup> Senedd Research, 2021. A new landscape for farmers and nature? Accessed here: <https://research.senedd.wales/research-articles/a-new-landscape-for-farmers-and-nature/>
- <sup>ccxcvi</sup> Welsh Government. 2019e. Our ambition to further develop Wales' food and drink sector. Consultation. Available from: <https://gov.wales/developing-wales-food-and-drink-sector> [Accessed July 2020]
- <sup>ccxcvii</sup> UK Centre for Ecology and Hydrology, 2020, Environment and Rural Affairs Monitoring & Modelling Programme (ERAMMP) Accessed here: <https://erammp.wales/en/12>
- <sup>ccxcviii</sup> Emmett B, Alexander M, Alison J, Anthony S, Ballinger R, Bell C, Bowgen K, Cooper D, Cosby J, Dickie I, Ditchburn B, Edwards F, Engledew M, Fitch A, Frost N, Garbutt RA, Gooday R, Hatfield J, Henrys P, Hull S, Jenkins T, Jones L, Kettel E, Logie M, Lyons H, Maclean K, Mant J, Maskell LC, Matthews R, Petr M, Powney GR, Read D, Robinson DA, Siriwardena G, Smart SM, Steadman C, Thomas A, Thomas D, Thomas T, Tye A, Vieno M, Williams B. and Wood C. 2019. Environment and Rural Affairs Monitoring & Modelling Programme – ERAMMP Year 1 Report 11: Year 1 Summary. Report to Welsh Government (Contract C210/2016/2017). Centre for SoNaRR2020 Theme: Land use and soils 86 Ecology & Hydrology Project NEC06297. Emmett, B.A., Reynolds, B., Chamberlain, P.M., Rowe, E., Spurgeon, D., Brittain, S.A., Frogbrook, Z., Hughes, S., Lawlor, A.J., Poskitt, J. and Potter, E., 2010. Countryside survey: soils report from 2007.
- <sup>ccxcix</sup> Government Office for Science (GO-Science) Trend Deck, E6 Accessed here: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/993914/GO-Science\\_Trend\\_Deck\\_-\\_Economics\\_section\\_-\\_Spring\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/993914/GO-Science_Trend_Deck_-_Economics_section_-_Spring_2021.pdf)
- <sup>ccc</sup> IPCC, 2019: Summary for Policymakers. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.- O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.)]. In press. Accessed here: <https://www.ipcc.ch/srccl/chapter/summary-for-policymakers/>
- <sup>ccci</sup> For an understanding of RCP pathways see [UKCP18 Guidance: Representative Concentration Pathways \(RCPs\)](#)
- <sup>cccii</sup> Government Office for Science (GO-Science) Trend Deck, E6 Accessed here: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/993914/GO-Science\\_Trend\\_Deck\\_-\\_Economics\\_section\\_-\\_Spring\\_2021.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/993914/GO-Science_Trend_Deck_-_Economics_section_-_Spring_2021.pdf)
- <sup>ccciii</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>ccciv</sup> Welsh Government, 2020, Capability, Suitability & Climate Programme Accessed here: <https://gov.wales/sites/default/files/publications/2020-11/capacity-suitability-climate-programme-2012-study-rerun.pdf>
- <sup>cccv</sup> Welsh Government, 2020, Capability, Suitability & Climate Programme Accessed here: <https://gov.wales/sites/default/files/publications/2020-11/capacity-suitability-climate-programme-2012-study-rerun.pdf>
- <sup>cccvii</sup> Data can be accessed via the Wales Environmental Portal, <https://naturalresources.wales/evidence-and-data/accessing-our-data/beta-environmental-data/?lang=en>
- <sup>cccviii</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>cccviii</sup> Wood Knowledge Wales (unpublished)
- <sup>cccix</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales. Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>cccix</sup> Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Woodlands. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693279/sonarr2020-ecosystem-woodlands.pdf>
- <sup>cccxi</sup> Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- <sup>cccxi</sup> Natural Resources Wales, 2017, South East Valleys Abstraction Licensing Strategy, natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/683371/sev-licensing-strategy-final-nov-17.pdf?mode=pad&rnd=131596369490000000>

- cccxi Natural Resources Wales, 2017, Usk Abstraction Licensing Strategy, natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/682209/river-usk-abstraction-licensing-strategy-july-2017.pdf?mode=pad&rnd=131631840530000000>
- cccxiiv Monmouthshire Public Services Board, 2019, Monmouthshire Public Services Board Well-being Assessment Accessed here: <https://www.monmouthshire.gov.uk/app/uploads/2017/05/well-being-assessment-v3.0.pdf>
- cccxiiv Source Natural Resources Wales (NRW) (unpublished, available on request)
- cccxiiv Source Natural Resources Wales (NRW) (unpublished, available on request)
- cccxiiv Third Climate Change Risk Assessment Technical Report: Summary for Wales (Dr. Alan Netherwood, 2021) <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf>
- cccxiiv Stockholm Environment Institute (SEI) and GHD, 2015, Ecological and Carbon Footprints of Wales Update to 2011 Accessed here: <https://gov.wales/sites/default/files/publications/2019-04/ecological-and-carbon-footprint-of-wales-report.pdf>
- cccxiiv Stockholm Environment Institute (SEI) and GHD, 2015, Ecological and Carbon Footprints of Wales Update to 2011 Accessed here: <https://gov.wales/sites/default/files/publications/2019-04/ecological-and-carbon-footprint-of-wales-report.pdf>
- cccxiiv This consumption based footprint was calculated using the CoGo Carbon Footprint tracker developed by Prof. Mike Berners-Lee Accessed here: <https://cogo.co/our-carbon-footprint-tracker>
- cccxiiv Stockholm Environment Institute (SEI) and GHD, 2015, Ecological and Carbon Footprints of Wales Update to 2011 Accessed here: <https://gov.wales/sites/default/files/publications/2019-04/ecological-and-carbon-footprint-of-wales-report.pdf>
- cccxiiv Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>
- cccxiiv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Waste. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693283/sonarr2020-theme-waste.pdf>
- cccxiiv Department for the Environment Food and Rural Affairs (DEFRA). 2018. Landfill Aftercare Scoping Study [online]. Available from: Defra, UK - Science Search [Accessed 8th December 2020]
- cccxiiv StatsWales. 2019. Local authority municipal waste management: April 2018 to March 2019 [online]. Available from: <https://gov.wales/local-authority-municipal-waste-management-april-2018-march-2019> [Accessed 8th December 2020]
- cccxiiv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Waste. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693283/sonarr2020-theme-waste.pdf>
- cccxiiv Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>
- cccxiiv Welsh Government, 2021, Beyond Recycling: A strategy to make the circular economy in Wales a reality Accessed here: <https://gov.wales/sites/default/files/publications/2021-03/beyond-recycling-strategy-document.pdf>
- cccxiiv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Waste. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693283/sonarr2020-theme-waste.pdf>
- cccxiiv Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Waste. Natural Resources Wales Accessed here: <https://cdn.cyfoethnaturiol.cymru/media/693283/sonarr2020-theme-waste.pdf>
- cccxiiv Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>
- cccxiiv Stockholm Environment Institute (E. Dawkins, A. Paul, J. Barrett, J. Minx and K. Scott), 2008, Wales' Ecological Footprint – Scenarios to 2020 Accessed here: [https://mediamanager.sei.org/documents/Publications/Future/wales\\_ecological\\_footprint\\_report\\_270508\\_final.pdf](https://mediamanager.sei.org/documents/Publications/Future/wales_ecological_footprint_report_270508_final.pdf)
- cccxiiv Welsh Government, 2019, Well-being of Wales 2018-19 Accessed here: <https://gov.wales/sites/default/files/statistics-and-research/2019-11/well-being-of-wales-2019.pdf>
- cccxiiv Data can be accessed via the Torfaen Council Research tableau here: <https://public.tableau.com/app/profile/torfaen.council.research/viz/Wellbeinggraphs/ThematicMaps>

- cccxxxv Stockholm Environment Institute (E. Dawkins, A. Paul, J. Barrett, J. Minx and K. Scott), 2008, Wales' Ecological Footprint – Scenarios to 2020 Accessed here: [https://mediamanager.sei.org/documents/Publications/Future/wales\\_ecological\\_footprint\\_report\\_270508\\_fi nal.pdf](https://mediamanager.sei.org/documents/Publications/Future/wales_ecological_footprint_report_270508_fi nal.pdf)
- cccxxxvi Cardiff Capital Region press release 11 February 2021, [Cardiff Capital Region and Welsh Government collaborate to create pioneering Energy Vision and Strategy](https://www.cardiffcapitalregion.wales/news-events/latest-news/car diff-capital-region-and-welsh-government-collaborate-to-create-pioneering-energy-vision-and-strategy/) Accessed here: <https://www.cardiffcapitalregion.wales/news-events/latest-news/car diff-capital-region-and-welsh-government-collaborate-to-create-pioneering-energy-vision-and-strategy/>
- cccxxxvii Cardiff Capital Region Energy Strategy (item 8, appendix 2)
- cccxxxviii Air Quality Expert Group. 2020. Estimation of changes in air pollution emissions, concentrations and exposure during the COVID-19 outbreak in the UK. Rapid Evidence Review for DEFRA, SG, WG & Dept of Agriculture, Environment & Rural Affairs in Northern Ireland. Available from: [https://uk-air.defra.gov.uk/library/reports.php?report\\_id=1005](https://uk-air.defra.gov.uk/library/reports.php?report_id=1005) [Accessed 14 December 2020]
- cccxxxix Public Health Wales. 2016a. Estimating the Mortality burden of air pollution in Wales. in National Assembly for Wales. <https://senedd.wales/research%20documents/18-009/18-009-web-english.pdf> [Accessed 2nd July 2020]
- cccxl Welsh Government Clean Air Advisory Panel, 2020, Impacts of the COVID-19-19 pandemic on air quality in Wales: March to October 2020 Accessed here: [https://airquality.gov.wales/sites/default/files/documents/2021-01/Clean Air Advisory Panel report-Impacts of the COVID-19-19 pandemic on air quality in Wales English.pdf](https://airquality.gov.wales/sites/default/files/documents/2021-01/Clean_Air_Advisory_Panel_report-Impacts_of_the_COVID-19-19_pandemic_on_air_quality_in_Wales_English.pdf)
- cccxli Wales Centre for Public Policy: Briefing on well-being and the impact of COVID-19-19 and Brexit June 2021 (unpublished)
- cccxlii Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Waste. Natural Resources Wales. Available here: <https://cdn.cyfoethnaturiol.cymru/media/693283/sonarr2020-theme-waste.pdf>
- cccxlili Climate Just key messages: Which households emit the most carbon from energy use? Accessed here: <https://www.climatejust.org.uk/messages/which-households-emit-most-carbon-energy-use>
- cccxliv Climate Just key messages: Which households emit the most carbon from energy use? Accessed here: <https://www.climatejust.org.uk/messages/which-households-emit-most-carbon-energy-use>
- cccxlv Ofgem Consumer Vulnerability Strategy 2025, available here: [file:///C:/Users/fen.turner/Downloads/consumer\\_vulnerability\\_strategy\\_2025.pdf](file:///C:/Users/fen.turner/Downloads/consumer_vulnerability_strategy_2025.pdf)
- cccxlvi Natural Resources Wales. 2021. State of Natural Resources Report (SoNaRR): Assessment of the achievement of sustainable management of natural resources. Waste. Natural Resources Wales. Available here: <https://cdn.cyfoethnaturiol.cymru/media/693283/sonarr2020-theme-waste.pdf>
- cccxlvii WRAP Cymru. 2018. Towards a Route Map for Plastic Recycling: Creating Circularity for Plastics in Wales [online]. Available from: Towards a Route Map for Plastic Recycling | WRAP ([wrapcymru.org.uk](http://wrapcymru.org.uk)) [Accessed 9<sup>th</sup> March 2021]
- cccxlviii Eunomia. 2017. Natural Resources Wales - Waste Crime Review report Unpublished. Natural Resources Wales.
- cccclix Progress report: reducing emissions in Wales, published 17 December 2020 available from: [www.theccc.org.uk/publications](http://www.theccc.org.uk/publications)
- ccccli Blaenau Gwent County Borough Council Decarbonisation Plan 2020 to 2030, available from: [https://www.blaenau-gwent.gov.uk/fileadmin/documents/Council/Policies\\_Strategies\\_Plans/BGCBC\\_Decarbonisation\\_Plan\\_2030\\_Council\\_Version\\_.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/documents/Council/Policies_Strategies_Plans/BGCBC_Decarbonisation_Plan_2030_Council_Version_.pdf)
- ccccli Jones, A. 2018. Carbon Positive Project Technical Report: Calculating Natural Resources Wales' Net Carbon Status. NRW Evidence Report No: 303, 134pp, Natural Resources Wales, Bangor. Available from: <https://cdn.cyfoethnaturiol.cymru/media/687222/cym-evidence-report-303-carbon-positive-project-technical-report-calculating-nrws-net-carbon-status.pdf>
- ccccliii Climate change and reaching net zero: perceptions and awareness in Wales (summary), available from: <https://gov.wales/sites/default/files/pdf-versions/2021/7/4/1626332413/climate-change-and-reaching-net-zero-perceptions-and-awareness-wales-summary.pdf>
- ccccliii Cynnal Cymru and the Electoral Reform Society Cymru, 2021, Blaenau Gwent Climate Assembly Report Accessed here: [https://www.blaenau-gwent.gov.uk/fileadmin/images/News/BG\\_Climate\\_Assembly\\_Report\\_ENG.pdf](https://www.blaenau-gwent.gov.uk/fileadmin/images/News/BG_Climate_Assembly_Report_ENG.pdf)
- ccccliv NAEI. 2020. National Atmospheric Emissions Inventory Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990-2018. Thistlethwaite G, Smith H, Brown P, MacCarthy J, Pang Y, Passant N,

---

Richmond B, Wakeling D, Walker C, Hampshire K, King K, May K, Garland L, Zhang H, Jones L, Thomson A, Buys G, Clilverd H, Malcolm H, Zwagerman T, Henshall P, Matthews R, Cardenas L, Gilhespy S, Misselbrook T. Available from: [https://naei.beis.gov.uk/reports/reports?report\\_id=1000](https://naei.beis.gov.uk/reports/reports?report_id=1000) [Accessed February 2021]

ccclv Vivid Economics. 2020. A UK Investment Strategy: Building back a resilient and sustainable economy [online]. Available from: <https://www.vivideconomics.com/casestudy/a-uk-investment-strategy-building-back-a-resilient-and-sustainable-economy/> . [Accessed 14 December 2020]

ccclvi Advice Report: The path to a Net Zero Wales Climate Change Committee December 2020 Presented to Welsh Ministers pursuant to Section 45(1) of the Environment (Wales) Act 2016. This report was published on 17 December 2020 and is available online at: [www.theccc.org.uk/publications](http://www.theccc.org.uk/publications)

ccclvii Advice Report: The path to a Net Zero Wales Climate Change Committee December 2020 Presented to Welsh Ministers pursuant to Section 45(1) of the Environment (Wales) Act 2016. This report was published on 17 December 2020 and is available online at: [www.theccc.org.uk/publications](http://www.theccc.org.uk/publications)

ccclviii Advice Report: The path to a Net Zero Wales Climate Change Committee December 2020 Presented to Welsh Ministers pursuant to Section 45(1) of the Environment (Wales) Act 2016. This report was published on 17 December 2020 and is available online at: [www.theccc.org.uk/publications](http://www.theccc.org.uk/publications)

ccclix Everyday Plastic. 2020. The Everyday Plastic Survey Lockdown Edition [online]. Available from: <https://www.everydayplastic.org/lockdown-1> [Accessed 9th December 2020]

ccclx Citywire. 2020. Artemis: Food delivery is our big takeaway from COVID-19-19 article [online]. Available from: <https://citywire.co.uk/investment-trust-insider/news/artemis-food-delivery-is-our-big-takeaway-from-covid-19/a1384866> [Accessed 9th December 2020]

ccclxi Advice Report: The path to a Net Zero Wales Climate Change Committee December 2020 Presented to Welsh Ministers pursuant to Section 45(1) of the Environment (Wales) Act 2016. This report was published on 17 December 2020 and is available online at: [www.theccc.org.uk/publications](http://www.theccc.org.uk/publications)

ccclxii UK Government. 2015. Quality Protocols: converting waste into non-waste products [online]. Available from: <https://www.gov.uk/government/collections/quality-protocols-end-of-waste-frameworks-for-waste-derived-products> [Accessed 8th December 2020]

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# CULTURAL WELL-BEING

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## 1. Introduction

This part of the assessment tells us about culture in Gwent - the types of leisure, sport and play that people enjoy, the arts and heritage offer and the role of Welsh language. It also looks at how the diversity that exists in our communities has an influence on culture in Gwent, where people go to experience culture, and how volunteering and community assets impact on well-being.

School can be the first time some young people experience new cultural activities from playing sport, to learning about other cultures and celebrations. It is also the place where many develop their Welsh language skills.

Covid-19 has seen many cultural and sports events and cultural venues closed during lockdown periods resulting in the re-imaging of community spaces and outdoor areas and some moving online.

Gwent has a rich and diverse cultural heritage incorporating highlights such as the Blaenavon World Heritage Site, Abergavenny Food Festival and a section of Wales' famous coastal path. It is home to Roman forts, castles and stately homes and a Ryder Cup golf course.

Supporting diverse groups of people, including those of different cultures and ethnicity, to get on well together and feel safe in their communities is important for well-being and will help promote global responsibility. Feeling part of a community can allow people to get involved in cultural activities, sharing ideas and values.

Ensuring our communities have equitable access to green space that can be used for recreation and physical activity can support healthy lifestyles.

Many jobs are linked to our tourism and leisure industries, much of which is based around our local heritage and environmental assets. The creative economy has also been identified by Cardiff Capital Region as a priority sector with the potential to create prosperity in the region over the next 10 – 20 years <sup>1</sup>.

People of different ages can enjoy different cultural activities, but equally cultural interests can bring people of different ages together. We know that we have an aging population in Gwent, and this may mean that there are more people able to support their communities through volunteering.

We also know that the inequalities that exist in some of our communities can make it hard for people to get involved in cultural activities with affordability and access particular problems. How we tackle these challenges in the future may allow everyone to get more involved, and enable new, and diverse, cultural activities to establish.

Whilst the information used in this chapter give a picture of cultural well-being there are some areas where additional data would help to refine the assessment. This includes measures related to leisure and recreation activities that are not captured via data related to participation in sporting activities or through measures relating to heritage and the arts.

## 2. Faith & ethnicity

How people from different backgrounds and cultures get on together has a direct impact on how cohesive a community is. Inclusive communities, where people feel accepted, safe and able to be involved in activities and things that interest them, benefit everyone, helping people feel supported and valued.

In similar way to people of different ages, people of different backgrounds may also enjoy different activities. Larger numbers of different ethnic groups in communities means that there are more diverse cultures mixing and opportunities to learn about other traditions and values.

Addressing the barriers that prevent people from different backgrounds getting involved in cultural activities, such as feeling safe, can support more cohesive communities. More information about crime and community safety and how it impacts on wider well-being can be found in the Social Chapter.

### 2.1 Faith & religion

The latest available data shows a higher percentage of people in Newport stated that their religion was Muslim than the rest of Gwent and the Wales average. Further variations across Gwent exist for those people who stated their religion as Christian and as no religion. These numbers may look significantly different when information from the 2021 Census is available.

	Caerphilly	Blaenau Gwent	Torfaen	Monmouthshire	Newport	Wales
Christian	50.7	49.9	55.4	62.5	56.9	57.6
Buddhist	0.2	0.2	0.2	0.3	0.2	0.3
Hindu	0.1	0.1	0.3	0.2	0.5	0.3
Jewish	0.0	0.0	0.0	0.1	0.1	0.1
Muslim	0.2	0.3	0.3	0.3	4.7	1.5
Sikh	0.1	0.1	0.1	0.1	0.1	0.1
Other religions	0.4	0.4	0.3	0.4	0.3	0.4
No religion	40.9	41.1	35.8	28.5	29.7	32.1
Religion not stated	7.5	8.1	7.6	7.7	7.5	7.6

Figure C1: Table showing the different religions across Gwent <sup>2</sup>

### 2.2 Place of birth and ethnicity

The majority of people living in Gwent during July 2019 and June 2020 were estimated as being born in the UK, with only 5.8% of people born abroad.<sup>3</sup>

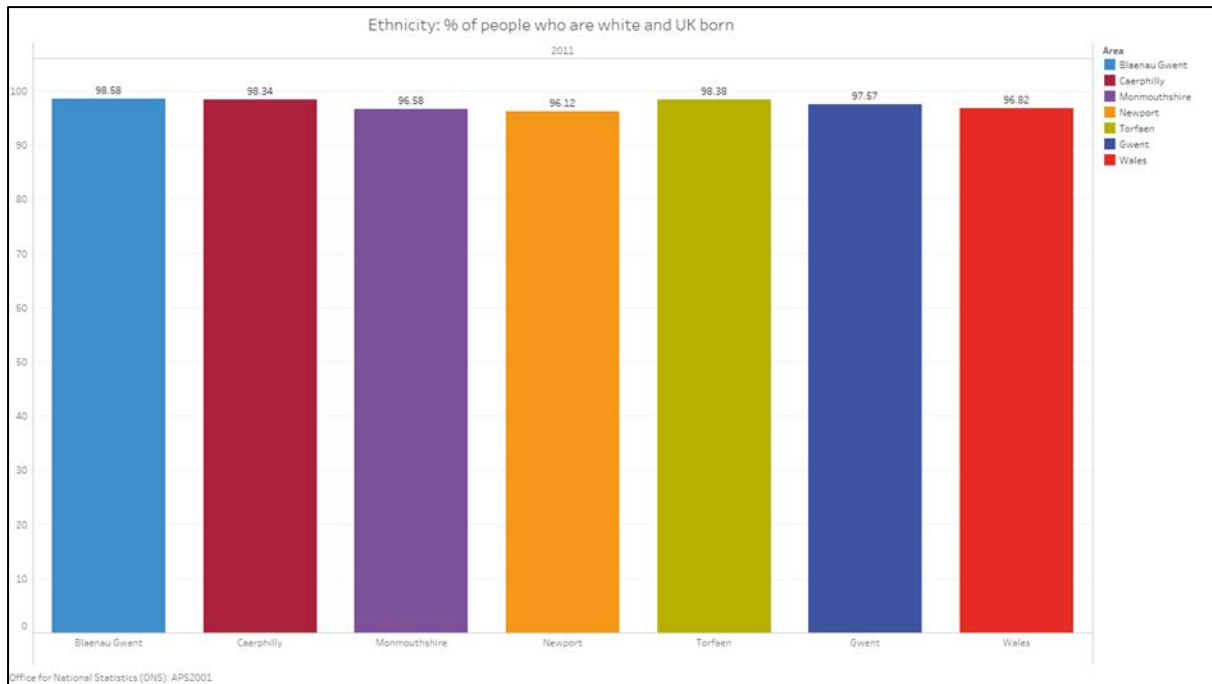


Figure C2 – Graph showing the percentage of people who are white and UK born across Gwent <sup>4</sup>

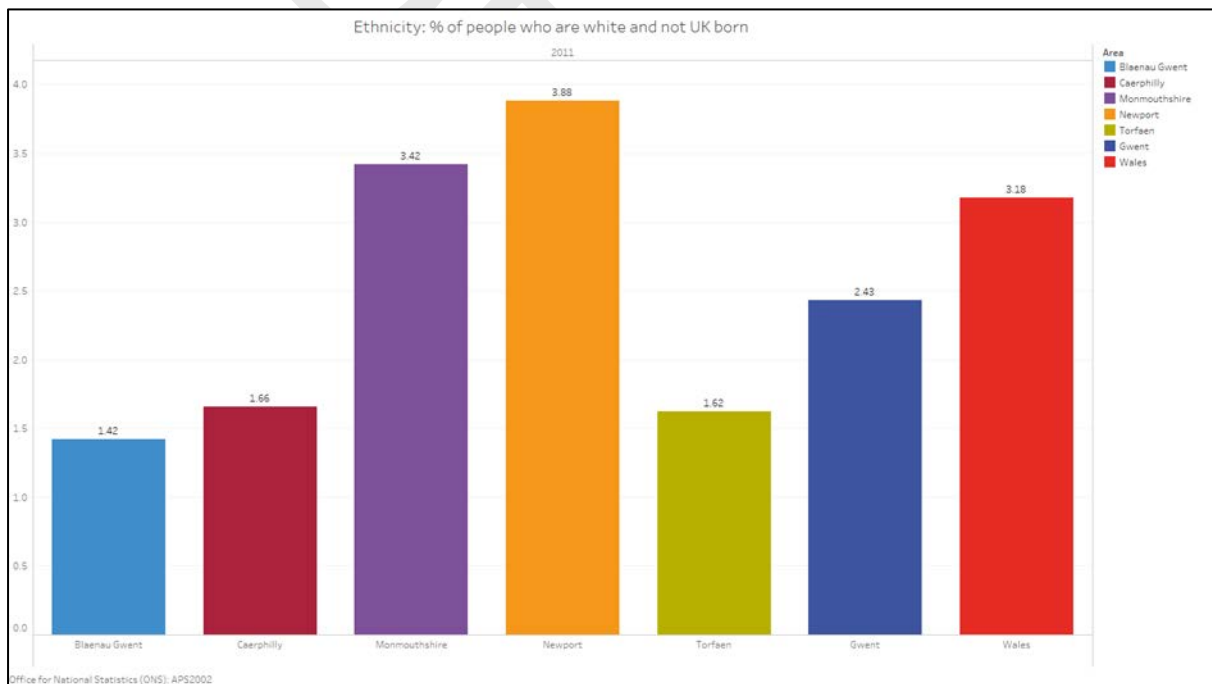


Figure C3 – Graph showing the percentage of people who are white and not UK born across Gwent <sup>5</sup>

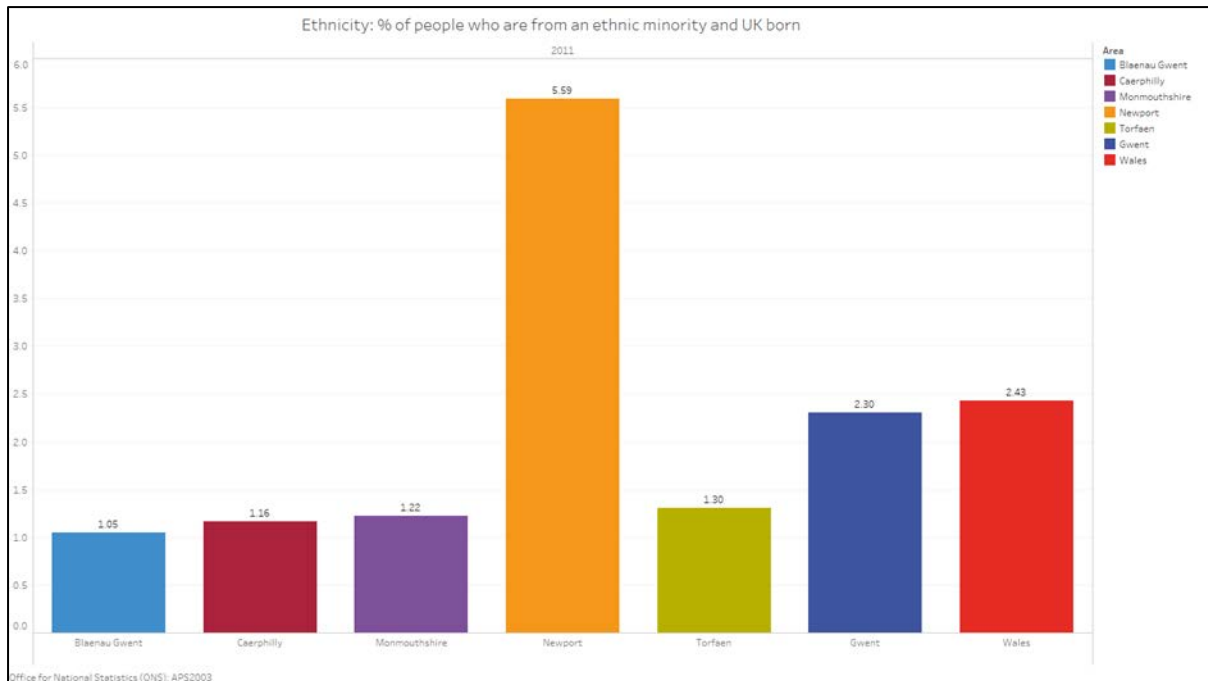


Figure C4 – Graph showing the percentage of people who are from an ethnic minority and UK born across Gwent <sup>6</sup>

Most people living in Gwent are of a white ethnicity, with 3.88% of people from a non-white background, with Newport containing the highest proportion (10.09%). **Suggest adding short summary table – using data from C5 – 10.**

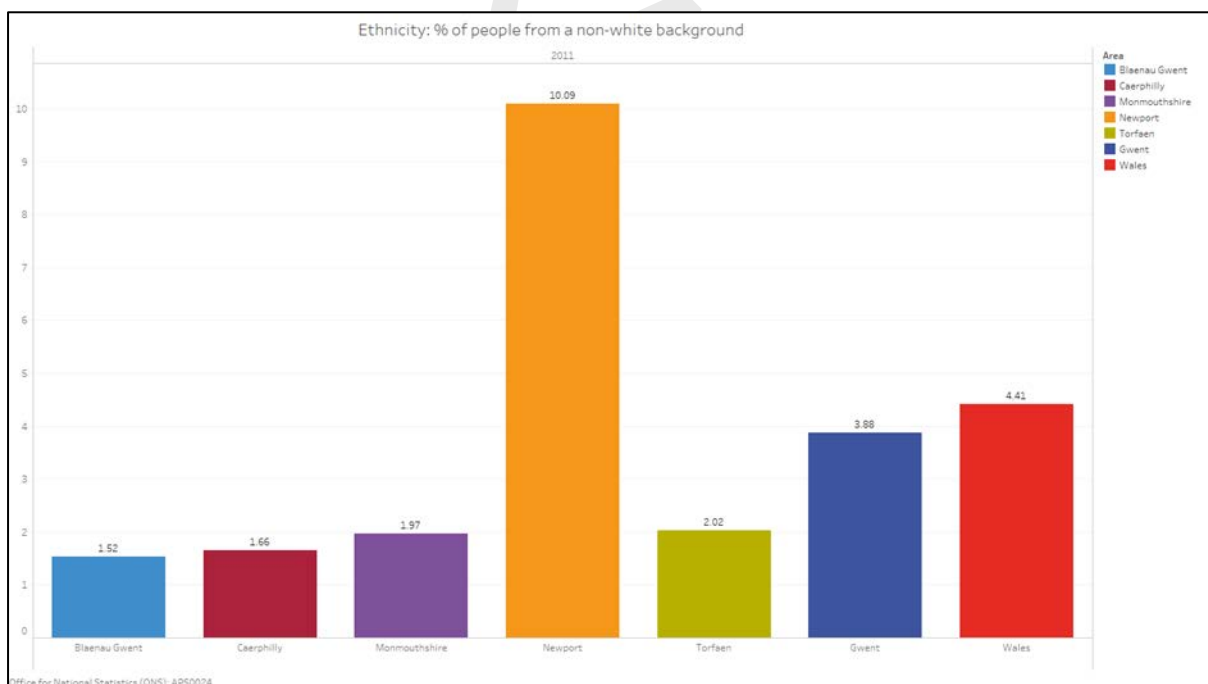


Figure C5 – Graph showing the percentage of people from a non-white background across Gwent <sup>7</sup>

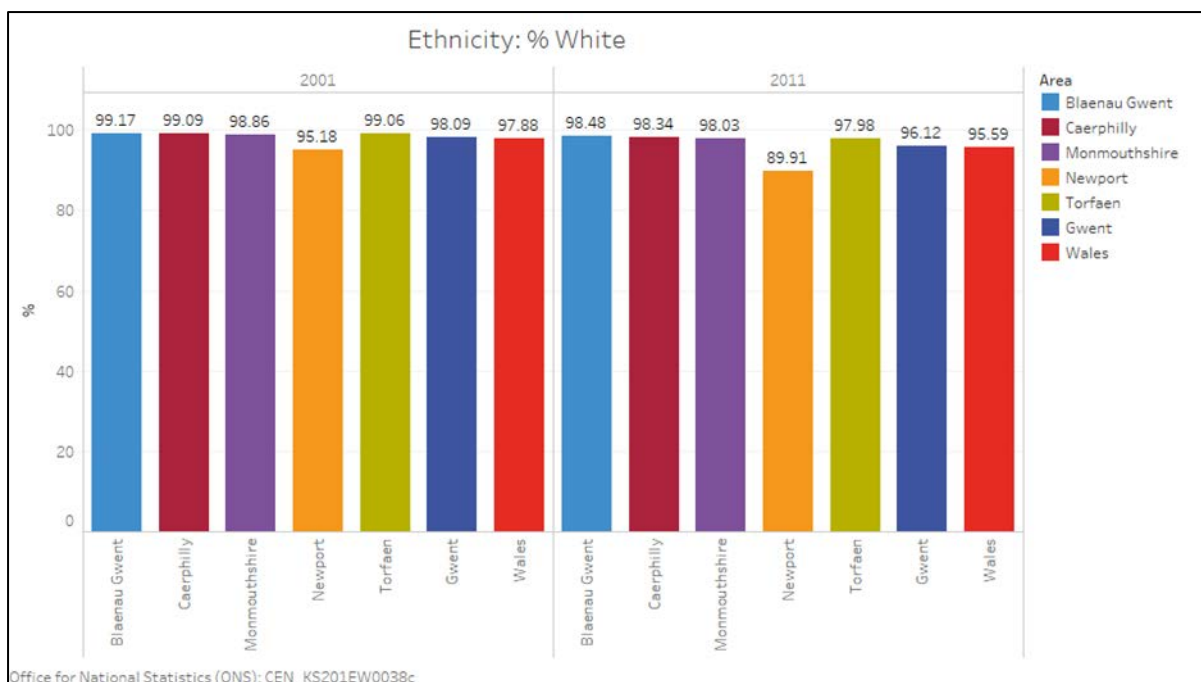


Figure C6 – Graph showing the percentage of White people across Gwent <sup>8</sup>

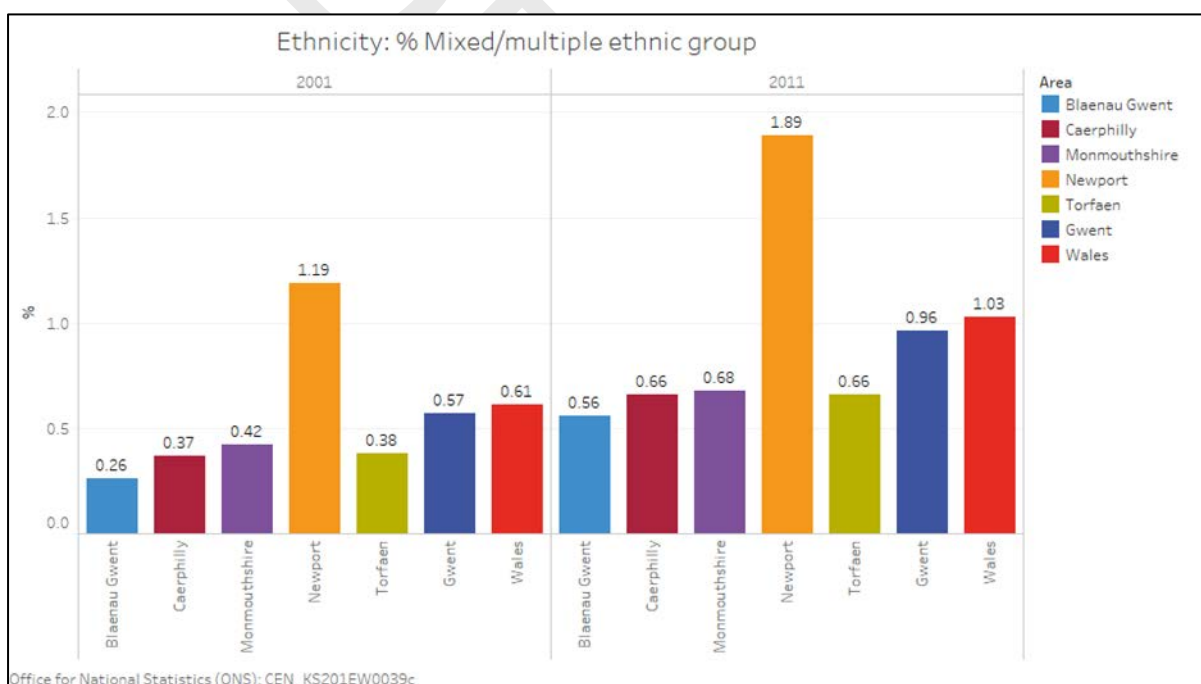


Figure C7 – Graph showing the percentage of Mixed / multiple ethnic groups across Gwent <sup>9</sup>

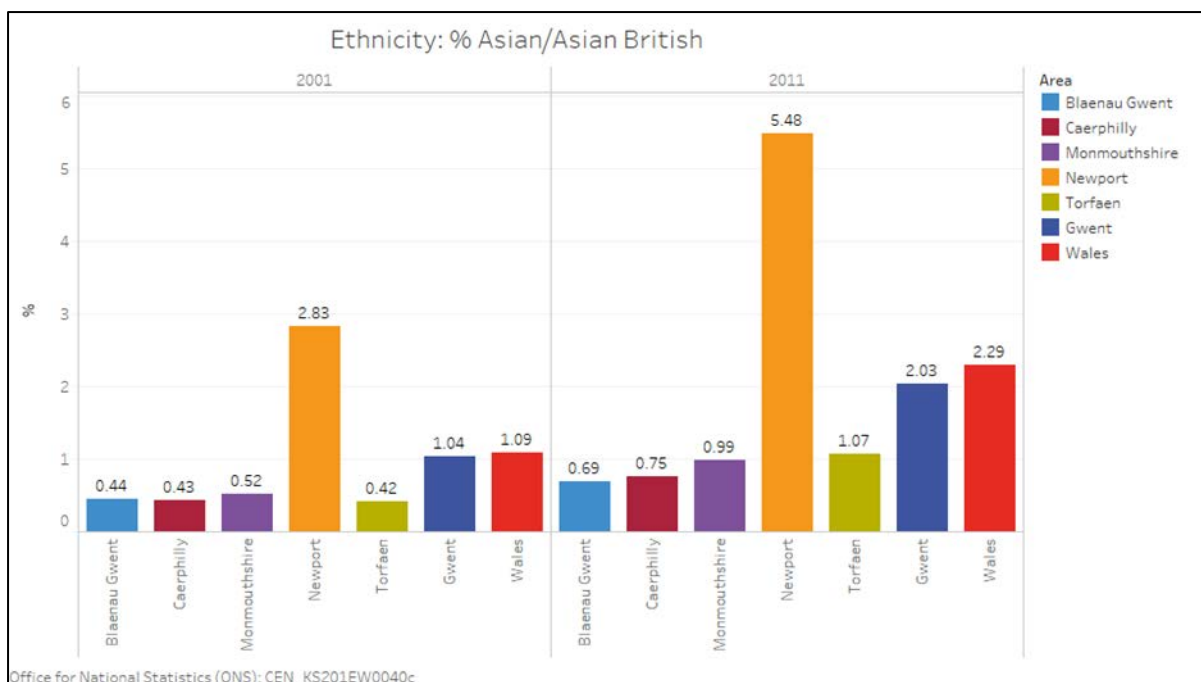


Figure C8 – Graph showing the percentage of Asian / Asian British across Gwent <sup>10</sup>

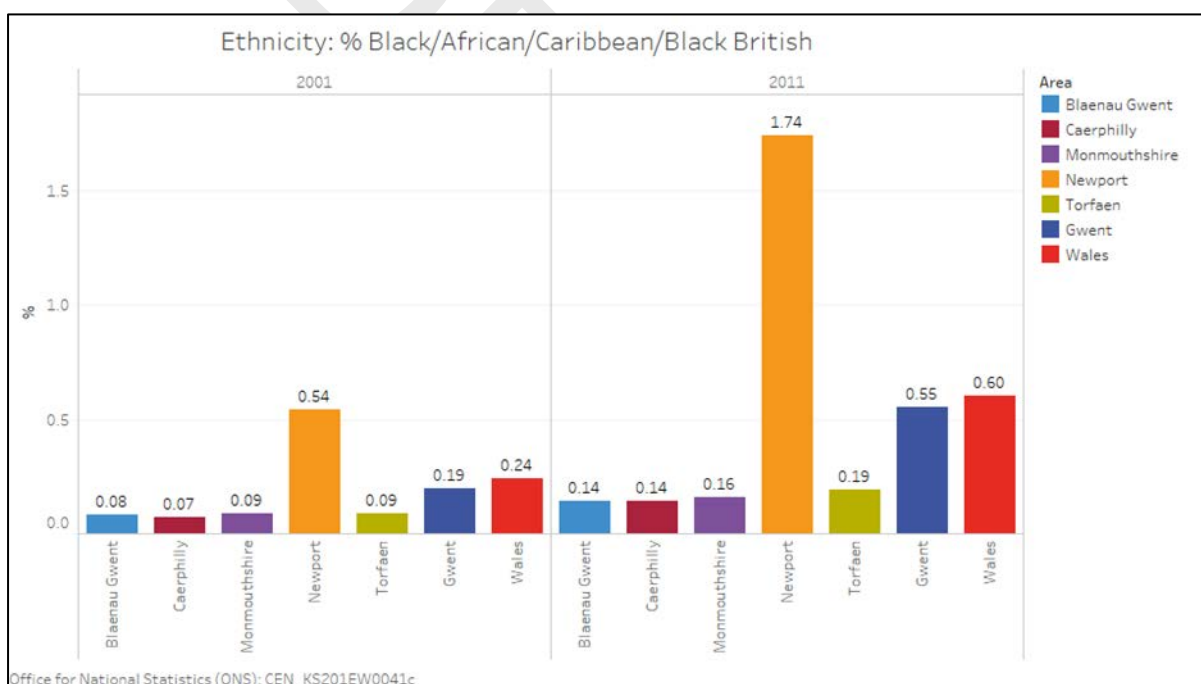


Figure C9 – Graph showing the percentage of Black / African / Caribbean / Black British across Gwent <sup>11</sup>

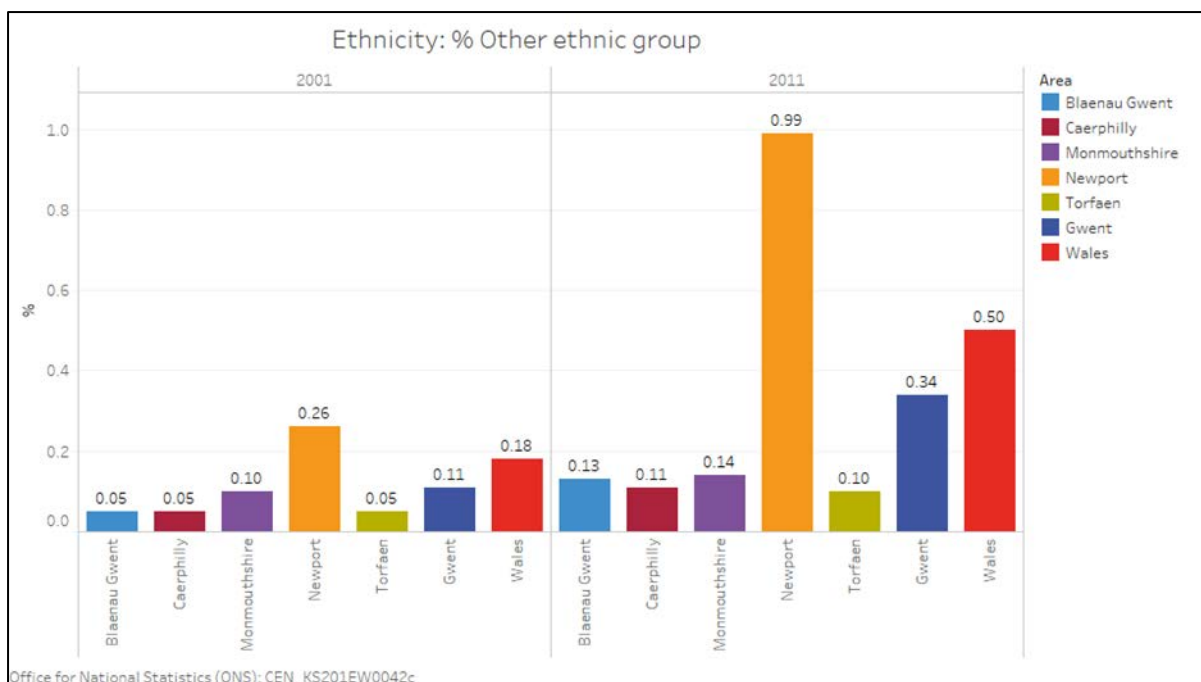


Figure C10 – Graph showing the percentage of Other ethnic group across Gwent <sup>12</sup>

Apart from Newport, which is the most multi-cultural of the local authority areas the region has little ethnic diversity. This lack of ethnic diversity could make it more difficult for people to understand each other's cultures and beliefs, as there are far fewer opportunities to interact with people from diverse backgrounds. This, in turn, could have an impact upon instances of hate crime or racism.

The full effect of Brexit is not yet understood; it may result in a reduction of people from other European countries settling in Wales, or it may increase the numbers making Wales their home from countries outside the European Union.

In recent months we have seen the introduction of refugee schemes which Gwent is taking part in. With the recent Afghanistan crisis, we may see an increase of refugees settling in the region. It will be interesting to see whether individuals settle in Gwent in the long term, or choose to move to areas with more diversity.

- **Refugees**

Refugees are people who have been recognised by the Home Secretary as in need of protection in line with the Refugee Convention on Human Rights, or for other specific reasons. By law, a person is a refugee until their application for British Citizenship has been approved. Refugees who choose not to apply for British Citizenship, and apply for *Indefinite Leave to Remain* instead, are referred to as *settled*. While there is a clear, legal definition of when someone finishes being a refugee, they may still 'feel' like a refugee for an undefined time, and may self-identify as a refugee.

Information from the Home Office<sup>13</sup> on the Vulnerable Persons Relocation Scheme (VPRS) and Vulnerable Children's Relocation Scheme (VCRS) shows that at the end of March 2020, 123 *settlement* refugees were living in Newport; 37 in Monmouthshire; 32 in Caerphilly; 33 in Torfaen; and 20 in Blaenau Gwent.

It's impossible to provide reliable figures for refugees across Gwent who have come through the *asylum route*. Once people have been granted Refugee status, they can choose where to live; they may move away from Gwent, while others may move into Gwent. However, any data about this is inconsistent and unreliable.

- **Asylum Seekers**

*Asylum Seekers* and *People Seeking Sanctuary* both describe people who have arrived in the UK and applied to be recognised as a refugee in accordance with the Refugee Convention. In Wales, the term *People Seeking Sanctuary* is preferred; this is also reflected in the Welsh Government Nation of Sanctuary plan.

The number of *People Seeking Sanctuary* fluctuates over time; but data isn't available across Gwent. In Wales, up to March 2021, 2,734 people were seeking sanctuary. Data isn't available for Gwent.<sup>[14](#)</sup>

- **Migrants**

At the international level, there is no universally accepted definition for *migrant*. The United Nations describes migrants as follows<sup>[15](#)</sup>.

*".....an international migrant is someone who changes his or her country of usual residence, irrespective of the reason for migration or legal status."*

There are many categories of migrants, such as students, migrant workers and EU migrants.

The latest Home Office<sup>[16](#)</sup> EU Settlement Scheme (EUSS) statistics, to June 2021, show approximately 6 million applications from people wanting to continue living in the UK, including 98,600 from Wales. There is no clear data source for the number of EU citizens living in the UK as the EUSS only measures those applying for settled status. Those who have applied may no longer live in the UK, or may not have decided yet on where they want to live long term. Data about migration is also available in the Annual Population Survey (APS) although this does not include EU citizens living in care homes, hostels or other communal establishments.

### 3. Welsh language

Welsh language is an important part of cultural identity and heritage and is used by many people each day in their homes, their communities and where they work.

Activities such as Welsh language music are bringing the language to a whole new audience including outside of Wales, and Eisteddfods and festivals can be a good place to meet people and learn new things. Other Welsh language activities provide opportunities to communicate at work and engage with services in your language of choice or bilingually.

Improving Welsh language provision in Gwent will help sustain Welsh culture and identity for future generations and support local place making. We need to ensure that future services are digitally inclusive for all, including Welsh speakers.

### 3.1 Community

The Census 2011 shows that for the percentage of people aged 3+ who can speak Welsh that all areas across Gwent are below the Wales average (19.01%) ranging from 11.19% in Caerphilly to 7.85% in Blaenau Gwent. These figures may be significantly different at the next Census.

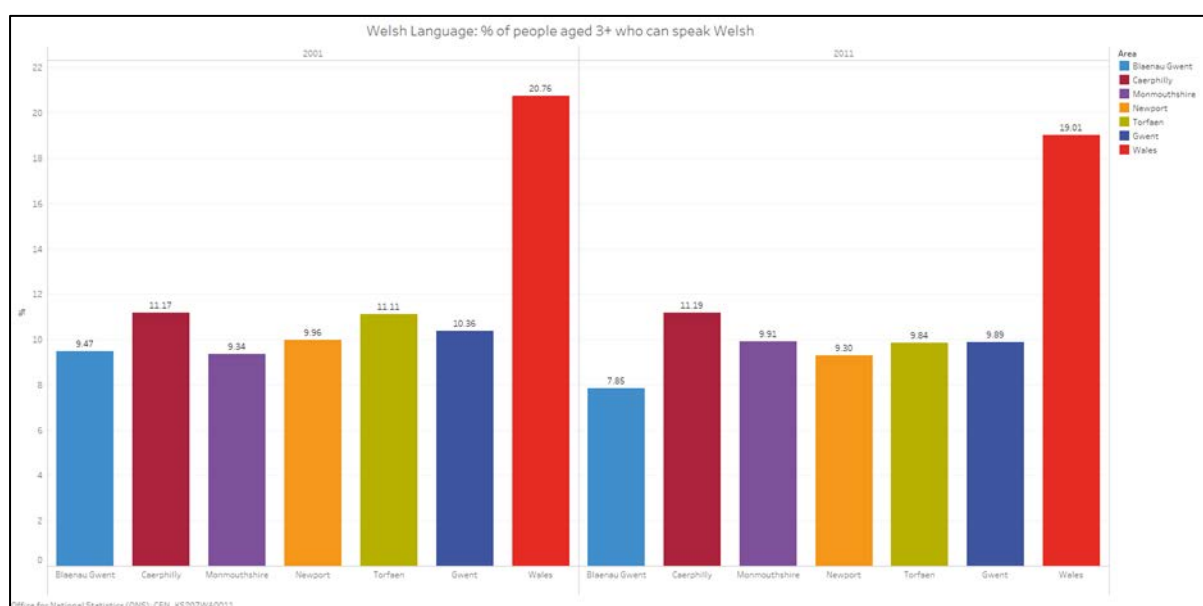


Figure C11 – Graph showing the percentage of people aged 3+ who can speak Welsh across Gwent <sup>17</sup>

The table below shows the percent of people aged 3+ who can speak Welsh across the Gwent region. All areas fall below the Welsh average.

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
<b>Caerphilly</b>	23.4	24.8	21.8	22.0	23.7	23.6	24.6
<b>Blaenau Gwent</b>	18.0	17.8	17.8	17.5	19.7	17.1	16.1
<b>Torfaen</b>	15.5	16.0	18.3	19.0	17.7	18.0	18.5
<b>Monmouthshire</b>	17.1	16.7	16.8	16.7	17.6	17.5	16.5
<b>Newport</b>	23.3	19.6	19.8	20.6	20.9	17.8	20.5
<b>Wales</b>	27.8	27.3	28.8	29.0	29.8	28.4	29.1

Figure C12 – Table showing the percentage of people aged 3+ who speak Welsh across Gwent <sup>18</sup>

The long-term aspiration of the public sector is to increase the number of Welsh speakers, raise awareness, increase the visibility and promote the economic benefits of the Welsh language across its population. Increasing opportunities for those with all levels of Welsh to practice and speak Welsh in a safe, friendly, and supportive environment, and to engage with those who might have no awareness of the language.

The Welsh Language Standards require local authorities, to promote and facilitate the use of the Welsh language increasing its visibility in the community. Each council has to prepare a 5-year strategy in consultation with local stakeholders and the wider population, to support the Welsh Government's aim in Cymraeg 2050 of a million Welsh speakers by 2050.

. The Strategy should contain:

- A target for increasing or maintaining the number of Welsh speakers in the area
- An Action Plan that explains how it is intended to achieve the strategy

Members of the Welsh Language Forum and the Welsh in Education Forum and other stakeholders will help Council's to deliver a Welsh language vision

In areas with low numbers of Welsh speakers, education has an important role to play in increasing language skills as set out in the Welsh in Education Strategic Plans (see section 3.2).

Current Strategies (new ones will be ready by March 2022) can be viewed here: [Blaenau Gwent Council](#); [Caerphilly County Borough Council](#); [Monmouthshire County Council](#); [Newport City Council](#); and [Torfaen County Borough Council](#).

#### Mentrau Iaith and Welsh Language Forums

Mentrau Iaith are community-based organisations which work to raise the profile of the Welsh language in a specific area. Each local Menter Iaith receives a basic grant from the Welsh Government, as well as financial support from a number of other sources, to work with individuals, organisations, and local business to promote the use of Welsh in its area.

The local Menter Iaith is responsible for the coordination of the Welsh Language Forum for the local area. Membership is drawn from a range of key stakeholders from across the public and voluntary sectors. The forums are generally used as a focus group, to share good practice and partnership working. There are three Fforwm Iaith across Gwent. Support is provided from the local authority to assist with this work although each is managed and administered differently due to variations in funding arrangements, membership, and stakeholder relationships. This makes direct comparison difficult in terms of objectives, targets and activities.

#### **Menter Iaith Blaenau Gwent, Torfaen a Mynwy**

Covering the areas of Blaenau Gwent, Torfaen and Monmouthshire, Menter Iaith BGTM aims to promote and increase the use of the Welsh language. They arrange a variety of Welsh medium events and social activities for people of all ages, background and linguistic abilities, including new Welsh speakers.

Taking part in events is a great way of making friends and getting to know other Welsh speakers in the area.

**Menter Iaith Caerffili – Covering Caerphilly county borough**, Menter Iaith Caerffili aims to promote and increase the use of the Welsh language, by ensuring it becomes a central part

of life within the county and that communities share the responsibility for its future and development.

**Menter Iaith Casnewydd** - Covering Newport, Menter Iaith Casnewydd's aim is to increase the use of Welsh by children and adults and make it a language that is part of the city's social fabric by enabling people to live and work in Welsh. They organise lots of events for children (nursery, primary, youth), young adults, families, learners and the elderly.

### 3.2 Education

Cymraeg 2050 introduces a long-term vision for a Wales where the Welsh language thrives including having 1 million Welsh speakers by 2050 and increasing the number of people using Welsh on a daily basis. **Add ref as endnote.**

For the education system, the proportion of all school year groups that receive their education through the medium of Welsh needs to be increased.

As well as increasing the proportion of learners being taught through the medium of Welsh, Cymraeg 2050 aims to transform how Welsh is taught so more learners can speak Welsh by the time they leave school; and

- Increase the number of primary and secondary teachers who can teach through the medium of Welsh;
- Increase the number of secondary teachers who can teach Welsh as a language,

*The School Standards and Organisation (Wales) Act 2013* requires a local authority to prepare a Welsh in Education Strategic Plan containing proposals on improving the provision of education, standards and teaching through the medium of Welsh, with targets and annual progress reports.

**WESP document as endnote**

### 3.3 Workforce

As more people across Gwent start to use Welsh on a daily basis, public services need to be able to provide services in Welsh. Public services (Local Authorities, Gwent Police & Aneurin Bevan University Health Board) across Gwent report the Welsh language skills for staff in different ways so it is difficult to provide a cumulative figure.

Newport	None	Beginner	Intermediate	Advanced	No Record
Reading	2692	1253	234	240	1446
Spoken	2489	1449	236	235	1456
Understanding	2506	1421	240	248	1450
Written	2752	1197	213	222	1481
Percentage of headcount	42.73%	24.23%	4.09%	4.23%	24.72%

Figure C13 – Table showing Welsh Language Skills of Employees from Newport City Council in 2020-21 <sup>19</sup>

Caerphilly	Council Total
Total Staff	8296
Welsh Speakers	1825
Percentage	21.99%

Figure C14 – Table showing Welsh Language Skills of Employees from Caerphilly County Borough Council in 2020-21 <sup>20</sup>

Monmouthshire	Beginner	Advanced beginner	Intermediate	Advanced	Fluent
Welsh Language Skills (not incl. school-based staff)	173	32	18	6	35

Figure C15 – Table showing Welsh Language Skills of Employees from Monmouthshire County Council in 2020-21 <sup>21</sup>

Torfaen	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5
Welsh Language Skills	1496	183	26	10	12	20
Percentage	86%	10%	1%	1%	1%	1%

Figure C16 – Table showing Welsh Language Skills of Employees from Torfaen County Borough Council in 2020-21 <sup>22</sup>

Blaenau Gwent	No ability	A little	Quite Well	Moderately	Fluently	No Response
Speak Welsh	1503 (51%)	353 (12%)	20 (1%)	143 (5%)	41 (1%)	909 (30%)
Understand Welsh	1467 (49%)	396 (13%)	27 (1%)	167 (6%)	42 (2%)	871 (29%)
Write Welsh	1536 (52%)	291 (10%)	22 (1%)	118 (4%)	37 (1%)	964 (32%)
Read Welsh	1521 (51%)	305 (10%)	29 (1%)	138 (5%)	41 (1%)	934 (32%)

Figure C17 – Table showing Welsh Language Skills of Employees from Blaenau Gwent Council in 2020-21 <sup>23</sup>

Welsh Language Skills of Employees (Gwent Police)			
Level	Number of Employees		
	2018/19	2019/20	2020/21
1	1598	1765	1912
2	39	38	41
3	24	20	22
4	34	34	37
5	22	21	27
Total	1717	1878	2039
Total number of employees	2138	2262	2447

Figure C18 – Table of Welsh Language Skills of Employees from Gwent Police <sup>24</sup>

Aneurin Bevan University Health Board			
Level	Listening / Speaking Welsh	Reading Welsh	Writing Welsh
0 - No Skills / Dim Sgiliau	3790	3753	3867
1 - Entry/ Mynediad	676	590	462
2 - Foundation / Sylfaen	136	118	131
3 - Intermediate / Canolradd	80	76	58
4 - Higher / Uwch	82	71	61
5 - Proficiency / Hyfedredd	91	95	78
Total Completed Compliance	4855	4703	4657
Total Not Completed Compliance	9809	9961	10007

Figure C19 – Table of Welsh Language Skills of Employees from Aneurin Bevan University Health Board in 2020-21 <sup>25</sup>

Each local authority has its own processes for recruiting staff.

Public Sector Body	Number of Posts	Welsh Language Essential	Welsh Language Desirable	Welsh Needs to be learnt in post	No Welsh Skills Required
Blaenau Gwent Council	161	2	159	0	0
Caerphilly CBC	690	4	684	42	7*
Monmouthshire County Council	166	1	165	0	0
Newport City Council	291	6	17	0	268
Torfaen CBC	334	12	3	0	319
ABUHB	2415	14	2258	18	125

Figure C20 – Table showing the Welsh Language requirements for posts advertised across the 5 Gwent LA's and Aneurin Bevan University Health Board during 2020-21 <sup>26</sup>

\*These posts were assessed as no Welsh language skills necessary due to the Welsh language skills of the other team members. All vacancies however are advertised as Welsh desirable as a minimum requirement.

Each local authority has its own ways of recording the number of employees taking part in training. The numbers of staff taking part in Welsh language training has also been affected by Covid-19.

Figure C12 – Table showing the Welsh language courses attended by staff across the 5 Gwent LA's during 2020-21

Public sector Body	Courses Attended
Blaenau Gwent Council	6 (Welsh in Workplace)
Caerphilly CBC	246
Monmouthshire County Council	25
Newport City Council	9 (plus 30 - Say Something in Welsh App)
Torfaen CBC	14
ABUHB	1,653 (across multiple courses)

Figure C21 – Table showing the welsh language courses attended by staff across the 5 Gwent LA's and Aneurin Bevan University Health Board during 2020-21 <sup>27</sup>

Are we able to add anything in about other languages used in Gwent? Might not be in this section by it does help to give an idea of diversity.

#### 4. Community cohesion

Participating in cultural activities can be a good way to build cohesive communities, where people from different backgrounds and ages come together, feel safe and respected and that they belong, including the socially isolated, the lonely and those with health issues.

The Covid 19 pandemic has seen communities come together to support each other, setting up support groups, foodbanks and other initiatives at a very local level. Many people now know their neighbours more than they did before. Technology has also played its part in

supporting communities during the pandemic, allowing people to keep in touch remotely during lockdowns. It has allowed people to work from home, meaning they are spending more time in the places they live. However digital literacy, access and affordability of technology has been a barrier to some of our communities.

As well as being an opportunity to learn new skills, volunteering can enable people to meet, gain confidence and improve the places they live.

#### 4.1 Community & social action

When considering community and social action voting turn out can show us how much our communities want, and feel able, to get involved in having a say within our political systems.

Across Gwent voter turnout decreased between 2016 and 2021, apart from in Monmouthshire which experienced a 4% rise in 2021.

This information can be perceived in several ways but could potentially show that local communities are not taking an interest in politics, or even feel that their voices are not heard and so choose not to take part.

Voting Turn Out (based on Senedd Elections)						
	Caerphilly	Blaenau Gwent	Torfaen	Monmouthshire	Newport	Gwent
% of voters 2016	43.4	42.1	38.3	48.6	40.8	42.6
% of voters 2021	43.0	29.0	37.0	52.5	40.5	40.4

Figure C22 – Table showing voting turn out for Senedd Elections for Local Authority areas across Gwent for 2016 and 2021  
28

The National Survey for Wales shows a similar picture to voter turnout, with people across the region generally feeling less able to influence local decision making since 2013. It will be interesting to see if the response, both locally and nationally, to the Covid 19 pandemic impacts on people's views.

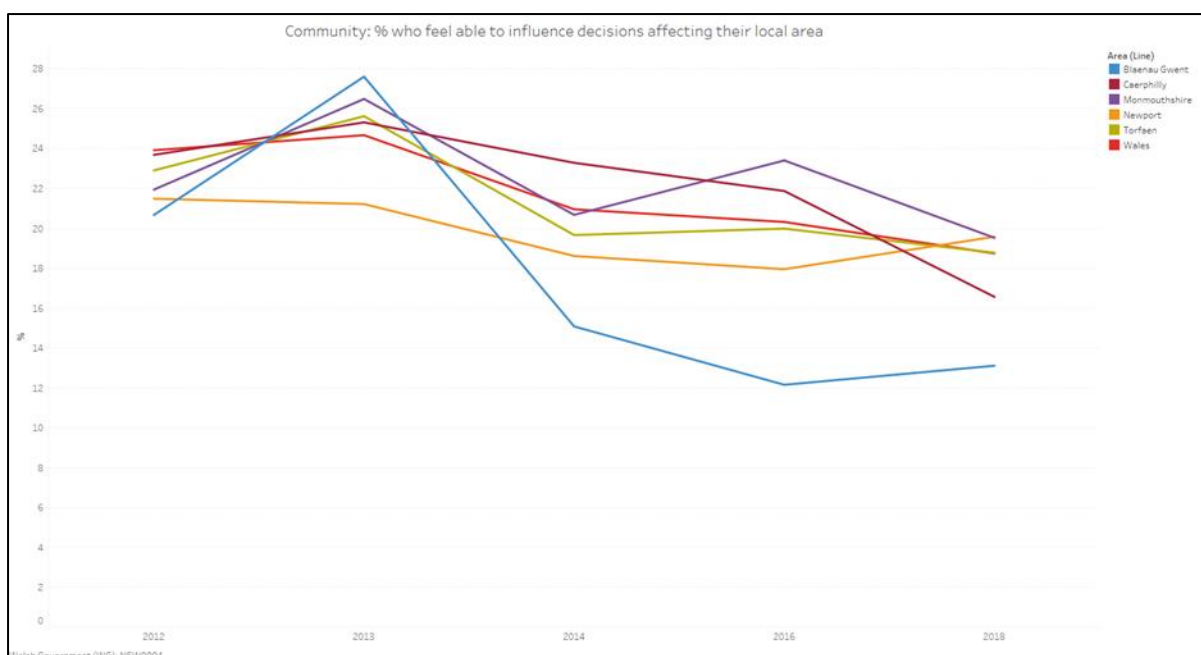


Figure C23 – Graph showing the percentage of people who feel able to influence decisions affecting their local area across Gwent <sup>29</sup>

## 4.2 Volunteering

Available data shows that between 2016 and 2019 there was a decrease in volunteering across the Gwent region.

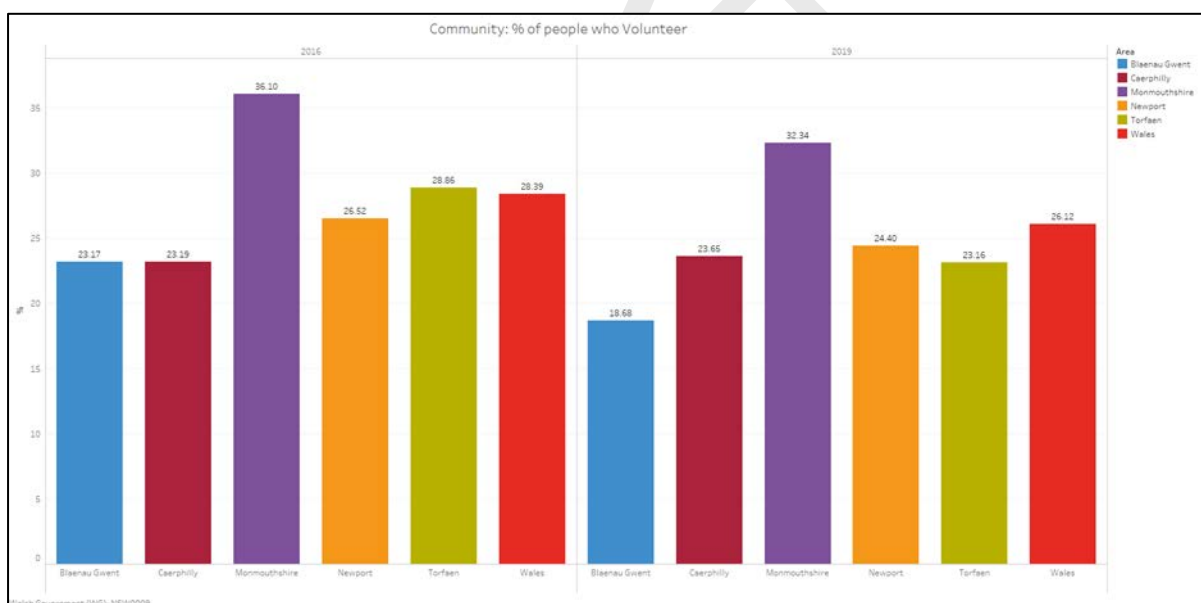


Figure C24 – Graph showing the percentage of people who volunteer across Gwent <sup>30</sup>

The highest level of volunteering in Gwent can be seen in Monmouthshire and lowest in Blaenau Gwent. This is likely to be due to the differences in deprivation across the two areas. Lower levels of deprivation in Monmouthshire are likely to result in residents having more time and financial freedom to volunteer. In turn, this means that the residents of Monmouthshire

are more likely to experience the rewards of volunteering than the rest of Gwent. This can be as direct result of the work the volunteer does as well as the positive impact on their well-being of having made a difference.

Data is not currently available for 2020 and 2021 and it is unknown how the pandemic will have affected the numbers of people who have taking part in volunteering. There is a potential that due to social distancing and shielding there could be a further decrease. It is also possible that people who were furloughed were able to use their time to support their communities. We are also aware of instances where communities have pulled together to volunteer during the pandemic which are highlighted in our “community strengths” section.

The Wales Centre for Public Policy has stated that “Understanding how volunteering has changed during the pandemic is complex. Some volunteers have seen little or no change to their role; many are volunteering for the first time; some have shifted to digital roles; and others have been forced to stop, either owing to services ceasing, or because they needed to shield or care for others.”

They continue to explain that “A range of studies suggest that overall rates of formal volunteering have remained broadly similar to the pre-pandemic period, but that this hides a significant shift in terms of who has and has not volunteered during this period” <sup>31</sup>

#### **4.3 Community cohesion & belonging**

How welcome people feel in their community or neighbourhood can have an impact on their sense of belonging. Gwent has relatively low levels of diversity in its communities which could mean those from other cultures, sexualities or belief systems feel less included or become the victims of hate crimes.

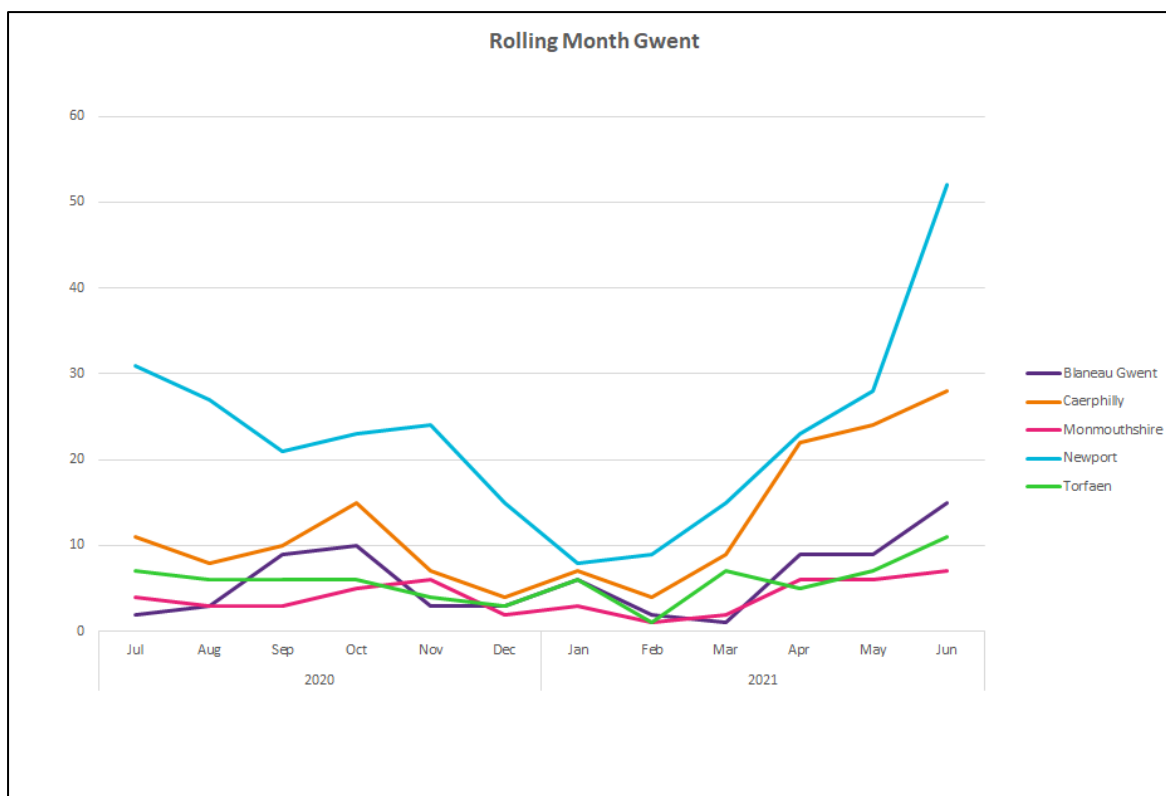


Figure C25 – Graph showing Reported Hate Crimes from Victim Support figures

## Belonging

Feelings of belonging have fluctuated in recent years across Gwent. Data shows that Monmouthshire has the highest numbers of individuals feeling like they belong to their community, with Torfaen showing the lowest. Areas of deprivation may result in individuals not having the disposable income to get as involved with community activities or due to working hours/job type not having the time to get involved. This in turn could result in higher levels of loneliness, isolation, or a feeling of not being part of their community. Again the pandemic may have impacted on a person's feelings of belonging to their community, either due to being more isolated or because they have interacted with the neighbours more.

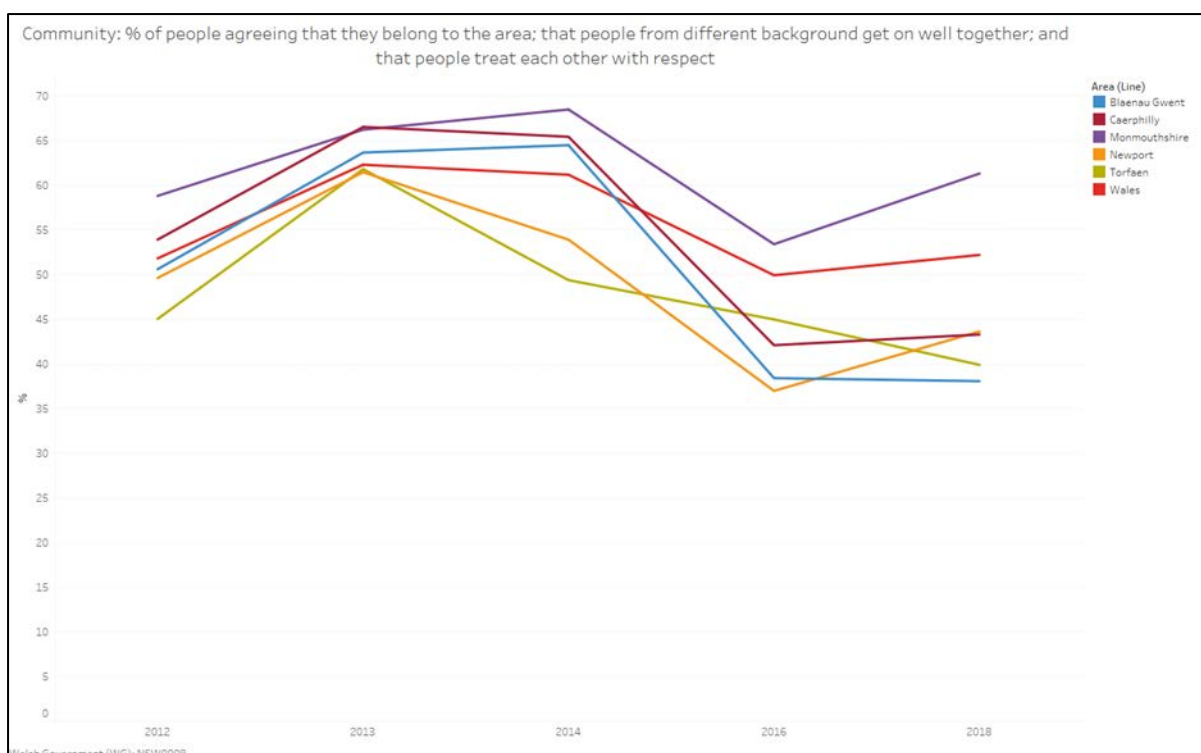


Figure C26 – Graph showing the percentage of people agreeing that they belong to the area; that people from different backgrounds get on well together; and that people treat each other with respect across Gwent <sup>32</sup>

## 5. Arts & heritage

Arts and heritage can bring people together, connect them with the places they live, link them to the past and broaden their outlook. They contribute to the local economy providing jobs and revenue. Participation can also have a positive impact on physical and mental health.

Data shows that across Gwent, between 2017 and 2019, there was a drop in the number of people attending or participating in arts, culture, or heritage at least 3 times a year, except for Caerphilly where there was a slight increase. <sup>33</sup> The pandemic, and the resulting lockdowns, will have significantly impacted on people's ability to attend or take part in events and activities. While physical attendances will have reduced, virtual events and participation may have increased, especially amongst those less able to get about.

Gwent can expect more extreme weather events in the future because of the changing climate. This could impact on the local landscape and on heritage assets and their ability to contribute to wider culture and the economy.

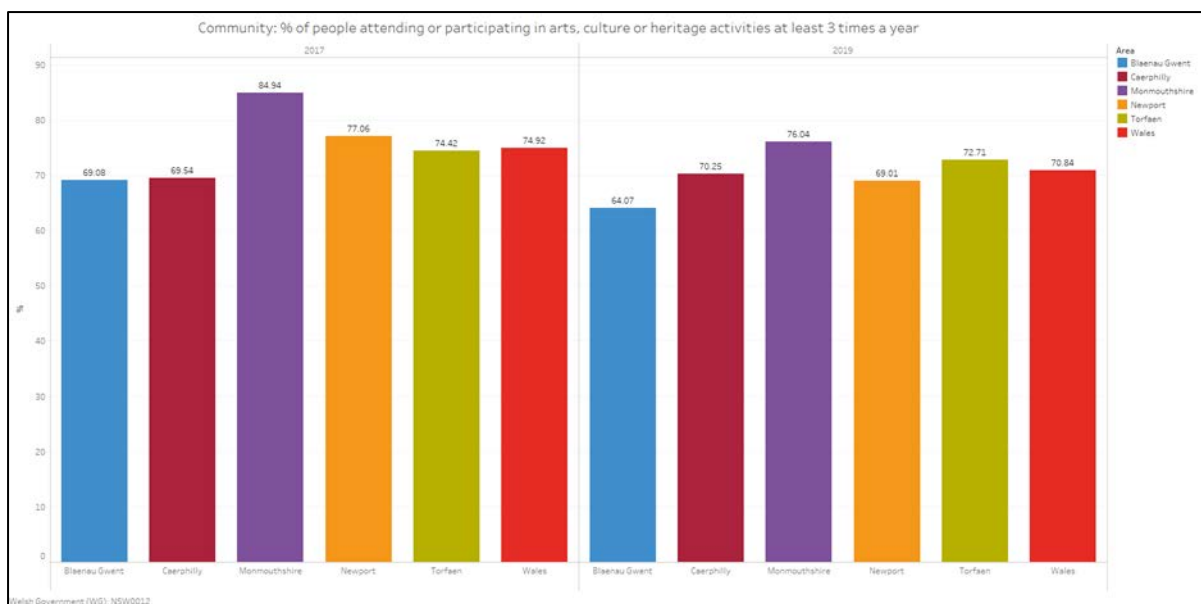


Figure C27 – Graph showing the percentage of people attending or participating in arts, culture or heritage activities at least 3 times a year across Gwent

Again, this difference may be due to levels of deprivation and the amount of money people have available to access arts and culture. It may also be due to fewer places to engage with arts and culture.

## 5.1 Arts

Since 1993 (Adults) and 2007 (Children and Young People) the Arts Council of Wales<sup>34</sup> have conducted annual attendance and participation research surveys comparing the Wales average with a number of regions, including South East (Gwent).

Region	2017	2018	2019
Gwent	78.1%	↑ 84.4%	↑ 88.4%
Wales	80.7%	↑ 84.6%	↑ 86.8%

Figure C28 - Table showing the percentage of adults attending any artform once a year or more across Gwent and Wales during 2017-19

Other data sources shows that attendance levels for adults have consistently increased across Wales and for the Gwent region since 2017, with the average across Gwent in 2019 now above the Wales average.

Region	2017	2018	2019
Gwent	45.9%	↑ 48.3%	↑ 57.2%
Wales	45.8%	↓ 45.6%	↑ 49.3%

Figure C29 – Table showing the percentage of adults taking part in arts activities once a year or more across Gwent and Wales during 2017-19

Participation levels for adults across Gwent have increased each year since 2017 and has regularly been above the Wales average.

Region	2017	2018	2019
Gwent	79.5%	83.4%	80.5%
Wales	86.5%	89.3%	86.7%

Figure C30 – Table showing the percentage of children and young people attending any arts event once a year or more across Gwent and Wales during 2017-19

Attendance levels for children and young people reduced across Wales and the Gwent region in 2019, with Gwent being consistently below the Wales average.

Region	2017	2018	2019
Gwent	80.2%	82.2%	85.2%
Wales	87.4%	87.0%	86.1%

Figure C31 – Table showing the percentage of children and young people taking part in any artistic activity once a year or more across Gwent and Wales during 2017-19

Participation levels for children and young people have increased across Gwent since 2017, while decreasing across Wales. Even though this gap has reduced the average across Gwent in 2019 is still slightly below the Wales average.

It is important to note that the impact of the Covid-19 pandemic is not shown in these figures and the impact on visitor and participation numbers in this sector will be considerable. The following profiles provide an early indication of the impact of Covid-19 on the arts sector and some of the funding that has been directed to sustain the sector and to maintain the provision of cultural activity across the communities of Gwent.

[Arts Council of Wales – Blaenau-Gwent Profile](#)

[Arts Council of Wales – Caerphilly Profile](#)

[Arts Council of Wales – Monmouthshire Profile](#)

[Arts Council of Wales – Newport Profile](#)

[Arts Council of Wales – Torfaen Profile](#)

## 5.2 Cultural events

The cultural events that take place throughout the year across the Gwent region reflect the vibrancy and diversity of both the cultural heritage and the present-day strength of community-driven cultural activity.

Large-scale cultural events across the region bring economic benefits and raise the profile of specific sites, bringing in UK and international visitors. Small-scale community-generated events help to foster a feeling of community cohesion and belonging and can provide focal points for inter-generational cross-cultural activity.

Described below are just a few examples of cultural events taking place across the region.

- The Big Cheese festival will return as a live event in July 2022 following online versions in 2020 and 2021 due to the Covid-19 pandemic. Centred around a cheese market it includes cookery demonstrations and live music from local artists. Caerphilly Castle is transformed into a medieval encampment with displays and

battles. Organised by Caerphilly County Borough Council and supported by the Welsh Government, the festival attracts high numbers of visitors over the three-days (80,000 in 2012) and is the only dedicated cheese festival in Wales.

- Abergavenny Food Festival returns as a live event in September 2021. Enjoying an exceptional reputation as a place for chefs, food businesses, journalists, farmers and food producers to come together the festival includes product tastings, masterclasses, hands-on cookery lessons and topical debates. Engaging with influential chefs, commentators and journalists both nationally and internationally, the festival has grown to become one of the highest profile food events in Britain, attracting more than 30,000 visitors to Abergavenny and generating an estimated £4 million impact for the local economy within Monmouthshire.
- The Steelhouse Festival takes place at the edge of the Brecon Beacons National Park, above Ebbw Vale in Blaenau Gwent and is officially the UK's highest music festival. With a capacity of 5000, over its 11-year history it has attracted many high-profile classic rock bands, attracting overseas visitors, raising awareness of the area and contributing to the local economy.
- The Usk Show has been taking place every September since 1844, creating an important focal point in the farming year for rural communities across Gwent. Organised by the Usk Farmers' Club and celebrating Monmouthshire farming and rural life, it is one of the biggest One-Day Agricultural Shows in the UK. Taking place at the 100-acre Usk Showground near the village of Gwernesney, over 300 traders attend each year.
- The third ABP Newport Wales Marathon & 10K takes place on Sunday 24 October 2021, having been deferred from 2020 due to the COVID-19 pandemic. A firm favourite on the Welsh running calendar, the route offers iconic landmarks, like the city's Transporter Bridge and the stunning scenery of the Gwent Levels – with its coastal wildlife and picturesque medieval villages. The supporting 10K race, which attracts some of the UK's top athletes, gives runners of all abilities the opportunity to get involved in the festival of running.
- Blaenavon World Heritage Day celebrates the town's World Heritage Site status. The heritage costume parade is an annual highlight for the town with a different theme every year. Other highlights include a Victorian fun fair, street entertainers, craft stalls, dancers, live music and special offers from local shops/businesses.
- **POSSIBILITY HERE OF SIGNPOST TO ECONOMIC SECTION – FURTHER CONTEXT RE TOURISM**

**Link to environmental assets and tourism.**

### **5.3 Museums, heritage & landscapes**

While landscape and heritage attractions play a vital role in the tourist economy, we also need to recognise how important they are to people's feeling of belonging and cultural identity.

The Natural Landscape

Gwent's natural landscape varies widely across the region from the upland valleys and hills of Blaenau Gwent, Caerphilly and Torfaen to the wooded farmland of the Wye Valley in Monmouthshire and the Gwent levels in Newport. The contribution that access to outdoor space, and particularly to a high quality natural environment, makes to well-being has become increasingly recognised. This has become even more apparent during the Covid 19 pandemic when national and regional lockdowns have meant that people have become more reliant on their local outdoor spaces for exercise and recreation. Activities such as walking, running, cycling, bird watching and wild water swimming all allow people to keep fit and active and to enjoy the natural world around them. Many residents of Gwent also take part in volunteering activities associated with the natural environment such as helping with path maintenance in areas popular with walkers, taking part in beach and river cleans and litter picks and maintaining or creating habitats that support local biodiversity.

Future risks to this valuable natural landscape include the effects of climate change that will cause habitat loss as well as flooding and erosion, potential development of natural areas for housing or commercial activity and, in some areas, over-use of the natural environment for recreation is becoming a problem.

#### The Historic Environment

People may feel pride in historically significant sites in their local area and enjoy protected historic landscapes. Heritage sites, museums and historic landscapes also offer many people the opportunity to get involved with volunteering and enjoy and connect with their environment.

Gwent has a rich array of historic sites, landscapes and museums. The Covid-19 pandemic has meant that most of these sites experienced lengthy periods of closure in 2020-21. The full effects of this have yet to be fully understood and targeted funding may reduce some of the possible negative outcomes for the sector.

The Heritage Lottery Fund have announced refocused priorities for heritage projects for 2021-22 in response to issues and trends emerging from the Covid-19 pandemic. Their funding priorities will be for heritage projects that:

- boost the local economy
- encourage skills development and job creation
- support wellbeing
- create better places to live, work and visit
- improve the resilience of organisations working in heritage

Some examples of notable historic places and heritage attractions across Gwent include:

- |  |   |
|--|---|
| • The Transporter Bridge Newport                     | • Big Pit National Coal Museum, Torfaen     |
| • Tredegar House Newport                             |   |
| • National Roman Legion Museum<br>Caerleon - Newport | • Blaenavon World Heritage Site,<br>Torfaen |

- Cefn Golau Cholera Cemetery,  
Blaenau Gwent
- Nantyglo Roundhouse, Towers  
Blaenau Gwent
- Sirhowy Ironworks, Blaenau Gwent
- Tintern Abbey, Monmouthshire
- Raglan Castle, Monmouthshire
- Abergavenny Castle,  
Monmouthshire
- Caerphilly Castle, Caerphilly
- The Winding House, Caerphilly

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valued by their local communities, whilst also contributing to the economic health of the area. For more information about the economic impact of tourism see:

## **SIGNPOST HERE TO ECONOMIC SECTION – FOR FURTHER INFORMATION RE ECONOMIC IMPACT OF TOURISM ACROSS REGION**

### **5.5 Creative Economy**

The creative industries have become one of the fastest growing parts of the Welsh economy. The sector creates jobs and helps to promote Wales and its culture and talent on the international stage. In January 2020, the Welsh Government launched Creative Wales, as a Welsh Government agency, to champion the creative industries in Wales. The creative industries, particularly music and film have been badly disrupted by the Covid-19 pandemic. However, local clusters of innovation, particularly around digital technology, continue to flourish and form part of the transition to an economy that is supported by new and emerging technologies, replacing some of the traditional drivers of the Welsh economy. These new and emerging sectors are providing valuable employment opportunities at the local level and local FE and HE providers across Gwent are supporting this transition by providing training and qualifications targeted at providing a highly skilled workforce for these new and emerging industries.

Footnote: [Cardiff Capital Region Industrial and Economic Plan](#)

## **6. Leisure & sporting activities**

Sports and leisure activities play an important part in supporting people to live healthy lives, where they can achieve their potential. They also provide opportunities for people to meet socially, have fun in the outdoors or try something new.

The UK climate risk assessment identifies that Wales is likely to be warmer in the future.<sup>36</sup> This may provide more opportunities for increased outdoor sports and leisure activity in Gwent in the future.

Future Gwent could be healthier if people did more physical activity.

### **6.1 Leisure**

In Wales, most forest sites and national nature reserves managed by Natural Resources Wales (NRW), saw a 90% reduction in visits during the first lockdown in March to June 2020, but a substantial rebound during the more open summer season from July to September, with visitor numbers at some sites almost doubling compared to previous years.

Tourism has also been heavily affected by the pandemic, with lockdown restrictions impacting on businesses and the extended economy during some of the peak holiday times of the year. Many people are now choosing to stay in the UK for day trips, short breaks and holidays instead of flying abroad, which is good for the economy, and the global environment, but is increasing pressure on some popular tourist sites.

## 6.2 Participation in sporting activities

The National Survey for Wales asked 12,300 people whether they took part in any type of sport or physical activity.

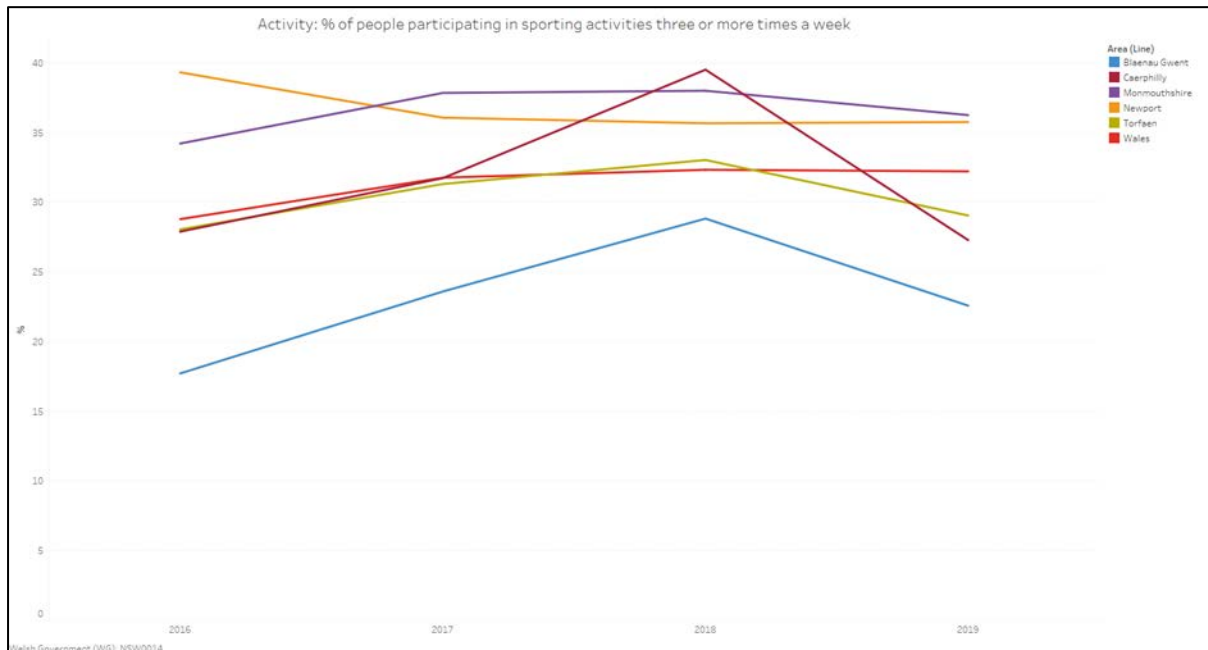


Figure C33 – Graph showing the percentage of people participating in sporting activities three or more times a week across Gwent <sup>37</sup>

Figure C34 – Graph showing the percentage of adults who reported meeting exercise / physical activity guidelines in the past week across Gwent <sup>38</sup>

Out of the individuals who completed the survey in the Gwent area, the following results were found:

Taking part in any sort of physical activity				
% of individuals who said "yes"	16/17	17/18	18/19	19/20
Blaenau Gwent	45	49	56	43
Caerphilly	56	56	67	56
Monmouthshire	70	70	64	62
Newport	69	67	65	63
Torfaen	61	59	65	59

Figure C35 – Table showing the percentage of people who took part in any sort of physical activity across the Gwent local authority areas <sup>39</sup>

The survey showed that the area with the lowest numbers of people taking part in sport or physical activity was Blaenau Gwent, and the highest was Monmouthshire. However, the sample size is limited which makes it difficult to draw wider conclusions about overall physical activity in Gwent.

Access to green space and walking routes or leisure facilities within easy reach may make it easier for residents to be active. People's work or caring responsibilities may also have an impact.

Parkruns have become increasingly popular in recent years and there are numerous parkruns taking place on a weekly basis across the Gwent region. Newport has the most with three however, surprisingly, Monmouthshire has zero.

	Caerphilly	Blaenau Gwent	Torfaen	Monmouthshire	Newport	Gwent
<b>No of Park Runs</b>	2.0	2.0	2.0	0.0	3.0	9

Figure C36 – Table showing the number of Parkruns held across Gwent <sup>40</sup>

The Parkrun in Gwent with the highest number of attendees recorded was in Newport in 2016, however four park runs reached their peak popularity during 2020. Future analysis will be needed to show the effects of Covid-19 on numbers participating either as a volunteer or runner at parkruns.

Name	LA	Highest Attendance	Year
Newport	Newport	711	2016
Riverfront	Newport	628	2019
Brynbach	Blaenau Gwent	481	2020
Penallta	Caerphilly	375	2020
Aberbeeg	Blaenau Gwent	364	2020
Cwmbran	Torfaen	284	2019
Coed Cefn-pwll-du	Caerphilly	237	2020
Pontypool	Torfaen	197	2019
Rogiet	Newport	138	2018

Figure C37 – Table showing attendances at Parkruns held across Gwent <sup>41</sup>

### **Children and sport**

Sports Wales' School Sports survey, undertaken in 2015 and 2018, shows us that there has been an overall decrease in activity in school children, with those doing no physical activity increasing and those being active three or more times a week decreasing. Factors including lack of parental resources to fund participation in organised activity and availability of local facilities, perceptions of child safety when undertaking activities away from home or school can also impact on physical activity in children. Future analysis may also show that Covid-19 has further reduced physical activity in children.

%	No frequent activity			Once a week			Twice a week			Three times a week or more		
	2015	2018		2015	2018		2015	2018		2015	2018	
<b>Caerphilly</b>	31.1	32.4	↑	9.8	10.2	↑	12.0	13.7	↑	47.1	43.7	↓
<b>Blaenau Gwent</b>	32.7	34.9	↑	11.4	11.8	↑	12.9	15.6	↑	43.0	37.7	↓
<b>Torfaen</b>	32.2	33.2	↑	10.4	11.1	↑	12.5	14.5	↑	45.0	41.1	↓

<b>Monmouthshire</b>	27.3	25.7	↓	11.0	13.1	↑	12.9	16.3	↑	48.8	45.0	↓
<b>Newport</b>	27.6	23.0	↓	9.3	7.8	↓	13.2	11.1	↓	49.9	58.1	↑

Figure C38 – Table showing activity in sport by school children across Gwent <sup>42</sup>

Play sufficient assessments tell us about play opportunities available in each local authority area across the region and if they meet the needs of young people living in Gwent.

The main issues for Gwent are

- securing and developing the play workforce,
- ensuring that play is integrated in all relevant policy and implementation agendas and
- ensuring that accessible and affordable transport options are in place to support equal access to play facilities.

However over-all across Gwent play sufficiency assessment shows that needs are being met well.

## 7. Community strengths

The communities that make up Gwent are extremely diverse, some are urban, some rural but in every area of the region there are examples of community members working together to improve their local environment and the lives of those that live there.

There are many examples of community projects that are linked through the framework of the Integrated Wellbeing Networks as well as informal projects set up and managed by local people for their community: [Insert link here to Social & Health sections](#)

Below are some examples that illustrate the strength of positive community activity across Gwent.

### 8.1 Blaenau Gwent

#### Tredeggar Community Taskforce

The Tredeggar Community Task Force are a group brought together by Cymru Creations in the very early stages of the Covid-19 outbreak. Cymru Creations are a small community interest business specialising in film making. The Taskforce offered a range of support in response to the Covid-19 emergency within Blaenau Gwent. The council's Locality Response Teams worked closely with the Taskforce throughout the pandemic to source local support for shielding residents in need of prescriptions or shopping deliveries. The project quickly grew to a group of thirty volunteers, taking over 200 calls a day and delivering 250 bags of free food parcels per week.

### 8.2 Caerphilly

#### Centre of Sporting Excellence

The Centre of Sporting Excellence (CSE) provides football and rugby facilities to support a range of clubs and organisations across the county borough.

The CSE also supports sports education through collaborative partnerships with Coleg y Cymoedd and delivers the Disability Six Nations Event.

The CSE supports the vision of the Sport & Active Recreation Strategy 2019 - 2029 (SARS) of encouraging healthy lifestyles and supporting residents to be more active, more often.

### 8.3 Newport

#### Greening Maindee

Maindee Unlimited, a group of residents and partner organisations, are working to enhance and create new green spaces in the Maindee area of Newport. Over the past year, the Greening Maindee team have transformed the grounds of Eveswell Community Centre, creating food growing raised beds, planting an orchard and installing a rain garden. The space has been developed within the framework of a 'Food For Life' programme. The space provides access opportunities for groups with learning difficulties, schools, and residents.

Funding has also been secured to transform a former toilet block into a café and community space for all. Facilities include an outdoor performance area, a children's climbing wall and a woodland themed planting area alongside the café. The café will be run with the aim of achieving zero waste and with low environmental impact behaviours.

#### 8.4 Torfaen

##### Panteg House

At the start of the Covid-19 pandemic volunteers at Panteg House supported the provision of free school meals to local school children. This developed into the creation of a food bank to support the whole community. Volunteers also created partnerships with Women's Aid, Women's Refuge, Age Connect and the Community Connect Team. The service continues to run and has supported other foodbanks within the county. Close working links with local schools have also helped to identify families in need of further support via the free school meals programme.

#### 8.5 Monmouthshire

Monmouthshire's A County That Serves (ACTS) volunteering programme is helping to highlight and support volunteering opportunities available within the county. A volunteering toolkit and network are in place and Leading Volunteering training is delivered to staff that support volunteers. A Volunteer Kinetic digital management system is in place and service area champions have also been introduced to ensure that all current and new volunteers are recruited through the appropriate channels. GAVO and the council delivered a 'Power of Community' event in March 2020, which brought together volunteers, community groups and organisations to focus on all aspects of the Active Citizenship well-being step. 130 people attended the event, which explored and challenged the principles of Active Citizenship in Monmouthshire.

##### **Community areas**

Blaenau Gwent	Caerphilly	Monmouthshire	Newport	Torfaen
Ebbw Fawr	Caerphilly Basin	Abergavenny	City Central	Blaenavon
North Ebbw Fach	Lower Islwyn	Chepstow & Lower Wye	East & South East	Cwmbran
South Ebbw Fach	Upper Rhymney Valley	Monmouth	North East	Pontypool
Sirhowy	Mid Valleys West	Sevenside	North West	
	Mid Valleys East	Usk & Raglan	South West	

## 8. What are people telling us

This information will be added following the engagement period.

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## 9. Future trends and challenges

Culture has an important role to play in supporting people's well-being both now and in the future, from bringing people together, helping to combat loneliness and providing opportunities to learn new skills, to supporting healthy lifestyles and enjoyment of the environment.

In terms of long-term economic well-being, the Creative economy, has been identified by Cardiff Capital Region, as having an role to play in the prosperity of the regional economy going forward<sup>43</sup> Gwent needs to make sure that it has the right skills and employment base to benefit from potential opportunities related to the creative economy sector, there may also be opportunities for business diversification or new start-ups.

There may also be future economic opportunities related to tourism and outdoor sports and leisure activity due to warmer temperatures associated with a changing climate. However, Gwent can also expect more extreme weather events in the future, which could impact on the viability of outdoor activities, festivals and events. The UK Climate Risk assessment identifies risks to the natural environment and heritage from extreme weather and wildfire events<sup>44</sup>. This could impact on the distinct local landscape and heritage assets and their ability to contribute to our shared cultural history and to the cultural economy.

In terms of long-term social well-being, we know that some of our communities are experiencing social and economic inequalities, which can impact on their ability to take part in some cultural activities. How these develop in the future, particularly as a result of the Covid-19 pandemic and leaving the European Union, could affect people's ability to get involved in cultural activities with affordability and access both potential problems. How we tackle these challenges in the future should enable everyone to get more involved and new, and diverse cultural activities to emerge.

A potentially positive future development is that the trend towards an aging population is likely to result in more people able to support their communities through volunteering. However, this is also dependent on people continuing to enjoy reasonable levels of physical and mental health beyond what is currently considered as working age.

The information provided in Section 3 above shows a push towards improving Welsh language provision in Gwent. This will help sustain Welsh culture and identity for future generations and support local place making. This progress will need to be supported by ever greater levels of digital inclusion. Greater access to digital connectivity will also be more generally required in the future to ensure that there are no barriers to access to cultural provision and community activity that may be increasingly delivered and promoted across digital platforms. Future advances in technology, such as artificial intelligence and robotics, will also need to take account the Welsh language.

Future generations living in Gwent could be healthier if people did more physical activity. As outlined in Section 6 this will need to be supported by good access to local facilities as well as

the means to access them. This includes balancing land-use pressures to ensure that future generations can enjoy Gwent's rich, landscapes and outdoor spaces.

The recent briefing by the Wales Centre for Public Policy (2021) highlighted the limitations of evidence around cultural activity, and how this will affect PSBs' ability to understand the cultural landscape and identify future trends and challenges. It recommends that any evaluation of future trends in this area references the current lack of evidence around the effect of the Covid-19 pandemic on the arts, culture and heritage sectors. Lockdown restrictions have meant that many venues have been closed for long periods of time and some cultural providers may have permanently ceased operation. However, as providers have, necessarily, changed the nature of their operations, there may also have been some improvements to accessibility as digital provision may have made previously physically remote content available. Conversely the move to more digital provision may have excluded those who are less enabled, sensory disabilities or less confident in using technology.

The briefing also warns that lack of robust evidence and data means that future trends, beyond the immediate impact of Covid-19, will continue to be difficult to predict. This will limit the extent to which future interventions can be targeted at the groups that might benefit most from support for cultural activities within a particular demographic category or a specific local community. More ongoing evaluation and assessment will also be needed to identify the contribution culture makes to well-being as other factors will also affect an individual's likelihood, and ability, to engage with cultural activity and their overall well-being relative to other members of their communities.

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<sup>1</sup> [Cardiff Capital Region Industrial and Economic Plan](#)

<sup>2</sup> Census 2011

<sup>3</sup> Annual Population Survey (APS), ONS

<sup>4</sup> Census 2011

<sup>5</sup> Census 2011

<sup>6</sup> Census 2011

<sup>7</sup> Census 2011

<sup>8</sup> Census 2001 & 2011

<sup>9</sup> Census 2001 & 2011

<sup>10</sup> Census 2001 & 2011

<sup>11</sup> Census 2001 & 2011

<sup>12</sup> Census 2001 & 2011

<sup>13</sup> [Home Office](#)

<sup>14</sup> [Home Office](#)

<sup>15</sup> [United Nations](#)

<sup>16</sup> [Home Office](#)

<sup>17</sup> Census 2001 & 2011

<sup>18</sup> [Annual Population Survey \(APS\), ONS](#)

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- <sup>19</sup> [Newport City Council – Welsh Language Annual Monitoring Report 2020-21](#)
- <sup>20</sup> [Caerphilly County Borough Council – Welsh Language Annual Monitoring Report 2020-21](#)
- <sup>21</sup> [Monmouthshire County Council – Welsh Language Annual Monitoring Report 2020-21](#)
- <sup>22</sup> [Torfaen County Borough Council – Welsh Language Annual Monitoring Report 2020-21](#)
- <sup>23</sup> [Blaenau Gwent Council – Welsh Language Annual Monitoring Report 2020-21](#)
- <sup>24</sup> Annual monitoring report for Gwent Police
- <sup>25</sup> Monitoring Report
- <sup>26</sup> Monitoring Reports
- <sup>27</sup> Monitoring Reports
- <sup>28</sup> [Senedd Cymru | Welsh Parliament](#)
- <sup>29</sup> National Survey for Wales
- <sup>30</sup> National Survey for Wales
- <sup>31</sup> Wan Mak & Fancourt, 2020; DCMS, 2020
- <sup>32</sup> National Survey for Wales
- <sup>33</sup> National Survey for Wales
- <sup>34</sup> [Arts Council for Wales](#)
- <sup>35</sup> [RSA's Heritage Index](#)
- <sup>36</sup> UK Climate Change Risk Assessment 2017: Evidence Report. Summary for Wales.
- <sup>37</sup> National Survey for Wales
- <sup>38</sup> Welsh Health Survey
- <sup>39</sup> [National Survey for Wales](#)
- <sup>40</sup> Parkrun website
- <sup>41</sup> [Parkrun website](#)
- <sup>42</sup> [Sport Wales School Sport Survey](#)
- <sup>43</sup> [Cardiff Capital Region Industrial and Economic Plan](#)
- <sup>44</sup> UK Climate Change Risk Assessment 2017: Evidence Report. Summary for Wales.